Committed to People, Committed to the Future.

TOSHIBA CORPORATION

Toshiba is conducting an online questionnaire. Please give us your opinions or comments on

https://www.webcom.toshiba.co.jp/csr/env.php

the report for future reference.

Contacts:

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Corporate Environment Management Office **Tel:** +81-3-3457-2403 **Fax:** +81-3-5444-9206 Inquiry page on Toshiba Website **http://www.toshiba.co.jp/env/en/contact/**Toshiba Website for Environmental Activities **https://www.toshiba.co.jp/env/en/**

Published in January 2018



2017 Environmental Report

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, in accordance with Basic Commitment of Toshiba Group, lays out specific environmental strategies to be shared by all members of the group.

Basic Commitment of Toshiba Group

We, Toshiba Group companies, based on our total commitment to people and to the future, are determined to help create a higher quality of life for all people, and to do our part to help ensure that progress continues within the world community.

Commitment to People

We endeavor to serve the needs of all people, especially our customers, shareholders, and employees, by implementing forward-looking corporate strategies while carrying out responsible and responsive business activities. As good corporate citizens, we actively contribute to further the goals of society.

Commitment to the Future

By continually developing innovative technologies centering on the fields of Electronics and Energy, we strive to create products and services that enhance human life, and which lead to a thriving, healthy society. We constantly seek new approaches that help realize the goals of the world community, including ways to improve the global environment.

TOSHIBA Group Slogan

Committed to People,

Committed to the Future. TOSHIBA

Toshiba Group's Basic Policy for the Environment

We of the Toshiba Group recognize that the basic responsibility of people living today is to hand over the precious global environment to the next generation in a sound condition. Out of this recognition and in accordance with our Environmental Vision, we will strive to create affluence and ensure coexistence with the earth. We will also contribute to realizing a sustainable society by aiming at achieving a low-carbon and recycle-oriented society that strives to coexist with nature through our environmental activities.

◆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.

Toshiba Group Business Overview

Company Overview (as of March 31, 2017)

Company name **Toshiba Corporation**

(TOSHIBA CORPORATION)

Headquarters address 1-1, Shibaura 1 chome, Minato-ku, Tokyo

Founded July 1875 Paid-in capital 200 billion yen Consolidated net sales 4.8708 trillion yen

Number of employees (consolidated) 153,492 CSR-related international charters/guidelines Toshiba endorses

United Nations Global Compact

GRI (Global Reporting Initiative)

EICC (Electronic Industry Code of Conduct)

Number of shareholders 366,030

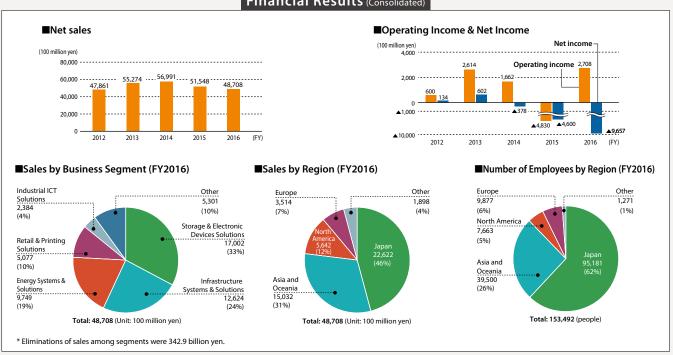
Number of shares issued 4,237,600,000 shares

Number of consolidated subsidiaries 445 (148 in Japan, 297 overseas)

Number of affiliates accounted for by the equity method

Stock exchange listings Tokyo, Nagoya

Financial Results (Consolidated)



Main Products and Services

Energy Systems & Solutions

Thermal power generation systems, nuclear power generation systems, hydroelectric power generation systems, power generation, photovoltaic power generation systems, power distribution systems, etc.

Infrastructure Systems & Solutions

Instrumentation and control systems, station operation automation devices, transportation devices, radio devices, water supply and sewerage systems, environmental systems, broadcasting systems, road systems, building facilities, elevators, escalators, general lighting, industrial light sources, industrial air conditioners, compressors, industrial systems, etc.

Retail & Printing Solutions

POS systems, multi-function printers, etc.

Storage & Electronic Devices Solutions

Small signal devices, power semiconductors, optical semiconductors, logic LSIs, mixed signal ICs, image sensors, NAND flash memories, disk drives (HDDs and SSDs), semiconductor manufacturing systems, etc.

Industrial ICT Solutions

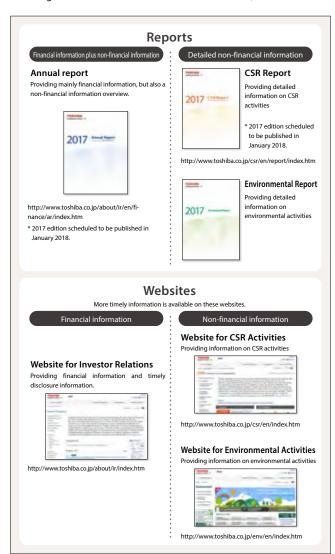
IT solutions, etc.

PCs, TVs, recorders (BD recorders, etc.), image device repair services, etc.

Editing Policy

To provide detailed environmental information to our stakeholders, Toshiba Group has published the Environmental Report since 1998. The content of the 2017 edition includes information on the Sixth Environmental Action Plan, which was formulated based on a long-term vision, as well as on our activities with regard to mitigation of climate change, efficient use of resources, and management of chemicals in our manufacturing and products / services. To understand how global environmental issues affect our business, we also analyzed risks and opportunities regarding each issue.

The overview of Toshiba Group's ESG information publicly disclosed, including information other than environmental data, is shown below.



Contents

Message from the President05					
Message from the Corporate Environmental Officer06					
Chapter Vision and Strategies					
Toward the Realization of Environmental Vision 205007					
Achievements of the Fifth Environmental Action Plan09					
Formulation of the Sixth Environmental Action Plan11					
Sustainable Portfolio13					
Making Supply Chain GHG Emissions Visible for All Categories14					
Overview of Environmental Impacts15					
2					
Chapter 2 Business Manufacturing					
Contributions through Manufacturing17					
Mitigation of Climate Change19					
Efficient Use of Resources21					
Management of Chemicals23					
Responses to Environmental Risks					
Chapter 3 Business Products and Services					
Contributions through Products and Services27					
Mitigation of Climate Change					
Efficient Use of Resources					
Management of Chemicals					
Management of Chemicals					
Chapter 4 Management					
Improvement of the Foundation of Environmental Management37					
Environmental Management Structure					
Environmental Audits					
Performance Evaluation System41					
Environmental Education and Human Resource Development41					
•					
•					
Environmental Education and Human Resource Development41					
Environmental Education and Human Resource Development41 Environmental Communication43					
Environmental Education and Human Resource Development41 Environmental Communication					

Organizations covered

In principle, this report covers Toshiba Group (Toshiba Corporation and its 445 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 FY2016 (from April 1, 2016 to March 31, 2017), but includes some activities continuing from the past and some more recent activities.

Publication

The current issue was published in January 2018 (The publication of the next issue is scheduled for December 2018; the previous issue was published in December 2016).

Significant changes during the reporting period

- The organizations covered have changed due to the following circumstances:
 Toshiba Lifestyle Products & Services Corporation was excluded as a result of the
- transfer of 80.1% of its stock to the Chinese corporation Midea Group in June 2016. The Westinghouse group was excluded from Toshiba Group as the corporate rehabilitation procedure for Westinghouse Electric Company and other companies started based on Chapter 11 of the U.S. Federal Bankruptcy Code in March 2017.

Note on performance data

Unless specifically noted, figures for benchmark years, actual results, and targeted values are all calculated based on data in the boundary at the time when data on results for FY2016 was gathered.

Reference guidelines

- GRI (Global Reporting Initiative) Sustainability Reporting Guidelines Fourth Edition (G4) Note: The GRI Content Index is shown on our 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 website for environmental activities.



This report includes descriptions of Toshiba Group'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.

Message from the President

Toshiba's management team is dedicated to regaining your trust.

Satoshi Tsunakawa

Toshiba Corporation S. Jaunakawa
President and CEO



As the head of Toshiba's management team, my first and driving concern is to promote initiatives that revitalize the company and the Group, and that regain stakeholder and public trust. I approach these challenges in the spirit of putting the customer first.

I am fully aware that we face strong headwinds, and I know that some recent actions have caused concern and inconvenience to our stakeholders. However, we are determined to succeed, starting with a resolute response to the inappropriate accounting and the huge impairment loss in the overseas nuclear power businesses.

In response to the accounting problem, we initiated wide ranging reforms of our internal controls and corporate governance in 2015. These included establishing an Internal Audit Division, and an Audit Committee composed entirely of outside directors. At the board level, we reinforced oversight of top management and operations by appointing a majority of outside directors.

More recently, we have taken resolute action to deal with the damage from the impairment loss. Our former in-house companies are now independent operations, responsible for developing and expanding new businesses while maximizing business value. At the strategic level we will promote collaboration amongst the Group, focus on maximizing corporate value and strengthening governance.

Going forward, we will continue to implement necessary measures, promote CSR-based management toward fulfilling our social responsibilities and seek to contribute to the realization of a sustainable future through business activities that place the highest priority on human life, safety and compliance.

In an environment where the only certainty is change at an ever faster pace, including rapid development of information and communications technology, we must overcome many complex problems, such as population growth, resource depletion and the ever-growing need for energy. We will seek to contribute to society and overcome these issues by rebuilding Toshiba Group as a globally competitive organization focused on four main business domains: Social Infrastructure as the core, Energy, Electronic Devices and Digital Solutions. We will channel our energy into creating value that our customers need today, and grow the seeds that will become next generation businesses and solutions that solve customers' problems.

Toshiba Group as a whole is making a united effort to regain the trust of its stakeholders, including customers and shareholders and the public. As we do so, I ask for your understanding and continued support.

Message from the Corporate Environmental Officer

We contribute to resolving global environmental issues to achieve a sustainable society.

Shiro Saito
Toshiba Corporation
Executive Officer,
Corporate Senior Vice President
Shiro
Saito



Today, the international community faces a variety of ever more serious problems, such as global warming-induced climate change and resource depletion caused by population increases. Given these circumstances, the UN Sustainable Development Goals (SDGs), and Paris Agreement which provides a new international framework to prevent global warming, came into effect in 2016. As public awareness aimed at solving important environmental problems continues to increase, companies engaged in global businesses are expected to act proactively.

Based on Environmental Vision 2050, our long-term vision, Toshiba Group is striving to realize a world in which all people can lead affluent lifestyles in harmony with the Earth. To that end, we will resolve various environmental issues in our four main business domains, thereby contributing to the realization of a sustainable society. Based on an understanding of the risks and opportunities created by issues including global warming for our businesses, Toshiba Group will reduce society's environmental impacts and ensure coexistence with the Earth by developing and providing the following products and technologies: low-carbon power generation technologies, including thermal power generation systems with the world's largest market share and hydroelectric power generation systems with high power generation efficiency; products and technologies designed to realize a hydrogen society, including the hydrogen-based autonomous energy supply system H₂One™; social infrastructure products and services, including energy-efficient elevators, air conditioners, lighting, and BEMS; and electronic devices and digital solutions that support such technologies.

We also develop Environmental Action Plan to set specific medium-term goals for environmental activities. Under the Sixth Environmental Action Plan that started in FY2017, we are focusing on two areas: activities to reduce environmental impacts in the lifecycles of products and services (Business), and a foundation to support such activities (Management). We will develop various measures with a view to achieving by 2020 goals for 15 items, including reducing greenhouse gas emissions in manufacturing and CO₂ emitted by products and services.

I would like to apologize to our stakeholders for the trouble and concerns caused by our inappropriate accounting and the impairment loss in the overseas nuclear power businesses. As a corporate group that develops business worldwide to support people's lives and society, we are firmly committed to realizing a sustainable society and fulfilling our responsibility as a member of the international community to earn back the public's trust. We would very much appreciate your continued support.

January 2018



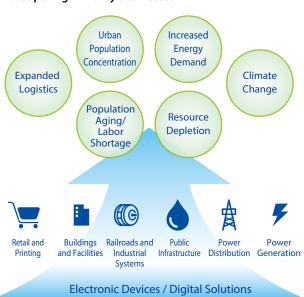
Toward the Realization of Environmental Vision 2050

Toshiba Group will resolve global environmental issues and create new value through innovation to ensure that all people can lead affluent lifestyles in harmony with the Earth.

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, etc. As a result, there are food, water, and energy shortages and the non-renewable resources that support today's society, including fossil fuels, metals, and minerals, are decreasing in number. In addition, the temperature is rising due to the effects of global warming, causing serious problems worldwide, including floods, droughts, and enormous typhoons. These various problems have complex interrelationships, and their effects spread by the year. Against this backdrop, the U.N. Sustainable Development Goals (SDGs) came into effect in January 2016 alongside Paris Agreement, which was put into effect in November of the same year to provide a new international framework to prevent global warming. Thus, guidelines and rules shared worldwide aiming to resolve global issues have been developed one after another in recent years.

 Major Social and Environmental Issues and Toshiba Group's High Priority Businesses



As the international community becomes increasingly aware of environmental issues, companies engaged in global business activities must do more than before to resolve such issues. We believe that as a member of the international community, Toshiba Group has the responsibility of helping resolve global environmental issues through our activities in four business domains centered around social infrastructure.

To fulfill this responsibility, 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. 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 impacts.

Environmental Vision 2050

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



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 as envisaged in Environmental Vision 2050.



Eco-efficiency can be expressed

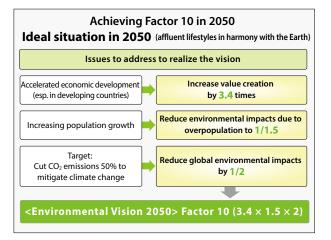
as a fraction, with the creation of new value as the numerator and environmental impacts as the denominator. The more enriched value created—or the more environmental impact is reduced and progress made toward coexisting with the Earth—the more eco-efficiency improves. We call the degree of improvement 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 Organization 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. And at the 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 previously are taken into account, the required degree of improvement in eco-efficiency (Factor) in the world in 2050 is $10.2 (3.4 \times 1.5 \times 2)$. Toshiba Group Environmental Vision 2050 requires that the Group globally achieve "Factor 10" by 2050. In light of this, Toshiba Group has made it a goal to do so by 2050.

Factor 10 cannot be achieved merely by conducting business as usual. This very ambitious goal can only be accomplished by developing multiple major innovations over an extended period. Nevertheless, we will strive to the utmost to achieve our goal. Also, if there are major changes in society or international rules before 2050, we will flexibly reexamine this goal as needed.



Actions for the Sustainable Development Goals (SDGs)

The 2030 Agenda for Sustainable Development, which was adopted at the U.N. Headquarters in New York in September

2015, defines 17 Sustainable Development Goals (SDGs) as important goals for the international community in order to realize sustainable development by 2030 by resolving issues such as poverty, famine, energy, and climate change. Toshiba Group will help resolve global issues related to these SDGs through activities in four business domains—Social infrastructure as the core, Energy, Electronic Devices and Digital Solutions. In particular, with regard to the goals related to environment, including "6. Clean water and sanitation," "7. Affordable and clean energy," "12. Responsible consumption and production," and "13. Climate action," we will develop products and services unique to Toshiba Group and encourage environmental consideration at our business and production sites.





























Chapter 1
Vision and Strategies

Achievements of the Fifth Environmental Action Plan

We achieved our goals for 17 of the 22 items in 3 areas (products, business processes, and management).

Setting medium-term goals based on Environmental Vision 2050

In order to realize an ideal state of the Earth in 2050 envisaged by Environmental Vision 2050, Toshiba Group formulates Environmental Action Plan for medium-term goals and manages specific environmental activities and their targets. Since we formulated our first Environmental Action Plan in FY1993, the Group has reviewed the content of the plans every several years and expanded and changed the scope of environmental activities and governance.

Under the Fifth Environmental Action Plan, the three challenges presented in Environmental Vision 2050 (Mitigation of Climate Change, Efficient Use of Resources, and Management of Chemicals) were reflected in goals related to products/services and business processes. Thus, we worked to carry out initiatives for 22 activity items during the five-year action period from FY2012 to FY2016.

Achievements of the Fifth Environmental Action Plan

The table on the right side summarizes the achievements made in FY2016, the final fiscal year of the Fifth Environmental Action Plan, with respect to each plan item. During FY2016, Toshiba Group achieved its goals for 17 of the 22 items in the Plan.

Environmental Vision 2050 requires the Group to increase the degree of improvement in overall eco-efficiency ten times (Factor 10) by FY2050 compared to the FY2000 level. We set our goal for FY2016 higher than what is expected from the current level of activities, and worked in the areas of products and business processes to achieve the goal of increasing eco-efficiency by 3.00 times (Factor 3.00). As a result, overall eco-efficiency in FY2016 was 3.3 times the FY2000 level (Factor 3.3), exceeding our goal (3.2 times).

In areas related to products and services (Greening of Products/ Greening by Technology), Toshiba Group achieved its goals for five of the seven items. We achieved the goal of reducing CO₂ emissions with eco-products by means such as promoting creation of energy-saving products. However, we failed to achieve our goal of expansion of sales of energy-related products due to energy business sales failing to increase as originally expected. We also could not achieve our goal of reducing the amount of PVC/BFR contained in products due to introducing one group of products to the market ahead of the original schedule, which made it difficult to apply alternative materials in time.

In the Greening of Process initiative, we achieved our goals for eight of the nine items. We achieved our goal of reducing total greenhouse gas emissions mainly by making energy-saving investments; taking measures to conserve electricity used for air conditioning, lighting, etc.; and monitoring power consumption more closely. However, we could not achieve our target percentage of final waste disposal because of difficulties at our overseas production sites.

In the Green Management initiative, we achieved our goals for two of the three items. Specifically, to conserve biodiversity, we used our business and production sites to complete the selection of indicators and measurement for all target areas to protect rare flora and fauna. In terms of environmental education and human resource development, we refrained from holding events related to Toshiba eco-style leaders. Consequently, we had only limited opportunities to invite employees to become leaders and were unable to achieve our goal.

Regarding the goals in the Fifth Environmental Action Plan that we could not achieve, we will continue efforts to make improvements in the Sixth Environmental Action Plan and in our daily environmental management activities.

Summary of the Fifth Environmental Action Plan

The following table summarizes the major achievements of Toshiba Group's five-year activities and actions to take in the future.

Greening of Products



We made progress in developing Environmentally Conscious Products (ECPs) and established a system for creating products with the highest environmental performance (Excellent ECPs).



We will continue to develop ECPs while reorganizing and further promoting activities to create them.
(For details, see P.27 to P.28.)

Greening by Technology



We made progress in our activity to realize a low-carbon society through efforts to develop and provide technologies for high-efficiency thermal power generation and renewable energy, etc.



We will continue to develop low-carbon energy technologies. (For details, see P.29 to P.30.)

Greening of Process



We made progress in high-efficiency manufacturing through efforts to reduce GHG emissions, waste, and water received, etc.



We will continue to promote initiatives for high-efficiency manufacturing. (For details, see P.17 to P.18.)

Green Management



We made progress in efforts within Toshiba Group for all items and improved the level of activities at business and production sites as well as raised employee awareness.



We will continue and enhance our activities while taking on new items, including enhancing compliance and overcoming the shortage of environmental personnel. (For details, see P.37.)

■ Toshiba Group's Fifth Environmental Action Plan

Eco-efficiency	FY2016				
Eco-efficiency	Goal	Result	Evaluation		
Improvement of overall eco-efficiency (compared to FY2000 level)	3.2 times	3.3 times	Achieved		
Improvement of product eco-efficiency (compared to FY2000 level)	3.6 times	3.8 times	Achieved		
Improvement of business process eco-efficiency (compared to FY2000 level)	1.5 times	1.1 times	Not achieved*1		

Greening of Products/Greening by Technology		FY2016				
Greening of Froducts/G	diceiling of Froducts/diceiling by reclinology		Result	Evaluation		
	Increasing sales amounts of Excellent ECPs	1.9 trillion yen	1.98 trillion yen	Achieved		
Overall	(Greening of Products/by Technology)	Variety of certified products incre	eased in all areas.			
Overall	Expansion of sales of energy-related products	1.24 trillion yen	0.99 trillion yen	Not achieved		
	(Greening by Technology)	Sales in various businesses did no	ot increase as much as initially exp	ected.		
	Reduction of CO ₂ emissions through eco-prod-	15.5 million t-CO ₂	15.65 million t-CO ₂	Achieved		
Mitigation of climate	ucts*2 (Greening of Products)	We reduced CO ₂ emissions during use by creating products with the highest energy-saving performance and by developing highly energy efficient products that reduce power consumption during use.				
change	Reduction of CO ₂ emissions through energy-re-	74 million t-CO2	100 million t-CO ₂	Achieved		
	lated products*3 (Greening by Technology)	We made progress in spreading of	We made progress in spreading of high-efficiency thermal power generation and renewable energy.			
	Posource sovings for products*4	50%	144%	Achieved		
Efficient use of	Resource savings for products*4	We significantly reduced resource consumption for products in all areas.				
resources	Increasing the use of recycled plastics for prod-	3.50%	10.60%	Achieved		
	ucts*5	We expanded the use of recycled plastic parts in MFPs, etc.				
Management of	Reduction of specified chemical substances in	66 product groups in total	65 product groups	Not achieved		
chemicals	products*6 (reduction of PVC*7/BFR*7)	Although we chose alternative materials for one of the product groups, we could not apply the materials because the product was introduced to the market ahead of the original schedule. As a result, we could not achieve the goal.				

Greening of Process		FY2016				
Greening of Process		Goal	Result	Evaluation		
	Reduction in total greenhouse gas emissions*8	3.25 million t-CO ₂ (48%)	2.94 million t-CO ₂ (43%)	Achieved		
	(Compared to FY1990 level)	We made improvements by actively prom	noting energy-saving measures and by imp	roving production efficiency at our sites.		
Mitigation of climate	Improvement of total energy-derived CO ₂ emissions per	91%	90%	Achieved		
change	unit production*9 (Compared to FY2010 level)	We made improvements by actively prom	noting energy-saving measures and by imp	roving production efficiency at our sites.		
	Improvement of total CO ₂ emissions from product lo-	82%	78%	Achieved		
	gistics per unit production (Compared to FY2010 level)	We made improvements by impr	oving load factors and restructurir	ng logistics centers.		
	Reduction in waste volumes*10 (Compared to	110,000 t (58%)	77,000 t (41%)	Achieved		
	FY2000 level)	More waste was turned into valuables due to efforts to sort waste more carefully.				
	Improvement of the total volume of waste gener-	88%	83%	Achieved		
Efficient use of	ated per unit production (Compared to FY2010 level)	The total volume of waste decreased as a result of process improvements.				
resources	Reduction in the percentage of final waste disposal	0.50%	0.55%	Not achieved		
	(Compared to the total volume of waste generated by Toshiba Group)	At overseas sites, paper and wood waste is disposed of in landfills by administrative policy. As a result, we could not achieve the goal.				
	Improvement of the amount of water received	87%	77%	Achieved		
	per unit production (Compared to FY2010 level)	We made improvements at semiconductor sites that receive large amounts of water.				
	Reduction in the total emissions of chemicals discharged	1,620t (64%)	1,398t (56%)	Achieved		
Management of	(Compared to FY2000 level)	We mainly promoted installation of volatile organic compound removers.				
chemicals	Improvement of the amount of chemicals handled	94%	94%	Achieved		
	per unit production (Compared to FY2010 level)	We mainly optimized the amount of chemicals used and revised wastewater treatment processes.				

Croop Management	Green Management		FY2016				
Green Management		Goal	Result	Evaluation			
Conservation of biodiversity	Developing ecosystem networks with our sites playing a central role in collaboration	Percentage of sites with mea- sured effects 100%	Percentage of sites with mea- sured effects 100%	Achieved			
blodiversity	with local communities	We have completed surveys, ir	ndicator selection, and measurer	ment at all 62 global sites.			
Environmental		2,000 leaders	1,710 leaders	Not achieved			
education and human resource development	Development of Toshiba eco-style leaders	We could not achieve the goal mainly because we refrained from holding eco-style leader-re- lated events; thus, the number of registered eco-style leaders did not increase sufficiently.					
Environmental communication	Expanding environmental communication to connect people around the world	Implementation of Toshiba Group Global Environmental Action	Various activities, including cleaning and tree planting, were carried out in Japan, Eu- rope, Americas, Asia, and China.	Achieved			
		We carried out various environmental activities at business and production sites around the world.					

Note: As an indicator that enables appropriate assessment of reduction in greenhouse gas emissions, volume-based real outputs are used for basic-unit goals.

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]

- Business process eco-efficiency is calculated by dividing sales by the business process's total environmental impact. As a result, we could not achieve our goal due to decreased sales in FY2016.
- *2 [CO: emissions of assumed substitute products CO: emissions of shipped products] (Compares emissions per year during the usage stage and cumulates emissions for half the expected number of years of use).
- *3 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.
- *4 Rate of increase in the amount of resources saved (based on FY2010).
- *5 [Amount of recycled plastics] / [Amount of plastics used for products] \times 100
- Abolished except special uses.
- PVC: Polyvinyl chloride is one of the most common plastics and is used in a wide range of products. There is concern about the generation of hazardous substances due to inappropriate treatment of PVC at the time of disposal and the harmfulness of some additives (e.g., phthalate esters) used to soften PVC.
 - BFR (brominated flame retardants): BFRs are used as flame retarders for 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.
- *8 5.31 t-CO₂/10,000 kWh is used for the power factor in Japan. GHG Protocol data is used overseas.
- The coefficient of electricity for sites in Japan is fixed to that of FY2010.
- *10 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).

Formulation of the Sixth Environmental Action Plan

We will contribute to resolving global environmental issues by taking action in Business and in Management.

At the end of FY2016, Toshiba Group completed the Fifth Environmental Action Plan, which the Group had been implementing since FY2012 (for details, see P.09). In FY2017, we started the Sixth Environmental Action Plan (activity period: FY2017 to FY2020), which defines the Group's new medium-term goals. While formulating the new plan, in order to review which activities we need to focus on over the next four years, we considered various elements, including external factors such as Paris Agreement's enforcement and ESG investment expansion, as well as internal factors such as changes to Toshiba Group's business structure and the achievements of the Fifth Environmental Action Plan as well as improvements to be made. As a result, based on the items of the Fifth Environmental Action Plan implemented until FY2016, we decided to integrate, remove, and add items in two areas of Business (manufacturing and products/services) and Management, and we set goals for 15 items in total under the Sixth Environmental Action Plan.

 Business (reducing environmental impacts in manufacturing) We pursue high-efficiency manufacturing designed to reduce environmental impacts and costs simultaneously by properly managing greenhouse gases, waste, water, and chemicals emitted from factories. We will continue to manage greenhouse gases and waste in terms of amount per unit activity or production as well as total amount.

 Business (improving environmental performance of products and services) We will improve the overall environmental performance of products and services by reducing CO2 emissions in terms of both energy consumption and supply, by reducing product resource usage, and by managing the chemicals contained in products. We will revise the activities to create Environmentally Conscious Products (ECPs) that we have been promoting to adapt them to our current business structure.

Management

To respond to the present situation in which multiple legal violations occurred within Toshiba Group, we added "ensuring environmental risk compliance" as a new item. We will focus on enhancing measures to ensure compliance with global environmental regulations as well as developing environmental human resources, thereby creating a system designed to continuously monitor risks. To meet growing demand for disclosing ESG information properly, we also added "improving information disclosure" as an environmental communication item. In addition, in terms of biodiversity conservation, we will develop measures to help achieve Aichi Targets, which are global goals.

Toshiba Group will focus on implementing activities to reduce environmental impacts in the life cycles of products and services (Business) and related support activities (Management). Through such activities, we will contribute to resolving global environmental issues, including global warming and resource depletion. Meanwhile, we will make steady progress toward realizing Environmental Vision 2050.

Developing Strategies in Two Areas: Business and Management

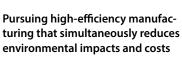
Environmental Vision 2050

Business

Promoting initiatives to reduce environmental impacts in product/service lifecycles

Reducing environmental impacts in manufacturing

- Reduction of GHG emissions
- Reduction of waste and water received
- Reduction of chemicals discharged





Reuse of rainwater and treatment water

- Improvement of environmental performance of products and services
- Further reduction of CO₂ emissions
- More resources conserved or recycled
- Reduction of specified chemical substances contained in products



Development of energy technologies and energy-saving products and services to help realize a low-carbon society

Rechargeable battery SCiB™

Management

Promoting basic activities that support business initiatives

- Environmental communication
- Conservation of biodiversity

Creating a system that supports strict compliance and enhancing basic activities to meet public expectations Environmental education program for elementary school students





Helping resolve global environmental issues

^{*} Yokohama City Environmentally Conscious Architecture Authentication System

■ Toshiba Group's Sixth Environmental Action Plan

Activity area		Activity conter	nt	FY2017 plan	FY2020 plan
		Reduction of total greenhouse gas e	emissions*1	1.46 million t	1.66 million t
		Improvement of total energy-derived CO ₂ e (Compared to FY2013 level)	missions per unit activity*2	99%	92%
		Reduction of waste volumes*3		45,000 t	52,000 t
	Reducing environmental impacts in manufacturing	Improvement of the total volume o unit production (Compared to FY20		99%	96%
		Improvement of the amount of wa production (Compared to FY2013 le		99%	96%
Business		Reduction of the total amount of oper unit production (Compared to F		99%	96%
		Increased reduction of CO2 emis-	Power supply*4	9.6 million t	16.3 million t
		sions (cumulative total)	Power consumption*5	1.7 million t	6.3 million t
	Improvement of environmental performance of products and services	Increased amount of resources save	d (cumulative total)	100,000 t	460,000 t
		Increased amount of recycled reso tics) used (cumulative total)	ources (recycled plas-	740t	3,000t
		Reduction of specified chemical sul products	bstances contained in	Using alternative materials identifying alternates for all	for four phthalate esters*6 or products by July 2019
	Ensuring of environmental risk compliance	Enhancement of compliance with regulations and human resource dev		al environmental regulatio	works of environmental hu-
		Improvement of information disclos	sure	Improvement of reporting ments	based on external require-
Management	Environmental communication			- Enhancement of communication with custo through Toshiba Group Environmental Exhibition education program at Toshiba Science Museum - Enhancement of communication with local communication with local communication with local communication with local communication sites by implementing Global Environmental Acti business and production sites worldwide	
	Conservation of biodiversity	Contributions to Aichi Targets	Choosing 10 of the 20 Aichi targets as Toshiba go.		

Note: Toshiba Memory Corporation's stock is scheduled to be transferred by the end of March 2018; therefore, Toshiba Memory is not included in the calculation of numerical goals for FY2017 and FY2020.

Values related to the energy consumption required for manufacturing (production amounts, number of products manufactured, number of persons, total floor area, etc.) are used for basic-unit goals for greenhouse gas emissions.

As an indicator that enables appropriate assessment of reduction in waste, water, and chemical substances, volume-based real outputs are used for basic-unit goals.

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]

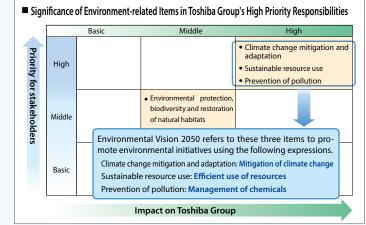
- 5.31 t-CO₂/10,000 kWh is used for the power factor in Japan. GHG Protocol data is used overseas.
- *2 The coefficient of electricity for sites in Japan is fixed to that of FY2013.
- Obtained by deducting the volume of objects with value from the total volume of waste generated (excluding business and production sites engaged in waste treatment and power generation).
- *4 Compared with CO₂ emissions (rate to net production output) for average thermal power of the same fuel type; for renewable energy, compared with CO₂ emissions (rate to net production output) for average thermal power of all types; an accumulated total of annual reductions plus reductions achieved by newly built power generation systems.
- *5 [CO₂ emissions of assumed substitute products CO₂ emissions of shipped products] (Compares emissions per year during the usage stage and cumulates emissions for half the expected number of years of use)
- *6 Bis (2-ethylhexyl) phthalate, butyl benzyl phthalate, di-n-butyl phthalate, diisobutyl phthalate. Used mainly as a plasticizer for plastics (cable coatings, etc.) and other materials; there is concern about its effects on the human body.

Toshiba Group's Identifying Material Issues

In FY2013, Toshiba Group defined "Respect for Human Rights," "CSR Management in the Supply Chain," and "Environmental Management" as our high priority responsibilities (Materiality) and we are working continuously to fulfill these responsibilities. To identify these responsibilities, we referenced opinions from stakeholders as well as assessment reviews by third-party organizations in addition to self-evaluation conducted based on the international guidance standard ISO26000 which concerns the social responsibili-

ties of organizations including companies. In FY2015, we reevaluated these responsibilities and decided to continue our efforts.

To fulfill these primary responsibilities, we have chosen the following three items to have the highest priority for environmental conservation: Climate change mitigation and adaptation; Sustainable resource use; and Prevention of pollution. We will make steady efforts to achieve these goals through ongoing environmental activities. In addition, we are examining the possibility of subdividing the present items into more detailed units and reevaluating their importance levels based on the current circumstances inside and outside Toshiba Group, thereby identifying high priority responsibilities exclusively focused on environmental activities.



 $For details about Toshiba Group's identifying \ material issues, visit our CSR \ website. http://www.toshiba.co.jp/csr/en/csr_management/materiality/index.htm. and the sum of the sum of$

Sustainable Portfolio

Toshiba Group's environmental contribution business

Today, the international community faces various serious problems that cut across national and regional boundaries, including global warming-induced climate change and resource depletion caused by population increases. These problems make it ever more important to consider social issues from the perspective of sustainability. Against the backdrop of society's heightened awareness of environmental issues, public attention is focused on efforts by companies to address such issues.

Using our advanced technological capabilities to provide tangible solutions, Toshiba Group continues to contribute to resolving environmental and social issues. Moreover, we have the advantage of deeply understanding the public's needs as well as customer expectations through the diverse array of products we offer to society in large quantities. Our basic policy is to contribute to society by providing hardware-based solutions such as equipment, devices, and facilities derived from our knowledge of a wide range of customers.

We strive to reduce environmental impacts in each stage of Toshiba Group product life cycles and to make all our prod-

Overview of Toshiba Group's Environmental Contribution Business (SP)

Toshiba Group's Environmental Contribution Business



Climate Change

- Offering systems that ensure a stable supply of energy without emitting GHGs
- Providing safe, secure, and comfortable infrastructure with high energy efficiency that is designed to manage energy consumption at various levels by an energy control system
- Providing products and systems that support climate change adaptation measures



Resource Efficiency

- Extending product lives and providing services to reduce operating expenses by reuse and upgrades.
- Providing technologies and systems to recycle product materials



Harmony with Nature

- Providing devices and systems designed to efficiently use water resources (water supply and sewerage systems)
- · Providing pollution management systems and technologies (cleaning exhaust fumes and managing soil contamination)

ucts Environmentally Conscious Products (ECPs) (for details, see P.28). Meanwhile, we calculate the degree of improvement in products' eco-efficiency by using the Factor T indicator. Through such efforts, we improve product functions and performance to meet customer needs in order to provide products more eco-efficient than previous models as well as solutions using such products.

Toshiba Group aims to expand our contributions to reducing environmental impacts of the society through business activities. To that end, we will select products that contribute to reducing environmental impacts, especially during use by customers, from among the aforementioned ECPs and solutions employing them, and certify such products as elements of Toshiba Group's environmental contribution business, the Sustainable Portfolio (SP). We aim to expand our contributions by expanding the certified businesses.

Stakeholder dialogue (third-party comments)

With a view to organizing and promoting Toshiba Group's environmental contribution business under the SP, we held a stakeholder dialogue about the SP to objectively assess the appropriateness of the overall concepts as well as product selection criteria and processes.

We requested Mr. Hidemi Tomita of Lloyd's Register Japan and Professor Asako Kimura of Kansai University to give their opinions. We provided them with an overview of our SP, especially the product selection criteria and processes, regarding which they commented from various perspectives.

We will review their comments within Toshiba Group to improve the product selection criteria and processes for our SP and to reflect such comments in the system of product selection and expansion of our SP.



Stakeholder dialogue

Lloyd's Register Japan K.K. Director Mr. Hidemi Tomita

Based on his wealth of experience in implementing CSR management at a business firm and his experience in the process of developing various international standards, Mr. Tomita provided us with comments from multiple perspectives.



Power semiconductors, image recognition processors, etc.

Edge computing, etc

Providing devices and ICT to support these activities

Kansai University Faculty of **Business and Commerce**

Professor Asako Kimura

Prof. Kimura broadly researches companies' sustainability management, including Toshiba Group's environmental management. Based on the knowledge she has acquired through her research, Prof. Kimura commented on various aspects of the SP.



Chapter 1
Vision and Strategies

Making Supply Chain GHG Emissions Visible for All Categories

As climate change becomes an increasingly serious issue, companies must control and manage not only their own greenhouse gas (GHG)*1 emissions but also emissions generated throughout their entire supply chains. Based on the GHG Protocol*2, which provides international standards for calculating GHG emission amounts, and the Ministry of the Environment's Basic Guidelines for Calculating GHG Emissions throughout the Supply Chain, Toshiba Group manages and calculates indirect GHG emissions generated outside the scope of its own business activities (Scope 3) in addition to its own emissions (Scopes 1 and 2). GHG emissions during

use of sold products account for more than 80% of Toshiba Group's GHG emissions. Therefore, we focus on developing highly energy efficient products to reduce on an ongoing basis GHG emissions during use.

Toshiba Group believes it is important to work effectively to reduce GHG emissions throughout product life cycles and to visualize environmental impacts across all categories by quantitatively analyzing emissions per category as described above. In the future, we will create a system for gathering data on GHG emissions generated throughout the supply chain to enhance our emissions management.

- *1 CO2, CH4, N2O, HFCs, PFCs, SF6, NF3
- *2 Greenhouse Gas Protocol (GHG Protocol): Guidelines for calculating and reporting GHG emissions formulated by companies, NGOs, and government organizations under the leadership of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD)

(FY2016)





	Downstream						
	SCOPE 3						
	Transport and Processing of Use of sold delivery sold products products						
	End-of-life treatment Leased assets of sold products						
	48.62 million t-CO ₂						

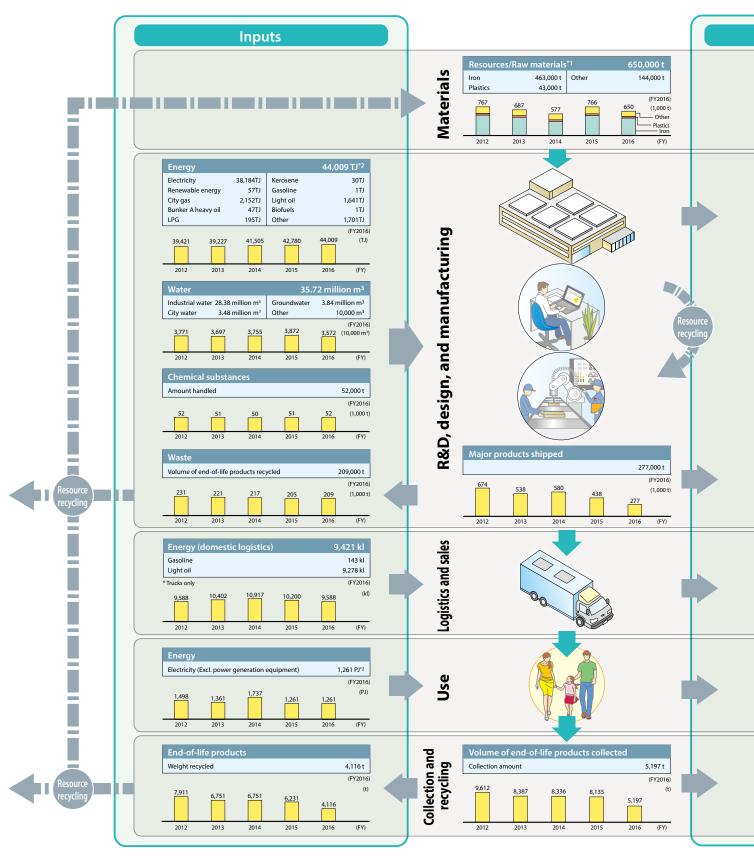
Category	Categories covered by calculations		FY2015 calculation results (10,000 t-CO ₂)	FY2016 calculation re (10,000 t-C	esults	Amount released emissions	Considerations
	1	Purchased goods and services	493	477		-3%	
	2	Capital goods	68	100		47%	GHG emissions increased mainly due to semiconductor business growth
	3	Fuel- and energy-related activities (not in Scope 1 or 2)	15	15		0%	
٤	4	Upstream transportation and distribution	30	31		3%	
Upstream	5	Waste generated in operation	2	2		0%	
⊃	6	Business travel	6	5		-17%	GHG emissions decreased mainly due to an increased number of online meetings
	7	Employee commuting	_	_		_	GHG emissions for this category were estimated at 0.1% of the total or less
	8	Upstream leased assets	_	_		_	This category is not relevant, due to the fact that the type of industry category of Toshiba is manufacturing
g	9	Direct GHG emissions (Scope 1)	81	84	V	4%	GHG emissions increased mainly due to semiconductor business growth
Toshiba	10	Indirect emissions associated with energy-derived emissions (SCOPE2)	205	211	\checkmark	3%	GHG emissions increased mainly due to semiconductor business growth
	11	Downstream transportation and distribution	9	9		0%	
	12	Processing of sold products	_	_		_	We mainly deal with finished products and parts that do not require processing
am	13	Use of sold products	4465	4907	\checkmark	10%	GHG emissions increased mainly due to sales of energy-saving products
Downstream	14	End-of-life treatment of sold products	-54	-53		-2%	
Dow	15	Leased assets (Downstream)	_	_		_	This category is not relevant, due to the fact that the type of industry category of Toshiba is manufacturing
	16	Franchises				_	This category is not relevant, due to the fact that the type of industry category of Toshiba is manufacturing
	17	Investments	_	_		_	This category is not relevant, due to the fact that the type of industry category of Toshiba is manufacturing
Total		Total	5,320	5,788			

- * Results guaranteed by a third party are marked (☑). For the details of the calculation method, refer to P.49.
- * Toshiba Lifestyle Products & Services Corporation and the Westinghouse Electric Company group are excluded from calculations for both FY2015 and FY2016.

 Note: Direct emissions in FY2016 (Scope 1): 60,000 t-CO₂; energy-derived indirect emissions (Scope 2): 120,000 t-CO₂; use of products sold (Scope 3): 4.43 million t-CO₂

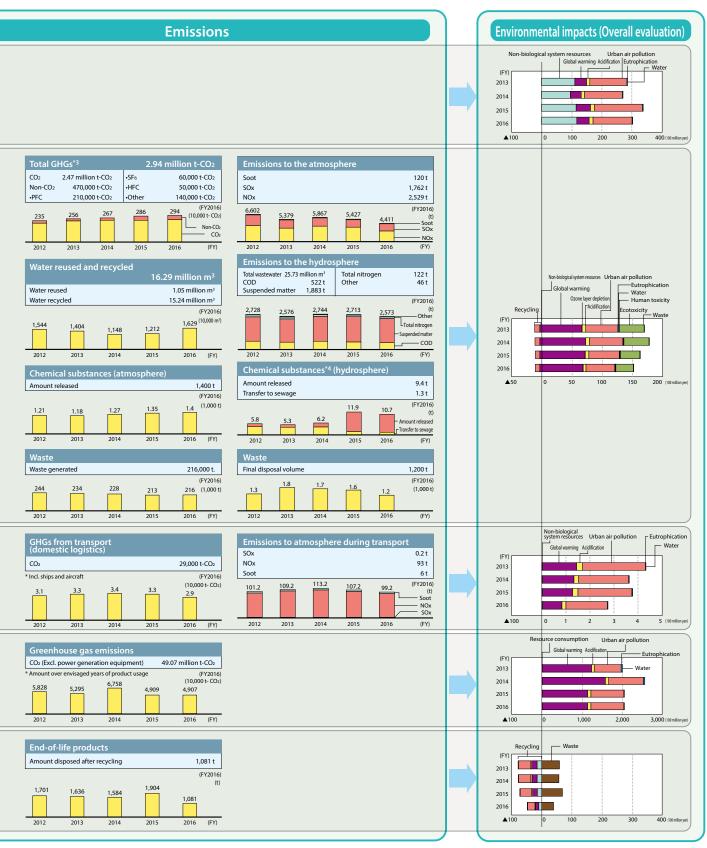
Overview of Environmental Impacts

Toshiba Group, as shown in the material flow below, is proceeding to quantitatively analyze the environmental impacts at each stage of the product/service life cycle—from materials procurement, manufacturing, and distribution to customer usage, product retrieval, and recycling. Furthermore, we are carrying



^{*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": Estimation method for Material-inputs using Input-Output Table). 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 taegory, 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 totalize as resources the imported inputs that accompany the procurement of complex materials and service businesses. However, by using this method, it has become possible to grasp the amount of imported inputs by material category for such procured materials as well.

out overall assessments on the environmental impact of input resources/energy and emission of greenhouse gas and chemicals using the Life-cycle Impact assessment Method based on Endpoint modeling (LIME). We realized that environmental impacts are most significant during the customer usage, material procurement, and manufacturing stages of the product life cycle in that order. As such, we feel that it is extremely important to implement effective initiatives based on environmental impact assessments carried out across the entire product life cycle. Moving forward, we are expanding the items on which we are collecting data and are striving to improve the precision of the data. This data was collected from 445 Toshiba Group companies (actual results for FY2016).



- *2 TJ = 1012 J; PJ = 1015 J. J (Joule) is a unit of energy measuring mechanical work, heat, and electricity. One joule equals about 0.239 calories.
- *3 In this table, the CO₂ emission coefficient for electricity in Japan is 4.81 t-CO₂/10,000 kWh in FY2012, 5.67 t-CO₂/10,000 kWh in FY2013, 5.52 t-CO₂/10,000 kWh in FY2014, 5.31 t-CO₂/10,000 kWh in FY2015 and FY2016.
- *4 The volume of hydrogen fluoride and its water-soluble salt emitted into hydrosphere since FY2009 is calculated to be zero because hydrogen fluoride used becomes non-water-soluble salt through post-use treatment.



Pursuing high-efficiency manufacturing that simultaneously reduces environmental impacts and costs.

Actions to address the three challenges in Environmental Vision 2050

Mitigation of Climate Change

Social issues

- Setting goals for GHG emissions in Japan in accordance with Paris Agreement
- Proposing improving the energy efficiency of manufacturing processes (1% annually on average) under Electrical and Electronics Industries' "Action Plan for Commitment to a Low-Carbon Society"
- Increased energy demand

Risks and opportunities for Toshiba Group

Risks: Regulation of business activities, increased facility investment, possible loss of reputation if GHG emissions increase

Opportunities: Reduced manufacturing costs by implementing energy-saving measures at production sites

Toshiba Group's policy

• Reducing GHG emissions in terms of total amount and amount per unit activity

Efficient Use of Resources

Social issues

- Serious resource depletion
- Transition to a circular economy that promotes recycling, reuse, and product longevity

Risks and opportunities for Toshiba Group

Risks: Increased management costs if stricter waste regulations are imposed

Loss of business opportunities and reputation if illegal waste dumping or other legal violations occur

Effects on production activities in regions with high water risks

Opportunities: Reduced manufacturing costs by reducing the amount of waste and water resources used

Toshiba Group's policy

• Improvement in the amount of waste generated and water received

Management of Chemicals

Social issues

- Minimizing risks caused by chemicals
- Managing chemicals based on the precautionary principle

Risks and opportunities for Toshiba Group

Risks: Increased management costs if stricter regulations are imposed to chemical management Loss of business opportunities and reputation if legal violations occur

Opportunities: Increased business opportunities due to greater needs in related businesses (e.g., advanced wastewater treatment systems)

Toshiba Group's policy

- Improvement in the total amount of chemicals discharged, soil and groundwater purification, and preventing contamination
- Environmental risk prevention, including identifying and managing environmental liabilities

Major results for FY2016

2.94 million t-CO₂ Total GHG emissions

Management

of Chemicals

Pre-use risk assessments

Reducing the volume of

chemicals used and introducing alternatives

substances

Appropriate

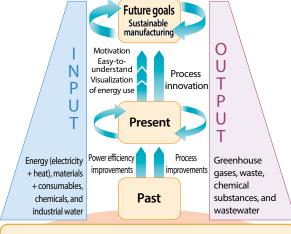
management of

substances used

- 77,000 tons Amount of waste
- •Amount of water received 35.7 million m³
- •Total emissions of chemicals discharged 1,398 tons
- •Collection of VOCs in groundwater **361** kg

■ High-efficiency manufacturing

Pursuing high-efficiency manufacturing that minimizes inputs and outputs while simultaneously reducing environmental impacts and costs



Plant efficiency improvements × Process innovation

Climate Change

Reducing energy consumption and the volume of greenhouse gases used

- Introduction of energy-saving processes and equipment
- Shift to low-carbon energy and gases with low greenhouse effects

Efficient Use of Resources

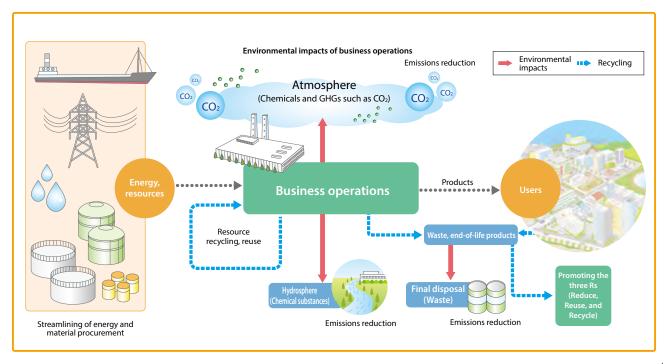
- Reducing the total waste volume
- Reuse of waste Collection and recycling
- of end-of-life products
- Reduction in the volume
- of water received

Basic strategies

Toshiba Group is pursuing high-efficiency manufacturing that minimizes resource inputs in production processes in Japan and abroad, eliminates unnecessary tasks in manufacturing processes, and reduces to a minimum emissions into the atmosphere and waters, thus simultaneously reducing environmental impacts and costs.

We aim to contribute to resolving climate change and other environmental issues by promoting the following two initiatives: "improvement of plant efficiency," which refers to efforts to grasp energy consumption appropriately in order to ensure effective improvement of equipment operation and introduce high-efficiency equipment, and "process innovation," which aims to achieve sustainable manufacturing in collaboration with all involved divisions.

In terms of mitigation of climate change, Toshiba Group is actively taking energy-saving measures on a company-wide scale to reduce emissions of greenhouse gases, including CO2 and perfluorocarbons (PFCs). In terms of efficient use of resources, we will continue our efforts to reduce the total volume of waste generated through 3R activities as well as strive to use water resources efficiently by various means, including utilizing water risk assessment tools. As for management of chemicals, we will make efforts to reduce environmental impact mainly through the introduction of alternative substances and process improvements.





Mitigation of Climate Change

Policy

Reducing GHG emissions in terms of total amount and amount per unit activity

Measures to take

Improving energy-saving operation based on changes in Toshiba Group's business structure and energy-saving investments mainly at overseas production sites

Reducing total GHG emissions

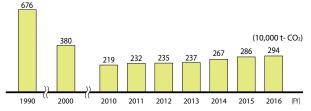
Toshiba Group proactively installed systems to collect and/or remove sulfur hexafluoride (SF₆), which is used to insulate heavy electric machinery, and perfluorocarbons (PFCs), which are used to produce semiconductors. As a result, in FY2000, the Group nearly halved the total amount of GHGs emitted* compared to the FY1990 level, and in subsequent years, GHG emissions continued to decrease as the Group steadily took measures to improve its production processes. To reduce energy-derived CO₂ emissions resulting from use of electricity, we continuously make efforts to proactively adopt energy-saving measures at our production sites, including those overseas, to improve production efficiency, as well as to introduce renewable energy.

*Carbon dioxide (CO₂), methane (CH₄), dinitrogen oxide (N₂O) (= nitrous oxide), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃)

Results of FY2016 and future initiatives

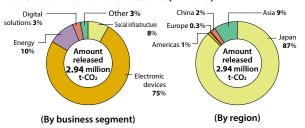
In FY2016, Toshiba Group reduced GHG emissions other than energy-derived CO₂ to less than 10% of the FY1990 level mainly by installing PFC removal equipment. Meanwhile, energy-derived CO₂ emissions were affected by deterioration in the CO₂ emission coefficient for electricity due to the effects of the Great East Japan Earthquake, but the Group reduced energy consumption compared to the FY2010 level by taking proactive conservation measures, including making capital investments. The CO₂ emission coefficient for electricity is expected to further deteriorate in the future, but Toshiba Group will continue to make steady efforts to reduce total GHG emissions by investing proactively in high-efficiency equipment. The Group's goal is to reduce total GHG emissions to 1.66 million tons or less in FY2020.

■ Changes in total GHG emissions



Note: The CO₂ emissions coefficient for electricity is used to calculate energy-derived CO₂ emissions (in Japan: 3.52 t-CO₂/10,000 kWh in FY2010, 4.75 t-CO₂/10,000 kWh in FY2011, 4.81 t-CO₂/10,000 kWh in FY2012, 5.67 t-CO₂/10,000 kWh in FY2013, 5.52 t-CO₂/10,000 kWh in FY2014, and 5.31 t-CO₂/10,000 kWh in FY2015 and FY2016). Overseas electricity is based on GHG Protocol data.

■ Breakdown of GHG emissions (FY2016)



Reducing energy-derived CO₂ emissions

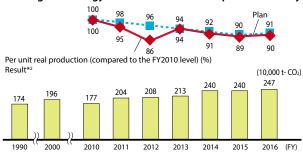
Results of FY2016

Under the Fifth Environmental Action Plan, in order to assess CO_2 emissions measures consisting mainly of those for electricity conservation, the Group uses energy-derived CO_2 emissions per unit activity by fixing the CO_2 emission coefficient to FY2010. The amount of CO_2 actually emitted in FY2016 was 2.47 million tons (an increase of 700,000 tons compared to the FY2010 level), a substantial increase which was greatly affected by the deterioration of the CO_2 emission coefficient for electricity due to the Great East Japan Earthquake; however, as a result of initiatives to reduce power consumption mainly through energy-saving investments, proactive electricity conservation, and production adjustments, Toshiba Group was able to reduce energy-related CO_2 emissions per unit activity to 90% of the FY2010 level, exceeding the initial goal.

Future initiatives

In order to meet growing market demand, Toshiba Group plans to introduce more facilities. Therefore, energy-derived CO₂ emissions are likely to increase in the near future. The Group will continue its efforts to reduce CO₂ emissions per unit activity by 8% compared to the FY2013 level in FY2020 by adopting a variety of energy-saving measures, including investing in energy-saving facilities.

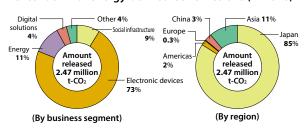
■ Changes in energy-derived CO₂ emissions per unit activity



Note: The CO₂ emissions coefficient for electricity is used to calculate energy-derived CO₂ emissions (in Japan: 3.52 t-CO₂/10,000 kWh in FY2010, 4.75 t-CO₂/10,000 kWh in FY2011, 4.81 t-CO₂/10,000 kWh in FY2012, 5.67 t-CO₂/10,000 kWh in FY2013, 5.52 t-CO₂/10,000 kWh in FY2014, and 5.31 t-CO₂/10,000 kWh in FY2015 and FY2016). Overseas electricity is based on GHG Protocol data.

*2 The coefficient of electricity for sites in Japan is fixed to that of FY2010.

■ Breakdown of energy-derived CO₂ emissions (FY2016)



Reducing CO₂ emissions associated with product logistics

Results of FY2016 and future initiatives

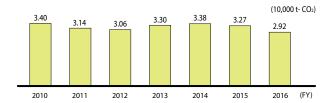
In FY2016, Toshiba Group continuously strove to reduce energy consumption during product logistics by taking various measures, including improving load factors when transporting products, applying modal shifts to a wider range of products, and shortening the transport distance by restructuring distribution centers. As a result, we reduced total CO₂ emissions as well as CO₂ emissions per unit activity compared to the FY2015 level. In particular, the Group reduced CO₂ emissions per unit activity by 22% compared to the FY2010 level, exceeding the initial target for FY2016 by 4%.

In the future, Toshiba Group will continue its efforts to reduce CO₂ emissions associated with product logistics.

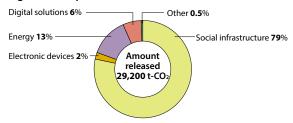
■ Changes in CO₂ emissions per unit activity associated with product logistics in Japan



Per unit real production (compared to the FY2010 level) (%). Result



■ Breakdown of CO₂ emissions associated with product logistics in Japan in FY2016



(By business segment)

CO₂ emissions associated with overseas and international logistics (approximate figures)

Toshiba Group works to collect data on overseas and international logistics for the group and calculates approximate CO₂ emissions associated with such logistics for improvement.

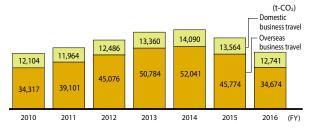


Reductions in CO₂ emissions from employees' business travel

Toshiba Group is working to collect data on CO_2 emissions caused by employees' business travel. The graph below indicates CO_2 emissions from employees' business travel (by air) from FY2010 to 2016.

In FY2016, we continued to reduce CO₂ emissions by using web conferences to reduce time spent traveling.

■ Changes in CO₂ emissions from employees' business travel



Use of renewable energy

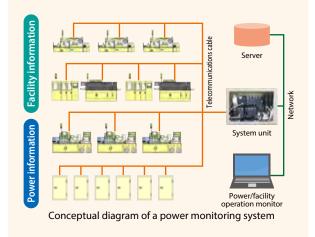
Toshiba Group is continuously striving to use renewable energy for a wider range of its operations. In FY2015, the Group used about 5,711 MWh's worth of renewable energy. This means that the Group reduced CO₂ emissions by about 3,033 tons*. Toshiba Corporation has also used a green power system since January 2005 and has since been purchasing 1,500 MWh of electricity under a green power certificate annually. *Calculated based on 5.31 t-CO₂/10,000 kWh

Case Study

Saving energy with a power monitoring system

Toshiba Electronic Devices & Storage Corporation Himeji Operations-Semiconductor

Toshiba Electronic Devices & Storage Corporation Himeji Operations-Semiconductor manufactures power semiconductors. By associating facility operation information and electricity consumption data as well as by visualizing per-unit power consumption data, such as operating hours and the number of units produced in real time, we achieved energy savings, reducing GHG emissions by approximately 50 tons annually.





Efficient Use of Resources

Policy

Improvement in the amount of waste generated and water received

Measures to take

Reducing the volume of waste by recycling and converting more waste into valuables, conducting water risks assessment at major production sites, implementing water risk prevention measures based on correlation analysis between rainfall and water consumption in regions where the production sites are located

Reducing the total waste volume

Toshiba Group is working to reduce waste generation by minimizing the volume of waste generated per unit activity, which indicates business process efficiency improvement, as well as by reducing the total volume of waste to a level below the Earth's environmental capacity.

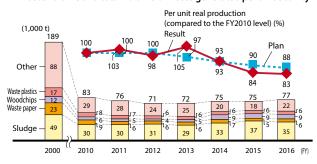
Results of FY2016

In FY2016, the total volume of waste generated per unit activity was 83% compared to that of FY2010, exceeding the initial target. The volume of waste (excluding that of objects with value) totaled 77,000 tons, which is 33,000 tons lower than the initial target. Out of the total volume of waste, the amount of hazardous waste was 4,105 kg in FY2000, 490 kg in FY2014, 342 kg in FY2015, and 350 kg in FY2016.

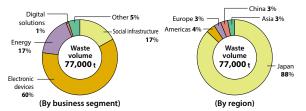
Future initiatives

In the Sixth Environmental Action Plan, Toshiba Group aims to reduce the volume of waste per unit activity in FY2020 by 4% compared to FY2013 and to reduce the total volume of waste to 52,000 tons. We will promote dialogues with stakeholders inside and outside the Group and create diverse networks for resource recycling.

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



■ Breakdown of the total volume of waste generated (FY2016)



Promoting recycling

In FY2016, Toshiba Group recycled 209,000 tons of resources. 97% of the total volume of waste generated was reused effectively as various resources. The recycled resources consisted mainly of scrap metal and cinders, and 96% of them were used effectively for material recycling (recycled into materials for products), and the remaining 4% 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.

Reducing the final disposal volume

In order to create a sound material-cycle, sustainable society, Toshiba Group is working to achieve zero waste emission—an initiative of reducing final landfills to zero by promoting the reuse and recycling of waste.

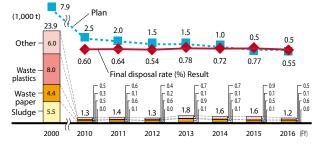
Results of FY2016

The percentage of final landfills to the total volume of waste generated by Toshiba Group in FY2016 was 0.55%, falling short of the initial target of 0.5%, though an improvement of 0.22% compared to FY2015. Out of the final disposal volume, the amount of hazardous waste was 169 kg for FY2000, 12 kg for FY2014, 6 kg for FY2015, and 3 kg for FY2016.

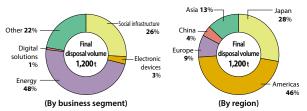
Future initiatives

We will maintain the current status at the sites that have reduced the percentage of final landfills to 0.5%, and continue our efforts at sites that have not yet achieved the goal. We will manage progress made and measures taken at different sites through the Toshiba Group's environmental audit system.

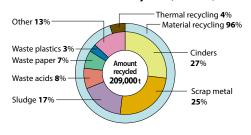
■ Final waste disposal volume and the final disposal rate



■ Breakdown of the final waste disposal volume (FY2016)



■ Breakdown of the volume recycled (FY2016)



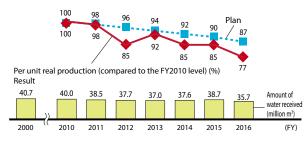
Initiatives for water risk prevention

In response to a global increase in concerns regarding water problems, Toshiba Group is promoting sustainable water resource management. In FY2016, we enhanced analysis and management of production sites located in high-water-risk regions and sites that need large amounts of water. To analyze data on high-water-risk regions, we used "Aqueduct", a water risk assessment tool developed by the World Resources Institute (WRI), and we considered water problems from various perspectives, including the risk of pollution by wastewater and level of interest in water issues among area residents, in addition to the physical amounts of water resources in individual river basins. Each of our production sites has incorporated reducing the amount of water received into its annual plan in order to develop specific strategies and conduct follow-up surveys on an ongoing basis. We are promoting wide-ranging initiatives, including recycling wastewater generated in sites and introducing systems for using rainwater.

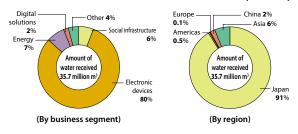
● Results of FY2016

The total amount of water received in FY2016 was 35.72 million m³, a decrease of approximately 3 million m³ compared to the previous fiscal year. Also, the amount of water received per unit activity was 77% of the total for FY2010, exceeding the initial target by 10 percentage points.

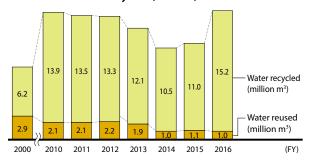
■ Amount of water received and that per unit activity



■ Breakdown of the amount of water received (FY2016)



■ Amount of water recycled (FY2016)



Assessment of water risks in regions with sites

Working in collaboration with InterRisk Research Institute & Consulting, Inc., Toshiba Group selected eight production sites located in areas where water is used in large quantities or with high water risks to conduct water risk assessment at such sites. We assessed water demand (current demand and future trends), water disaster risks, and water contamination vulnerabilities (public health and ecosystems) from various perspectives in river basins where our sites are located. Based on the information acquired, we will review water risk prevention measures going forward.

■ Water Risk Assessment Results (Example)

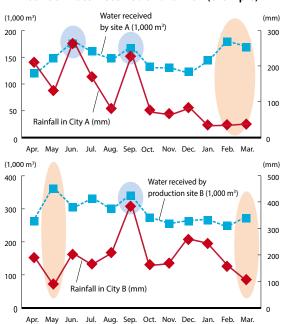
	Water c	lemand	Water		tamination abilities	Total Evalua-
	Present	Future trends	disasters	Public health	Ecosystem	tion
Site A (Japan)	В	А	A+	A-	A+	A-
Site B (Philippines)	В	C+	A+	B-	A+	B+
Site C (India)	C+	A-	A+	B-	В	В

Assessment on a 9-point scale from A+ (low risk) to C- (high risk)

Correlation analysis between rainfall and the amount of water used in regions with Toshiba production sites

Also, Toshiba Group is analyzing the correlation between the monthly amount of water received by factories and rainfall in regions where our sites are located. Assuming that months with small amounts of rainfall are periods with high water risks, we aim to contribute to water resource conservation in surrounding areas by reducing the amount of water received as much as possible.

■ Amount of water received and rainfall (example)



In the months enclosed by blue circles, the amounts of water received and rainfall are large. By contrast, in the months enclosed by orange circles, the amount of rainfall is low. In these months, there is a need to reduce the amount of water used.

By performing such an analysis at each site, we aim to contribute to water conservation in areas with high water risks as well as to raise awareness about water resources at sites in areas assessed as having low water risks.



Management of Chemicals

Policy

Improvement in the total amount of chemicals discharged

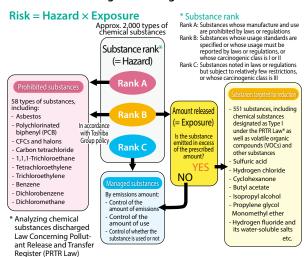
Measures to take

Use of alternative substances, operation of combustion detoxifying devices, and improving manufacturing processes to reduce use of raw materials

Managing chemical substances by ranking

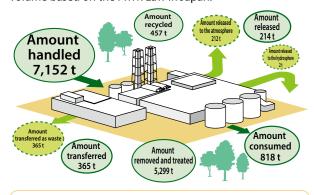
Toshiba Group classifies standards for the handling of chemical substances into the three categories of prohibition, reduction, and control, and manages chemical substances according to the regulations for each category. The relationship between substance ranking and management classifications, which 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 ranking of the substance equivalent to hazard levels and emissions equivalent to exposure to the substance.

■ Substance ranking and management classifications



■ PRTR-based material balance

This expresses the balance of Toshiba Group's total material volume based on the PRTR Law in Japan.



- 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, or 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
- 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 chemical substances

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

● Results of FY2016

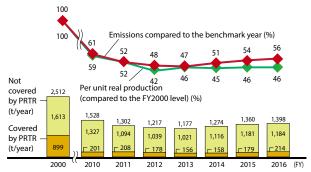
In FY2016, Toshiba Group took measures for solvents used in cleaning and resin processing, which ranked high among such emissions, and promoted initiatives such as using alternative substances, starting operation of combustion detoxifying devices, and improving powder coating and other manufacturing processes in order to reduce the use of raw materials as well as reducing the amount of VOC evaporation by enhancing chemical management. As a result, the Group reduced emissions of substances targeted for reduction by 1,114 tons (44%) compared to the FY2000 level.

Future initiatives

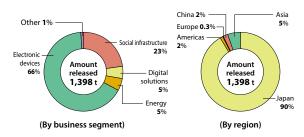
In the Sixth Environmental Action Plan, Toshiba Group aims to reduce emissions of substances per unit activity in FY2020 to less than the FY2013 level.

It plans to use alternative substances and increase material efficiency by improving processes as an incoming countermeasure and expand introduction of emission removal and collection equipment as an outgoing countermeasure.

■ Emissions of substances targeted for reduction



■ Breakdown of emissions of substances targeted for reduction (FY2016)

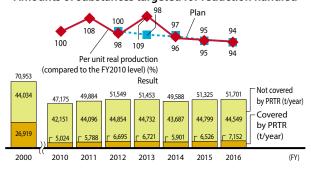


Reduction in the amount of chemical substances handled

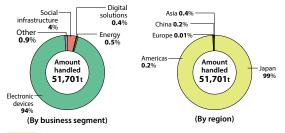
Results of FY2016 and future initiatives

In FY2016, electronic devices as well as social infrastructure systems accounted for over 90% of the total amount of chemicals handled, with substances used for chemical reactions and wastewater treatment raking high among chemicals. The material balance for PRTR-covered chemicals indicates that 74% of them are removed through coagulation and absorption and 11% 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 3% of the chemicals used are discharged into the atmosphere or hydrosphere. We will continue to improve manufacturing processes to reduce the amount of raw materials handled.

■ Amounts of substances targeted for reduction handled



■ Breakdown of the amounts of substances targeted for reduction handled (FY2016)



Case Reducing environmental impact with powder coating Study

Toshiba Elevator and Building Systems Corporation

Toshiba Elevator and Building Systems Corporation had used xylene and toluene, which are regulated under the PRTR Law in Japan, as well as solvent coatings that contain volatile organic compounds (VOCs), including butyl acetate, which is a second-class organic solvent specified in the Ordinance on Prevention of Organic Solvent Poisoning*1. As an alternative, the company adopted

a powder coating that contains none of these substances. It thus greatly reduced the environmental impact on the atmosphere caused by organic solvents (reduction of 3 tons *2 per year).

The new coating is friendly to human health and contains no formaldehyde, which is a major causal agent of sick building syndrome.



- *1 Industrial Safety and Health Act, Ordinance on Prevention of Organic Solvent Poisoning in Japan
- *2 Based on FY2015 results

Management of substances that impact the atmosphere and hydrosphere

Toshiba Group is working to grasp the extent of emissions of sulfur oxides (SOx) and nitrogen oxides (NOx), both of which are major causes of air pollution, as well as the level of chemical oxygen demand (COD), an indicator of water pollutants, and emissions of total nitrogen and suspended matter to ensure appropriate management of such emissions. In addition, each site voluntarily sets the maximum permissible levels of concentrations for these substances and complies with these prescribed standards.

In FY2016, we reduced the total amount of sulfur oxides (SOx), nitrogen oxides (NOx), and dust and soot discharged into the atmosphere by approximately 19% compared to the FY2015 level. We reduced the total amount of suspended matter, total nitrogen, chemical oxygen-demanding (COD) substances, and other materials by 5% compared to the FY2015 level.

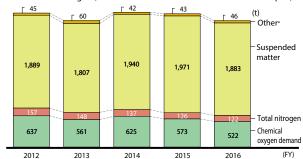
■ Impacts on the atmosphere

Amount of impact = Concentration of each substance \times Amount of substance emitted (based on the Air Pollution Control Act)



■ Impacts on the hydrosphere

Amount of impact = Concentration of each substance \times Amount of substance discharged (based on the Water Pollution Control Act in Japan)



^{*} n-hexane extracts, phenols, copper, zinc, soluble iron, soluble manganese, total chromium, total sulfur, and nickel

Management of ozone-depleting substances

Toshiba Group possesses specified chlorofluorocarbons (CFCs), which deplete the ozone layer, as coolant for air conditioners installed in sites; we appropriately dispose of such CFCs in accordance with the law. In FY2015, the Group had 10.3 tons of specified CFCs. In FY2016, due to measures such as facility upgrades, we reduced the amount of specified CFCs to 9.8 tons, a reduction of about 5% compared to the previous year.

Under the system for reporting and publishing the estimated amount of CFC leaks stipulated in the Fluorocarbons Emissions Control Act, Toshiba Corporation reported approximately 2,500 t-CO2 of leaks in FY2016. We will continue to further enhance our management of chemicals through routine and periodic inspections as well as environmental audits.



Responses to Environmental Risks

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 12 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 FY2016, the Group collected 361 kg of VOCs. The amount collected was about 7% less compared to FY2015, 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.

At the same time, Toshiba Group 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 (including wastewater treatment plants), and its overseas sites are also promoting continuous improvements in this area. In FY2016, Toshiba Group achieved a compliance rate of 99.7% for all of Toshiba's sites and 96.9% 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.

■ Purification of soil and groundwater contaminated with volatile organic compounds

Production sites	Location	Progress in purification	Purification method*1	Amount collect- ed*2 (kg)
Former site of Asia Electronics Inc.'s Yokohama Operation Center	Yokohama, Kanagawa Prefecture	Being monitored*3	A, E, G	_
Toshiba Corporation Komukai Complex	Kawasaki, Kanagawa Prefecture	Purification in progress	A, G	47.3
Toshiba*4 Corporation Himeji Opera-	Taishi Town, Ibo County,	Being monitored (North district)	D, F, G	_
tions-Semiconductor	Hyogo Prefecture	Purification in progress (South district)	A, F	113.3
Japan Semiconductor Corporation Oita Operations	Oita, Oita Prefecture	Being monitored	G	_
Toshiba Carrier Corporation Fuji Factory & Engineering Center	Fuji, Shizuoka Prefecture	Purification in progress	А, В	102.6
Toshiba Carrier Corporation Tsuyama Factory	shiba Carrier Corporation Tsuyama Factory Tsuyama, Okayama Prefecture		А, В	0.2
Kawamata Town, Date County, Fukushima Pre- fecture		Purification in progress	А	0.0
Former site of Toshiba Shomei Precision Corporation's Kawasaki Works	Kawasaki, Kanagawa Prefecture	Being monitored	A, B, F	_
Former site of Toshiba Lighting & Technology Corporation's Iwase Works	Sakuragawa, Ibaraki Prefecture	Purification in progress	Α	0.0
Lighting Device & Fixture Corporation Ibaraki Plant	Joso, Ibaraki Prefecture	Being monitored	А, В	_
Toshiba Components Co., Ltd. Kimitsu Operation Center	Kimitsu, Chiba Prefecture	Purification in progress	А, В	97.8

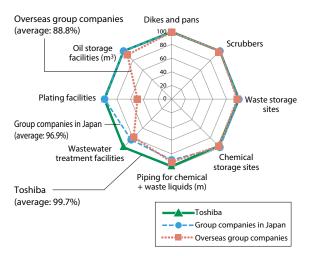
^{*1} Purification method: ... (A) groundwater pumping, (B) soil gas suction, (C) reduction decomposition, (D) oxidation decomposition, (E) interception containment, (F) removal by excavating soil, and (G) bio-activation.

^{*2} Amount collected: Amount collected from April 2016 to March 2017

^{*3} Monitoring: Monitoring to confirm how things develop after work that will allow measures to be taken or purification is completed.

^{*4} At present, Toshiba Electronic Devices & Storage Corporation

■ Rate of compliance with the Structural Design Guidelines (FY2016)



In order to ensure effective prevention of groundwater contamination, an act revising part of the Water Pollution Control Act in Japan was promulgated on June 22, 2011 and came into force on June 1, 2012. To prevent groundwater from becoming contaminated with hazardous substances*, 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 FY1990, Toshiba Group established the Structural Design Guidelines, an initiative that anticipated the purpose of these revisions to the Act, and has since been working to improve compliance with these guidelines by developing measures to prevent underground infiltration and by conducting periodic facility inspections to facilitate on-site improvements.

Through such measures, we aim to further reduce environmental risks.

* As stipulated in Article 2 of the Order for Enforcement of the Water Pollution Control Act in Japan, the 28 hazardous substances subject to regulation include cadmium, lead, and trichloroethylene (as of April 2016).

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 Japan. 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.

To manage high-concentration PCB waste, Toshiba Group has registered some 7,400 transformers and condensers as well as some 73,000 stabilizers and compact condensers with Japan Environmental Storage & Safety Corporation (JESCO), which provides wide-area PCB treatment services,

and is gradually disposing of the devices according to JESCO's plan. In particular, companies that store transformers and condensers in prefectures in the Chugoku, Shikoku, and Kyushu regions as well as in Okinawa, which are covered by JESCO Kitakyushu, are obligated to entrust disposal to JES-CO by the end of FY2017.

Accordingly, we conducted a survey on how transformers and condensers have been registered at the production sites of Toshiba Group companies located in the relevant regions during the second half of FY2016 to confirm that there were no problems.

Meanwhile, we are also working to dispose of low-concentration PCB waste at government-certified detoxification facilities and prefectural governor-authorized facilities (39 facilities across Japan as of July 11, 2017).

During FY2016A, we conducted a large-scale in-house survey on devices in use (including transformers, condensers, and stabilizers) that may contain PCB. As a result, we discovered devices that may contain PCB in use at a number of production sites.

When checking transformers for maintenance, we analyze the oil, and if we discover PCB contained in such oil, we suspend use of the transformers, upgrade them, or draft a disposal plan. Condensers are fully sealed and become useless if their oil is analyzed, regardless of whether or not they contain PCB. Therefore, we are drafting plans to gradually update condensers while taking care not to impair our business activities. These measures are incorporated into Toshiba Group's policies for the future and shared by all company personnel.

We will continue our efforts to identify devices that contain PCB and to dispose of them properly.

■ Disposal policies for the future

	PCB waste (Pollution-confirmed materials for storage)	PCB devices in use
High density	Proceed with disposal according to JESCO's disposal plan.	Formulate plans to upgrade or dispose of devices.
Low density Proceed with disposal at government-certified facilities.	Transformers: Analyze oil during maintenance. Formulate plans to upgrade or dispose of devices containing PCB. Condensers: Formulate plans to gradually upgrade fully sealed devices while taking care not to impair	
		business activities. Formulate plans to dispose of devices containing PCB.





PCB-containing equipment being transported to JESCO



Actions to address the three challenges in Environmental Vision 2050

Mitigation of Climate Change Social issues Social issues Setting goals for GHG emissions in each country in accordance with Paris Agreement Proposing contribution with products and services under Electrical and Electronics Industries' "Action Plan for Commitment to a Low-Carbon Society" Increased energy demand Risks and opportunities for Toshiba Group Risks: Business opportunity losses due to delayed actions to meet energy conservation regulations of various nations Opportunities: Business expansion due to increased needs for energy-saving products/services and low-carbon energy technologies Proposing contribution with products and services under Electrical and Electronics Industries' Increased energy demand Risks: Business opportunity losses due to delayed actions to meet energy conservation regulations of various nations Opportunities: Business expansion due to increased needs for energy-saving products/services and low-carbon energy technologies Proposing contribution with products and services under Electrical and Electronics Industries' Increased energy demand Risks: Business opportunity losses due to delayed actions to meet energy conservation regulations of various nations Opportunities: Business expansion due to increased needs for energy-saving products/services and low-carbon energy technologies

Efficient Use of Resources Social issues Serious resource depletion Transition to a circular economy that promotes recycling, reuse, and product longevity Risks and opportunities for Toshiba Group Risks: Loss of business opportunities due to an unstable supply of rare materials, increases in their prices, and delays in improving product resource efficiency Opportunities: Business expansion due to increased needs for products with high resource efficiency, cost reductions due to decreased resource inputs Inspiratory of the product of the product of the product of the prices of the product of the prices of the product of the product of the prices of the product of the prices of the product of the prices of the product of the product of the prices of the price

Management of Chemicals • Minimizing risks caused by chemicals • Managing chemicals based on the precautionary principle Risks and opportunities for Toshiba Group Risks: Business opportunity losses due to delayed actions to meet regulations on the management of chemicals contained in products Loss of business opportunities and reputation if legal violations occur Opportunities: Increased business opportunities due to greater needs in related businesses (e.g., advanced wastewater treatment systems) Toshiba Group's policy • Ensuring management of chemicals contained in products by appropriate management at each stage of materials procurement and manufacturing • Promoting risk management by appropriately communicating information throughout the value chain

Major Achievements in FY2016 Sales amounts of Excellent ECPs 1.98 trillion yen

Sales of energy-related products **0.99** trillion yen

Mitigation of climate change

- •Reduction of CO₂ emissions through energy-related products **100** million t-CO₂
- •Reduction of CO₂ emissions through eco-products **15.65** million t-CO₂

Efficient use of resources

- •Resource saving rate for products 144%
- •Use of recycled plastics for products 10.6%

Management of chemicals

Replacement of PVC/BFRs65 product groups

Basic approach

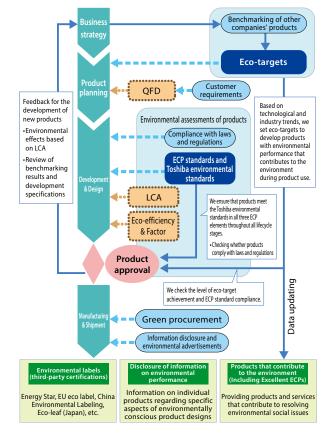
Toshiba Group aims to contribute to resolving climate change and other environmental issues by continuing to improve the environmental performance of all products and services that we develop.

First, we identify the level of environmental performance required to resolve issues facing society and customers during use of products and services, set "eco-targets" to achieve the required level of performance, and incorporate such targets into product specifications.

Then, we confirm that our products and services comply with all relevant laws and regulations. Meanwhile, based on the three elements of ECPs (see the column below), we define and manage ECP standards for the environmental performance to realize at each stage of the lifecycle of products and services in order to ensure their quality with respect to the environment.

From among such products and services, we choose those with the highest levels of environmental performance at the time of product release and certify them as Excellent ECPs within Toshiba Group.

■ Process of creating Excellent ECPs



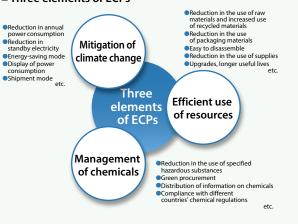
Toshiba Environmental Standards

- Assessment based on the three elements of ECPs -

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

ECPs have three elements: mitigation of climate change, efficient use of resources, and management of chemicals. Toshiba Group sets its own environmental standards (ECP standards) for each product model to assess overall environmental performance, which includes all three of these elements. Environmental assessments are performed during the development of every product to check not only whether the product complies with laws and regulations but also to check whether the product meets the ECP standards.

■ Three elements of ECPs





Mitigation of Climate Change

Policy

Reducing CO₂ emissions during use by improving product/service energy efficiency Ensuring a stable electric power supply and developing/providing low-carbon energy technologies

Reducing GHG emissions by improving the energy efficiency of products and services associated with power supply and with power consumption

Contributing to climate change mitigation by improving power supply and power consumption efficiency

- (1) Eco-products (Power supply): Contributions by products and services associated with power supply We contribute to reducing GHG emissions by improving the efficiency of power infrastructure facilities including power plants with low-carbon energy technologies.
- (2) Eco-products (Power consumption): Contributions by products and services associated with power consumption We contribute to reducing GHG emissions by improving the energy-saving performance of products and services associated with power consumption, including social infrastructure products and services such as elevators, railway systems, air conditioners, and lighting systems as well as office equipment.

Products and Services associated with Power Supply





Geothermal power generation

Hydrogen power generation





Stationary storage battery systems equipped with rechargeable battery

Power transmission







DC power transmission systems (HVDC)

Products and Services associated with Power Consumption

Public infrastructure







Traffic management systems

Railway and industrial systems





Battery systems (Rechargeable battery SCiB™)



Industrial/Automotive systems

Buildings and facilities







Retail and printing



TVs and PCs



Electronic devices and Digital solutions

Contributions by products and services associated with power supply



Generating power

— Contributing to climate change mitigation with power generation technologies —

Electric power supply is an important lifeline that supports economic activities and our lives in contemporary society. Toshiba Group promotes various initiatives to ensure a stable supply of power as well as to mitigate climate change.

Main power source

Currently, approximately 80% of the world's power is produced by thermal power generation with fossil fuels. Toshiba Group aims to achieve its goal of zero-emissions by employing a variety of thermal power technologies, including Advanced Ultra Super Critical (A-USC) coal-fired power generation, which has realized the world's highest level of power generation efficiency; high-efficiency gas combined-cycle power generation; technologies for separating and collecting CO₂(CCS') from emissions caused by thermal power generation; and super critical CO₂ cycle power generation, which facilitates generating power and collecting CO₂.

We are also striving to restart nuclear power plants in Japan. To this end, we are implementing measures to enhance nuclear reactor cooling systems and control the release of radioactive materials with the aim of preventing serious accidents and mitigating the effects of radiation. In addition, to further improve the safety of nuclear power plants, we will continue ongoing efforts to develop a reactor core material that can reduce the amount of hydrogen in the event of a major accident as well as to protect against cyber attacks.

With regard to hydroelectric power generation, Toshiba Group has developed a technology that improves turbine efficiency by applying Computational Fluid Dynamics (CFD) and also successfully increased output by renovating aged turbine facilities. Furthermore, we are also working to promote the introduction of renewable energy devices using adjustable speed pumped storage power generation systems that are effective for power system stabilization.

As for geothermal power generation, we have a technology that offers high-corrosion-resistance and erosion-resistance called "super rotor." By applying this technology to steam turbines, we ensure plant longevity, high operational reliability, and high operating rates.

Renewable energy

In the area of industrial photovoltaic power generation systems, Toshiba Group has delivered large-scale photovoltaic power plants with capacities of more than 10 MW to many locations in Japan. In addition, in 2016, we began selling a 345-W photovoltaic module with a conversion efficiency of 21.2% for residential photovoltaic power generation systems, thereby helping reduce CO₂ emissions.

Storing power

— Contributing to climate change mitigation with power storage technologies—

The amount of power generated by renewable energy varies with the weather, so generating power with renewable energy is an unstable power generation method. Expanding the use of this method requires controlling sharp output fluctuations and achieving load leveling through peak shifts by charging batteries at night when demand is low and discharging electricity during the day when demand peaks. To handle such requirements, Toshiba Group provides products such as adjustable speed pump storage power generation systems and a stationary storage battery system that uses Toshiba's high-performance lithium battery, SCiB™ as modules.

Furthermore, in 2015, we commercialized H₂One™, a hydrogen-based autonomous energy supply system, by combining a hydrogen power storage technology employing water electrolysis with fuel cell power generation technology.

Distributing power

—Contributing to climate change mitigation with power transmission and transformation technologies—

In order to provide an economical and stable power supply, we deliver various systems, including high-voltage, large-capacity power transmission/transformation devices, medium- and low-voltage power distribution devices, system protection relay devices that incorporate digital technologies, and monitoring and control equipment systems that remotely control these devices. Toshiba Group has also developed a DC power transmission technology that can reduce transmission losses compared to AC power transmission. Using this technology, we are participating in every DC power transmission system project that promotes linkage between systems in Japan that differ in frequency. Overseas, we are also participating in a project for DC transmission between Italy and Montenegro as well as manufacturing major devices, including suspension valves and converter transformers, for the project. Furthermore, thanks to our proprietary circuit composition technology, Toshiba Group can miniaturize devices. Using this technology, we can reduce installation footprints.

^{*} CCS: Carbon Dioxide Capture and Storage



Mitigation of Climate Change

Contributions by products and services associated with power consumption

With regard to product groups such as air conditioners and LED lights for which CO₂ emissions during use account for the largest percentage of emissions generated throughout product lifecycles, improving energy-saving performance leads to significant reductions in CO₂ emissions. Toshiba Group helps reduce CO₂ emissions by developing and providing advanced energy-saving technologies.

Case Study 1

High-efficiency air-cooled heat pump chiller

Toshiba Carrier Corporation

Universal Smart X EDGE series are high-efficiency, high-performance, compact air-cooled heat pump chillers equipped with the world's largest-class¹¹, newly developed, high-capacity DC inverter rotary compressors. We optimized compressor tuning and dramatically enhanced the cooling cycle, including the heat exchangers and fans. As a result, EDGE series AIREDGE 60-horsepower standard model IPLVc²² achieves leading performance of 5.3, while the high-efficiency model offers performance of 6.0. These new products reduce CO₂ emissions by approximately

62% compared to conventional Toshiba Carrier's products (FY2000 products). Also, the original edge form reduces product size and makes it easier to install the product by reducing the space for water piping.



- *1 As of December 2016; with an air-cooled heat pump chiller. Data compiled by Toshiba Carrier Corporation
- *2 IPLVc (Integrated Part Load Value, Cooling) that indicates operation efficiency is also based on performance during low-load times. Greater values indicate higher energy efficiency.

Case Study 2

LED floodlight with high energy-saving performance for stadiums and other large outdoor facilities

Toshiba Lighting & Technology Corporation

Lighting systems (floodlights) installed in stadiums and other large outdoor facilities must provide large amounts of light along with high central luminous intensity and high lighting rates'¹. Toshiba Lighting & Technology Corporation commercialized an LED floodlight that can replace the conventional 2-kW metal-halide stadium floodlight which hitherto had the largest output capacity. The new floodlight achieves the industry's highest specific energy consumption efficiency (108.3 lm/W (narrow-angle lighting))¹² as an LED floodlight providing a large amount of light. It reduces the amount of electricity consumed by the entire stadium-lighting system by approximately 47% compared to conventional lighting apparatuses (based on a case study of floodlights delivered to Oita Bank Dome). The new floodlight has also been designed to be environmentally conscious in various aspects, including extending lighting sources' product lives, reducing lighting devices' weights, and avoiding excessive illumination in areas around facilities.





LED floodlight (LEDS-12503NN) equivalent to a 2-kW metal-halide lamp

Floodlights installed in Oita Bank Dome

- *1 The ratio between the luminous flux inside a lighting device and the luminous flux that effectively reaches the lighted surface. The higher the lighting rate, the more effectively light is used.
- *2 As of November 2016; data compiled by Toshiba Lighting & Technology Corporation

Adaptation measures to avoid the effect of climate change

In response to climate change issues including global warming, Toshiba Group is promoting measures to mitigate their effects by reducing GHG emissions. At the same time, we are also developing adaptation measures to prepare for the effects of climate change, such as weather radars, rainwater drainage systems, disaster prevention information systems, and hydrogen-based autonomous energy supply systems.

Case Study 3

Phased-Array Weather Radar essential to climate change adaptation

Toshiba Infrastructure Systems & Solutions Corporation

A phased-array weather radar can observe a wide area in three-dimensional space from high altitudes quickly and has performance equivalent to 20 conventional parabola radars. It can monitor rapidly growing cumulonimbus clouds in the incipient stage as well as their development thereafter. Thus, it helps reduce climate change-induced disaster risks by detecting early signs of localized torrential downpours, improving forecast accuracy, and providing prompt evacuation guidance. Phased-array radars also offer a variety of disaster prevention solutions that ensure safety and security when used in combination with rainwater drainage systems and disaster prevention information systems.



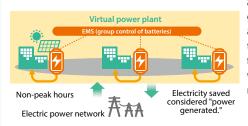


Case Study 4

Virtual Power Plant (VPP) that generates power by a set of controlling storage batteries

Toshiba Energy Systems & Solutions Corporation

Toshiba Energy Systems & Solutions Corporation is working with Yokohama City and TEPCO Energy Partner, Inc. to conduct a field experiment that aims to test a system designed to utilize storage batteries installed at local disaster prevention centers as "virtual power plants" to help electricity retailers adjust electricity demand (demand response) during normal times as well as to utilize such batteries as power sources for disaster prevention to keep telecommunication facilities operating for several days during an emergency. This field experiment aims to realize timely electricity usage to avoid excess supply of photovoltaic power and other dispersed energy. To this end, multiple storage batteries with capacities of approximately 10 kWh



are controlled as a group to be charged and discharged in tandem with price fluctuations in the wholesale electricity market in real time.

Results of FY2016

(1) Results achieved by eco-products (Power supply)

Thanks to strong demand for high-efficiency thermal power and renewable energy, we reduced CO₂ emissions by 100 million tons and achieved our goal.

(2) Results achieved by eco-products (Power consumption) We developed and provided products and services worldwide by setting eco-targets for mitigation of climate change, thereby reducing CO₂ emissions by 15.65 million tons in FY2016, exceeding our original goal.

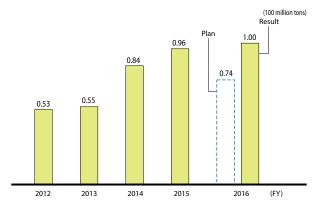
Future initiatives

Regarding products and services associated with power supply, we will spread the use of high-efficiency thermal power and renewable energy by providing combined cycle power generation systems and power generation systems for geothermal power plants. Also, to promote large-scale introduction of renewable energy, we will continue to develop and provide storage battery solutions and hydrogen power storage systems designed to ensure a stable power supply.

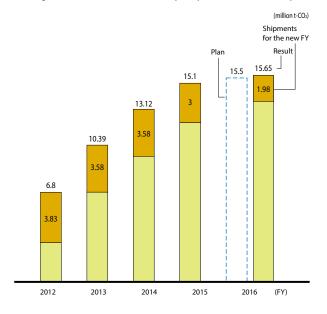
Regarding products and services associated with power consumption, we aim to spread the use of products that have large energy-saving effects, such as industrial air conditioners and LED lighting. Furthermore, we will expand our business in the global market for system products mainly in the social infrastructure domain, particularly in emerging countries that have rapidly increasing demand for products that can achieve significant reductions in CO₂ emissions.

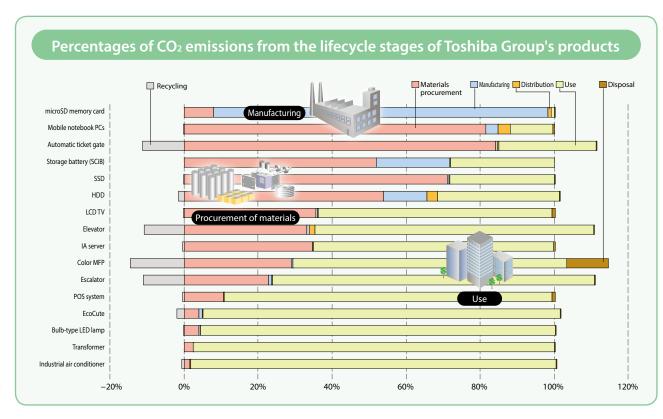
Under the Sixth Environmental Action Plan, we aim to reduce emissions by a total of 22.6 million tons by 2020 in terms of consumption and supply combined.

■ Changes in reductions in CO₂ emissions by eco-products (Power supply)



■ Changes in reductions in CO₂ emissions by eco-products (Power consumption)







Efficient Use of Resources

Policy

Improving product/service resource efficiency and promoting product longevity Expanding use of parts made from secondary raw materials

Measures to take

Increasing the amount of resources saved by promoting resource-saving design Increasing the amount of recycled plastics used

Toshiba Group's 3R* initiatives for products

In order to realize a sound material-cycle society, there is a need to reduce the amount of resources extracted and discharged as waste throughout product lifecycles. 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 products and recycling systems and are implementing activities to reduce environmental impacts of our products throughout their lifecycles.

* 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

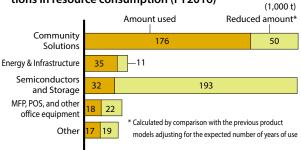
Outgoing recycling refers to the collection and recycling of end-of-life products. By promoting designs for reusing and recycling materials, we improve outgoing recycling while simultaneously improving the system design for recycling end-of-life products further.

Increase in the percentage of resource savings

Results of FY2016

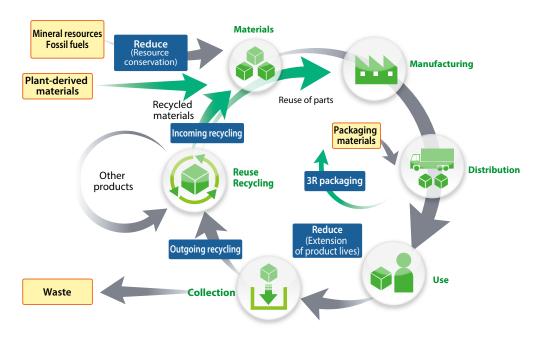
Under the Fifth Environmental Action Plan, we aimed to further increase the amount of resources saved to 1.5 times the FY2010 level. In FY2016, the total amount of resources used in Toshiba Group's major products, estimated by multiplying the amount used for products and packaging materials by the number of shipments, was approximately 280,000 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 290,000 tons, or by 144% compared to previous product models.

Amount of resources used by Toshiba Group and reductions in resource consumption (FY2016)



Future initiatives

We will continue to promote resource-saving designs for all products with the aim of further reducing resource consumption. Under the Sixth Environmental Action Plan, we aim to reduce resource consumption by a cumulative total of 460,000 tons by 2020.



Increased use of recycled plastics

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

● Results of FY2016

Due to the effects of changes in Toshiba Group's business structure, the amount of recycled plastics used by Toshiba Group as a whole decreased to 854 tons. The percentage of recycled plastics relative to the total amount of plastics used in products^{*1} was 10.6%, exceeding the initial goal (3.5%).

Future initiatives

To increase use of recycled plastics, we will ensure the supply of waste plastics as well as develop new uses of recycled plastics. Under the Sixth Environmental Action Plan, we aim to increase the cumulative total of recycled plastics to 3,000 tons by 2020.

*1 [Amount of recycled plastics] / [Amount of plastics used for products] × 100

Case Study 1

Reuse of solar panels

Toshiba Environmental Solutions Corporation

Toshiba Group is developing technologies for recycling and reusing solar panels that are likely to be disposed of in increasingly larger amounts in the future.

We delivered a 30-kW power system that employs Toshiba-developed reuse technology to the Smart Hydrogen Station (operator: Misawa City Solar System Maintenance Business Association) in Oirase-cho, Aomori. The solar panels used in this power system are those taken from the solar systems damaged during the Kumamoto Earthquake (2016) and the flood in Obihiro City, Hokkaido (2016) but diagnosed as non-damaged.

We will continue to develop environmentally conscious technologies and provide more advanced solutions in the area of solar panel recycling and reuse, thereby contributing to society.



Reused solar panels



Solar simulator (Major equipment for reuse diagnostic technology)

Recycling of End-of-Life Products

In order to ensure efficient use of resources and appropriate treatment of hazardous substances, in accordance with recycling regulations in each country and region of the world, Toshiba Group is promoting the collection and recycling of products that customers have discontinued use of. We promote collection and recycling of end-oflife 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 Recycling of Specified Kinds of Home Appliances and the Act on the Promotion of Effective Utilization of Resources, we have established a unique scheme to collect elevators, MFP/POS systems, and other office equipment. Toshiba Group also responds appropriately to the Directive on Waste Electric and Electronic Equipment (WEEE) in Europe*2 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 other countries in Asia and Central / South America.

*2The WEEE Directive is a directive of the European Union concerning waste electrical and electronic equipment.

Case Study 2

The world's only multi-function printer that can erase what it prints Loops LP50 series

Toshiba TEC Corporation

The hybrid multi-function printers Loops LP35, 45, and 50 (LP50 series) can erase what they print to enable repeated use of the same sheet of paper. These printers reduce the amount of paper used in offices by repeatedly printing and erasing a single sheet of paper, thereby conserving resources while providing an economic benefit. In addition, using the optional erasing unit makes it possible to scan a printed sheet into a digitized document when erasing as well as to store the document on a USB flash drive or server.

In addition to pursuing the resource-saving and recycling capabilities of products themselves, we also propose these printers as resource-saving solutions that contribute to conserving paper resources through customers' usage.





Management of Chemicals

Policy

Ensuring management of chemicals contained in products by appropriate management at each stage of materials procurement and manufacturing

Measures to take

Promoting use of alternatives to specified chemicals (four phthalate esters*1)

Initiatives for management of chemicals contained in Toshiba Group's products

Toshiba Group manufactures and sells a wide range of products, from electronic devices (e.g., semiconductors and hard disks) to audio-visual products (e.g., PCs and TVs), building- and facility-related devices (e.g., air conditioners, elevators, and lighting devices), industrial systems (e.g., motors and railway systems), and energy and social infrastructure products (e.g., power generation, transmission, and distribution systems). Various chemicals are used to manufacture these products. To properly manage these chemicals and to achieve our goal of minimizing the risks involved in the use of chemicals in accordance with the precautionary principles, which were proposed and adopted at the World Summit on Sustainable Development (WSSD*2) and other conferences, Toshiba Group has been promoting initiatives to specify the chemicals to be managed, to eliminate the use of specified chemicals (including the use of substitute materials), and to reduce the amount of chemicals contained in our products. In addition, we also promote communication and information sharing on such chemicals through the value chain in order to minimize risks to human health and the global environment throughout product lifecycles.

Also, to respond to the globalization of business, Toshiba Group is developing global measures to manage chemicals contained in products. To this end, we are collaborating with regional environmental divisions (in China)

and local subsidiaries to gather and assess the impact of policies and regulations of countries around the world to enhance Toshiba Group's management of chemicals.

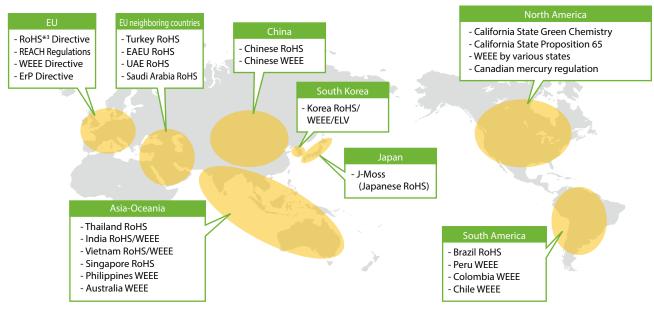
Furthermore, to promote the Green Procurement initiative, Toshiba Group has specified "prohibited substances," whose presence is prohibited in procurement items, including product materials and parts, and "managed substances," whose environmental impact should be reduced, based on their actual usage, via reduction of use and substitution. Our aim is to procure products, parts, and materials in cooperation with our business partners and suppliers to minimize the environmental impact of these chemicals.

■ Toshiba Group Environment-related Substance List

Category	Definition
	Substances whose presence is prohibited in pro-
Rank A	curement items (including packaging) in Toshi-
(Prohibited	ba Group. Substances whose use in products
Substances)	(including packaging) is prohibited or restricted
	by domestic or foreign laws and regulations.
D I- D	Substances whose environmental impact
Rank B (Managed	should be reduced, based on actual usage, via
Substances)	reduction of use and substitution, or recovery
Substances)	and detoxification in a closed system.

Due to sector-specific conditions and other circumstances, details of the management of chemicals (substances managed, management levels, threshold values, etc.) may differ among Toshiba Group companies.

■ Examples of regulations on chemicals contained in products in different countries



^{*1} Bis (2-ethylhexyl) phthalate, butyl benzyl phthalate, di-n-butyl phthalate, diisobutyl phthalate. Used mainly as a plasticizer for plastics (cable coatings, etc.) and other materials; there is concern about its effects on the human body.

^{*2} WSSD: World Summit on Sustainable Development

^{*3} RoHS (Restriction of certain Hazardous Substances): A directive that limits the use of specified hazardous substances in electrical and electronic devices

Promoting use of alternatives to PVC/BFRs

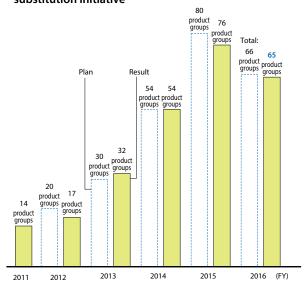
Results of FY2016

In the Fifth Environmental Action Plan, Toshiba Group set a goal of using substitute materials to replace polyvinyl chloride (PVC) and brominated flame retardants (BFRs) contained in products across a total of 80 product groups. In FY2015, we had expanded the scope of our initiative to 76 product groups. After selling the medical equipment and home appliance businesses to companies outside Toshiba Group in FY2016 due to changes in our business structure, we excluded the product groups associated with those businesses from the scope of our initiative. Accordingly, we reduced the total number of targeted product groups from 80 in FY2015 to 66 in FY2016 in order to continue our initiative.

Consequently, we achieved our goals for 65 product groups. Unfortunately, we were unable to achieve our goal for one product group (fuel cell-related products). Though we had already completed selection of alternative materials for this group of products, the products scheduled to be released in FY2016 were actually released ahead of the original schedule. This made it difficult for us to employ the alternative materials during FY2016. We plan to develop next-generation products by employing alternative materials from the start to achieve our goals.

Using substitute materials to replace PVC/BFRs is not defined as a KPI in the Sixth Environmental Action Plan that started in FY2017, but all Toshiba Group companies will continue to carry out the maintenance and management initiative.

Changes in product groups covered by the PVC/BFR substitution initiative



Promoting use of alternatives to the four phthalate esters

Future initiatives

Under the Sixth Environmental Action Plan for the period from 2017-2020, Toshiba Group will promote use of alternatives to the four phthalate esters as part of our initiative for the management of chemicals contained in products.

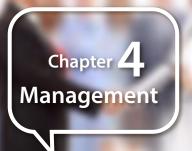
Phthalate esters are used as plasticizer for PVC and other plastics. They are widely used in electrical and electronic devices as plasticizer for plastics that must be pliable, such as cords and internal wire cable coatings, as well as for various types of packaging.

However, concerns have been raised over the reproductive toxicity of phthalate esters revealed in toxicity assessment. Therefore, in Europe and the United States, they are prohibited from use in toys or product parts that contact the skin for a long time.

Also, the Commission Delegated Directive (EU) 2015/863 was issued in the EU on June 4, 2015 to revise Annex II of the new RoHS Directive for electrical and electronic devices, and the four phthalate esters were added as new controlled substances. Based on this revision, use of the four phthalate esters will be regulated for electrical and electronic devices sold in EU countries' markets after July 2019. Due to their regulation in the EU, use of the four phthalate esters will also be subjected to regulation in various countries, including the UAE starting in 2020.

Against this backdrop, Toshiba Group reviewed the Toshiba Group Green Procurement Guidelines in 2015 to prohibit procurement of materials containing the four phthalate esters at an appropriate time. Meanwhile, we requested the cooperation of our business partners and suppliers and conducted a full-scale review of alternative materials. Under the Sixth Environmental Action Plan, we will identify the parts of products (product groups) where business divisions are using materials containing phthalate esters to replace them with alternatives.

To promote use of alternatives while maintaining product quality, it is important to evaluate alternative materials' reliability and to easily assess whether materials purchased contain phthalate esters. Toshiba Group has reviewed how to assess cables' bending strength and how to simply test whether polymeric materials contain phthalate esters. Based on the knowledge we have acquired through past reviews as well as information that we have obtained with our customers' cooperation, we will complete replacement with alternatives for all products (product groups) by July 2017. (We aim to complete selection of alternative materials for some products (product groups) for which RoHS regulation starts in 2021 as well as for products not regulated by the RoHS Directive.)



We aim to become an excellent company that lives up to the public's expectations by strengthening our environmental management.

Major activities in FY2016

Environmental Audits, Environmental Risks and Compliance, Human Resource Development

- Number of audits (cumulative) 4,300
- Number of legal violations related to environment
- Number of certified eco-style leaders in FY2016 (cumulative) 1,710
- The third year activity of Toshiba Environmental School was held

Environmental Communication

- ●The 25th Toshiba Group Environmental Exhibition was held
- Global Environmental Actions were implemented at business and production sites worldwide

Environmental Accounting

Environmental conservation benefits increased compared to FY2015
 Investments: 8.5 billion yen

 Environmental costs: 41.5 billion yen
 Benefits: 104.3 billion yen

Biodiversity

- Percentage of sites that have measured effects
- Rare species protected inside Toshiba Group

100% Over 100 species

Evaluation by External Parties

 Received multiple awards, including FY2016 Energy Conservation Grand Prize for FY2016

Basic policy

In an effort to support Business activities for manufacturing and products / services, Toshiba Group is also promoting Management initiatives to enhance the basis for environmental management. In Management, we place the highest priority on ensuring compliance to raise the level of our environmental activities by maintaining a check system based on our original environmental audits as well as through environmental education for employees and human resource development programs. In addition, we also proactively promote communication with stakeholders and biodiversity conservation.

Strengthening the foundation of environmental management **Ensuring of Environmental** Conservation of **Environmental** Communication Risk Compliance Contribution to Aichi Enhancement of Improvement of compliance with global environmental regulations Development of networks with Development of stakeholders human resources Management Establishment of a EnvironmentalISO 14001 Environmental

Results of FY2016 and future initiatives

In FY2016, Toshiba Group conducted approximately 300 environmental audits to ensure the progress of the Fifth Environmental Action Plan while striving to enhance compliance through case studies on regulation violations. Also, as part of our education and human resource development programs for employees, we have developed a cumulative total of 1,710 eco-style leaders and held the third Toshiba Environmental School session. To promote environmental communication, we conducted a variety of environmental action programs at business and production sites worldwide. In addition, we also held the 25th annual Toshiba Group Environmental Exhibition in Japan. To conserve biodiversity, we measured the effects of our activities using selected metrics at all 62 targeted production sites.

Under the Sixth Environmental Action Plan that has started in FY2017, we promote activities to achieve three goals: ensuring environmental risk compliance, promoting environmental communication, and conserving biodiversity. To achieve the first goal of ensuring environmental risk compliance, we focus mainly on enhancing compliance with global environmental regulations and improving programs for environmental human resources development at overseas production sites. To achieve the second goal of promoting environmental communication, we appropriately disclose information in reports and on websites. Meanwhile, we promote development of networks with stakeholders through educational programs for elementary schoolchildren, Toshiba Group Environmental Exhibition, and Global Environmental Actions at business and production sites worldwide. To achieve the third goal of conserving biodiversity, we set 10 of the 20 Aichi Targets as goals for Toshiba Group and implement relevant measures at our sites around the world.



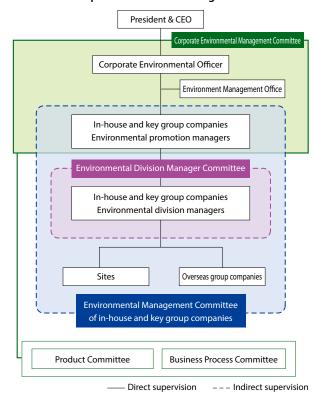
Environmental Management Structure

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 processes, and (4) promotion of environmental communication. We take active measures to promote initiatives focused on these objectives.

Corporate Environment Management Office develops and implements important corporate-level policies, strategies, and measures with the approval of senior managers and makes them fully known to all personnel of the company. Specifically, Toshiba semiannually convenes the Corporate Environmental Management Committee, a group-wide decision-making organization regarding environmental management chaired by the Corporate Environmental Officer, which consists of environmental promotion managers of in-house companies and key group companies and corporate staff division managers. Meetings of the Committee make proposals for environmental measures related to management, technological development, production, and sales; confirm and follow up on the progress of the Environmental Action Plan to achieve the Environmental Vision; discuss and decide the overall policy and plans for environmental management; and make the company-wide policy fully known to all managers and employees.

■ Toshiba Group environmental management structure



The following committees are organized as subgroups of the Corporate Environmental Management Committee: the Product Committee, which manages the development of environmentally conscious products and technologies, and the Business Process Committee, which promotes efforts to reduce the environmental impacts in business activities. These committees formulate detailed plans, identify potential problems, review measures

implemented to solve problems, and promote the sharing of information among all company members. Various working groups specializing in particular themes are engaged in activities in a wide range of areas under the supervision of these committees.



Corporate Environmental Management Committee

•Global environmental management structure

Toshiba Group has established a corporate regional headquarters in China, where we have an especially large number of production sites, to ensure local environmental management. In addition, in Europe, the U.S., and Asia-Oceania, we work together with the relevant regional headquarters to collect and share information on environmental policies and regulations in each region and to collaborate and provide support for group companies in these regions to develop effective environmental strategies.

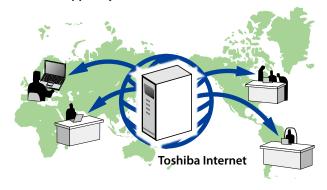
We also have an auditing system through which we provide training for local auditors who conduct the environmental audits of overseas sites.

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 (445 companies in FY2016) and is accessible from countries around the world.

■ Global support system



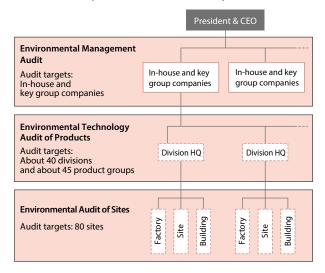
Environmental Audits

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 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 the voluntary plan), and (4) technology audits (product environment management system, environmental performance, etc.). Audits were conducted over two days to check these items. The most unique of these categories was 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

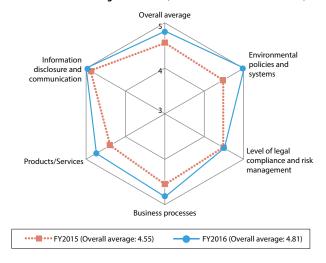


Since FY2006, these multiple audits have been systematized so that they can be conducted as one of three types: (1) environmental management audits covering in-house companies and key group companies, (2) environmental technology audits of products covering various divisions, and (3) environmental audits of sites covering production sites and non-production sites that consume large amounts of power. 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 impacts that are not covered by site environment audits.

Audit items for these three audits are reviewed annually to improve the evaluation level. Since FY2012, we have evaluated the level of environmental management based on audit items linked to the goals of the Fifth Environmental Action Plan, thus stepping up environmental management. To further enhance environmental management, starting in FY2017 we will evaluate the level of environmental management based on audit items linked to the goals of the Sixth Environmental Action Plan.

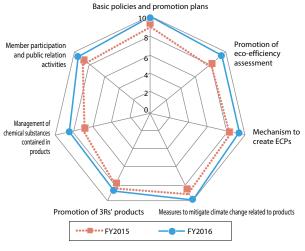
■ Audit results (FY2016)

●Environmental management audit (total number of check items: 72)



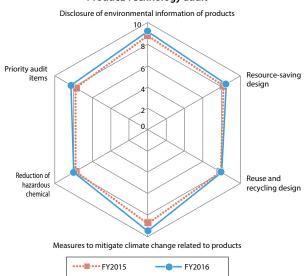
Environmental technology audit of products (total number of check items: 40)

EMS audit*

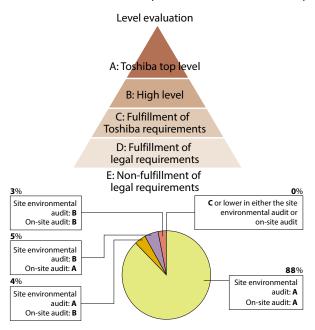


^{*} Environmental Management System

Product/Technology audit

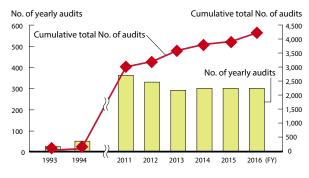


●Environmental audit of sites (total number of check items: 220)



We conduct over 300 audits, including self-audits, annually, and the total number of audits conducted since FY1993 exceeds 4,300. We also provide in-house training for auditors who conduct audits.

●Toshiba Group's environmental audit records



ISO 14001

ISO 14001

In recognition of the importance of activities at our sites in promoting environmental management, we obtained ISO 14001 certification for all of Toshiba Corporation's 11 domestic sites by 1997 and have maintained the certification to this day. In addition, all of Toshiba Group's 183 sites eligible for certification have 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.

Key group companies such as Toshiba Energy Systems & Solutions

Corporation, Toshiba Infrastructure Systems & Solutions Corporation, and Toshiba Electronic Devices & Storage Corporation 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

As of June 30, 2017

	Eligible sites	Certified sites	Certification rate
Toshiba Corporation's business and production sites	11	11	
Domestic production sites	48	48	
Domestic non-production sites	42	42	100%
Overseas production sites	37	37	
Overseas non-production sites	45	45	
Total	183	183	

Risks and Compliance

Compliance with environmental laws and regulations

To shiba Group sets self-regulation standards stricter than legal standards regarding atmospheric emissions and discharges into the hydrosphere so as to ensure that all its production sites comply with environmental rules.

We conduct in-house environmental audits in order to identify potential environmental risks and to prevent environmental accidents. We also develop company-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 group companies.

Unfortunately, there were three legal violations in FY2016, but we responded swiftly and appropriately to the problems. Using the lessons learned from these problems, we will strive to prevent the recurrence of similar problems and make further efforts to ensure compliance with relevant laws and ordinances in the future.

■ Toshiba Solutions Corporation*1 (April 2016)

Requested that a business operator dispose of trade-in products without concluding a disposal consignment contract.

- Toshiba Corporation Energy Systems & Solutions Company¹² (August 2016)

 The company failed to submit administrative reports on waste handling.
- Toshiba Corporation*2 Keihin Operations (October 2016)

The pH level at a final wastewater discharge outlet exceeded the standard pH value (during an administrative inspection).

Implemented measures to identify the cause and to prevent recurrence.

- *1 Currently, Toshiba Digital Solutions Corporation
- *2 Currently, Toshiba Energy Systems & Solutions Corporation

Responses 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, Corporate Environment Management Office, 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 recurrence.

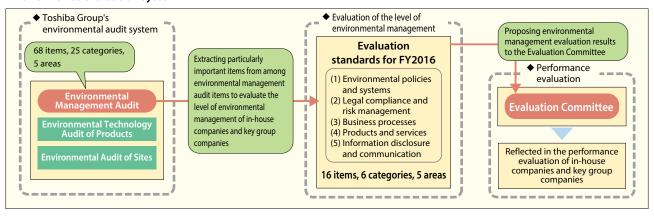


Performance Evaluation System

Reflecting the level of environmental management in performance evaluation

We evaluate the environmental management of in-house companies and key group companies based on Toshiba Group's comprehensive environmental audit system. Out of 68 items spread among 25 categories in the 5 areas of environmental management audits, we extract high priority items each fiscal year as evaluation items to evaluate environmental management. In FY2016, we extracted 16 items from 6 categories in the following 5 areas to perform quantitative evaluation: (1) Environmental policies and systems; (2) Legal compliance and risk management; (3) Business processes; (4) Products and services; and (5) Information disclosure and communication. Also, we submit evaluation results to the Evaluation Committee to reflect the results in each company's performance evaluation.

■ Performance evaluation system



Environmental Education and Human Resource Development

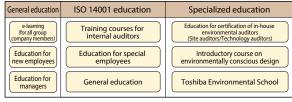
Development of eco-style leaders

Toshiba Group is promoting the development of Toshiba eco-style leaders as part of its programs for environmental education and human resource development. The objective is to certify employees having keen environmental awareness in all divisions as Toshiba eco-style leaders and raise employees' overall environmental awareness through participation in internal environmental programs and events. A major requirements for becoming a certified eco-style leader is to obtain an internal or external environmental license (e.g., passing of the Eco Test sponsored by the Tokyo Chamber of Commerce and Industry, or becoming a Toshiba environmental auditor or nature observation instructor). In FY2016, Toshiba Group had certified a cumulative total of 1,710 employees as ecostyle leaders, falling short of the initial goal of 2,000. Nevertheless, these efforts will enhance site activities going forward.

Environmental education/Human resource development

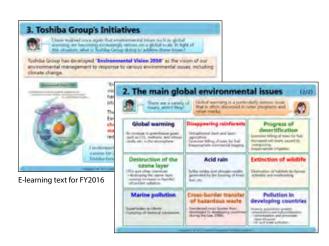
In order to raise the level of environmental activities, we provide environmental education programs for all employees. These education programs are composed of (1) general education courses, (2) ISO 14001 education courses, and (3) specialized education courses, offering curricula designed to meet the 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.

■ Environmental education system



●Environmental e-learning

We provide an environmental e-learning program as a general education course once a year to all employees worldwide. This program helps employees deepen their understanding of global environmental issues and Toshiba Group's environmental initiatives.



Training for auditors (site audit)

We provide training for auditors for our in-house environmental audits, which were 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 FY2016, 11 employees were certified as site auditors, 7 as technology auditors, and 7 as overseas local auditors. The current number of certified auditors is about 300.



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 a position equivalent to or higher than section chief
 - Auditors are classified into chief auditors, auditors, and assistant auditors depending on their experience and skills.

Other

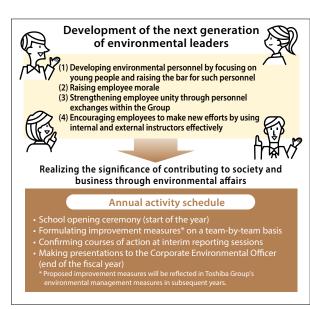
· Education sessions are held once a year.

Toshiba Environmental School

In FY2014, in order to improve our human resources in the area of environmental management, Toshiba Group launched Toshiba Environmental School, a program to develop the environmental management abilities of young and mid-level employees in charge of environmental affairs.

In FY2014 (the first year), 11 employees discussed themes such as effective use of resources and environmental management for the future; in FY2015 (the second year), 12 employees discussed environmental communication and basic environmental activities. Following these programs, in FY2016, 8 employees from the environment, facility management, business development, and other divisions participated to discuss the following themes for about a year: "Improvement of energy-saving capabilities of our production sites" and "Promotion of Excellent ECPs' both inside and outside of Toshiba Group". At the final briefing, all participants presented the discussion results and proposals for future environmental management measures for each team to the Corporate Environmental Officer. Some of the proposals made by year three program participants are scheduled to be reflected in Toshiba Group's future environmental policies.

* Toshiba products and services with the highest level of environmental performance in the industry in terms of major functions upon release



Class activities in FY2016 (year three program participants)





Holding an off-work interim reporting session





Attending a Corporate Environmental



Final presentation in front of the Corporate

Discussions and proposals in FY2016 (year three program participants)

◆ "Improvement of energy-saving capabilities of production sites" Team: Discussing new measures to enhance energy-saving activities at our production sites

The team proposed to identify problems regarding energy-saving activities at our production sites in Japan and overseas and to incorporating an energy-saving perspective into in-house environmental audits to make improvements. To realize this proposal, the team also reviewed more specific measures, including making check sheets and compiling case study list on energy savings for audits.

◆ Excellent ECP Promotion Team: Discussing how to effectively promote environmental performance of our products

The team analyzed current status of Toshiba Group and benchmarks of competitors, which led to recognizing the need to focus more efforts on promoting the value of products themselves rather than the Excellent ECP system. The team then proposed measures to improve the brand value, including establishing a group-wide framework for promotion, effectively using websites, social networking services, exhibition tools, and other means, as well as publicizing the significance of contributing to society by replacing old products by new ones.

Environmental Communication

Educational program for elementary school children to learn about the environment

As part of our environmental communication initiative, we worked with the Association of Corporation and Education, an NPO that specializes in developing classes together with companies, to start an educational program for elementary schoolchildren at the Toshiba Science Museum and in elementary schools in the Tokyo area for learning about the environment.

This program is designed to raise children's awareness about global warming, resource depletion, and other environmental issues that seriously affect people's lives. Meanwhile, we are introducing various scientific technologies that contribute to resolving such issues, thereby enabling elementary schoolchildren to think deeply about environmental issues and how to give back as members of society by taking action on their own.

This program's content is also in line with the elementary school curriculum guidelines and can be taught in classes for science studies, social studies, and general studies. The program places high priority on experiments, team activities, and active dialogue with teachers and provides opportunities for children to enjoyably learn about various initiatives and technologies developed to resolve environmental issues.

Our first program is a class about energy, which is entitled "What's on the other side of a power outlet?" Classes are held on weekends and during

long vacations at the Toshiba Science Museum and throughout the year in elementary schools. We plan to review environmental themes associated with domains related to Toshiba Group, including electronic devices and social infrastructure, for subsequent programs.

Toshiba Group plans to continue this series of programs to provide children who will support a sustainable society in the future with opportunities to think about what they can do at present and 10 and 20 years from now.



Program No. 1: What's on the Other Side of the Power Outlet?

Students who participated in the program learned about the features of various methods for generating electricity, which is indispensable for our life, through experiments. They also developed an interest in considering how energy should be consumed in the future, including global warming-related issues and combined use of multiple energy sources.







Association of Corporation and Education

Shota Wada



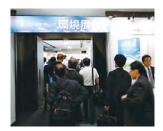
Various educational programs are available about energy. However, there are not many classes on how to combine different power generation methods. Our aim was to enable children to understand the features of different power generation methods and think for themselves how to offset each method's weaknesses.

25th Toshiba Group Environmental Exhibition

On June 9 and 10, 2016, the 25th Toshiba Group Environmental Exhibition was held at Kawasaki City's Smart Community Center (Lazona Kawasaki Toshiba Building). Approximately 4,000 guests visited during the two days. At this year's Environmental Exhibition, we presented 45 examples of environmentally conscious products and services as well as manufacturing technologies that reduce environmental impacts in the areas of energy,

social infrastructure, and storage, which are the major pillars of Toshiba Group's growth strategy. Also, since this year marked the 25th anniversary of the Environmental Exhibition, we displayed panels that showed Toshiba Group's environmental management and the Exhibition's history. We also created an area where visitors could send messages to Toshiba Group. In addition, we held a "BEMS tour" to introduce our building solutions as well as a briefing session for the press.

 $Report\ website:\ http://www.toshiba.co.jp/env/en/management/env_action.htm$



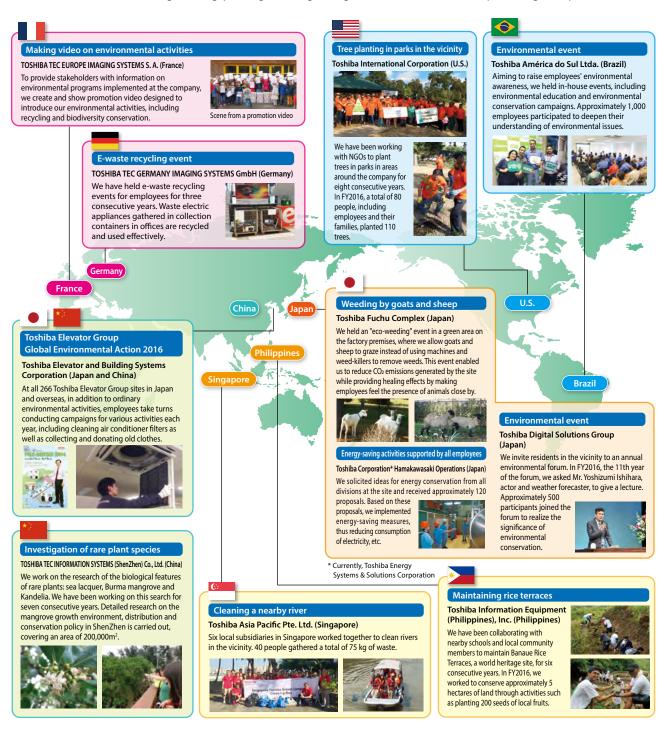






Environmental actions performed mainly by employees in countries around the world

Toshiba Group promotes environmental activities in collaboration with local communities to raise employees' environmental awareness and to foster a sense of togetherness. In FY2016 as well, various activities were performed mainly by employees in countries around the world, including cleaning, planting trees, organizing environmental events, and protecting rare species.



Future initiatives

In the Sixth Environmental Action Plan, which started in FY2017, we have set a theme for each fiscal year and carry out environmental activities world-wide in accordance with that theme. The theme for FY2017 is energy, and each business and production site is organizing activities such as energy-saving events and light reduction programs throughout the year. We aim to foster a sense of togetherness within Toshiba Group by developing activities based on a common theme and to raise employees' awareness about a wide range of environmental issues by changing the theme annually. In 2018 and beyond, we plan to set themes related to issues that stimulate public interest, such as resources, water, and chemicals, thereby promoting environmental activities at our business and production sites around the globe. We share information on environmental programs inside the group to further develop our activities going forward.



Conservation of Biodiversity

Social issues

Risk of extinction of rare animal and plant species and degradation of ecosystem services

Risks and opportunities for Toshiba Group

Risks: Unstable supply of resources, including water and minerals, and increased supply costs Damage to reputation and brand image that results from the lack of effective programs

Opportunities: Avoiding risks of unstable resource supply and increased supply costs Increasing employees' motivation

Toshiba Group's policy

Contributing to 10 Aichi Targets, international goals to be achieved by 2020

Measures to take

Expanding the scope of environmental programs to include activities such as providing environmental education to employees, preserving protected areas and promoting collaboration with stakeholders, in addition to protecting rare animal and plant species inside business and production sites and building ecosystem networks

Toward realizing a society in harmony with nature

Toshiba Group is systematically implementing measures to fulfill three requirements for a sustainable society with a view to achieving a low-carbon, sound material-cycle society that strives to be in harmony with nature. In an effort to achieve a low-carbon, sound material-cycle society, we are working to reduce greenhouse gas emissions and waste generated by manufacturing processes. At the same time, we are also striving to reduce environmental impacts throughout product life cycles by providing energy-efficient products and by conserving resources when manufacturing products, as well as to develop low-carbon power generation technologies and renewable energy sources, thereby contributing to climate change mitigation.

Furthermore, to achieve a society in harmony with nature we aim to realize a world in which humans and all other living species can enjoy healthy lives and continue to benefit from nature's bounties. In addition to mitigating climate change and reducing chemical pollution, we are also conducting group-wide environmental activities based on a recognition of the importance of maintaining and expanding environments for conserving biodiversity.

Fifth Environmental Action Plan results

Under the Fifth Environmental Action Plan for the period from 2012 to 2016, Toshiba Group aimed to achieve the goal of developing biotopes at 62 major production and business sites worldwide.

In 2012, the Group set a goal of minimizing the adverse effects of its business activities on biodiversity and shifting its biodiversity policy toward initiatives for improvement to realize an ideal state of environmental management in 2016. These efforts aim to stop the decreases in the kinds of biodiversity that each site has decided to protect by 2016 and allow for such biodiversity to increase in subsequent years. Development of biotopes was promoted in three steps: biodiversity surveys, selection of metrics and development of measures, and measurement of effects. Biodiversity surveys consisted of investigations of living organisms and "red lists" in the environs of our sites, explorations of biodiversity by experts, and assessments of biodiversity potential at such sites and in neighboring areas. Based on this survey data, Toshiba Group selected living organisms to

serve as metrics, took measures to protect them and increase their number, and made periodic measurements of effects, thereby verifying the appropriateness of the biotope development process. As a result of taking these three steps at 50% or more of our sites each year, we achieved the plan's goals for all fiscal years. Out of a total of 62 sites, measures were taken to protect rare animal and plant species at 32 sites, and we made progress in building ecosystem networks at 42 sites. In terms of protection of rare species, Toshiba Group has been working to protect more than 100 species, including species of endangered plants (78%) and fish (38%). The major indicator species of ecosystem networks are butterflies (approx. 64%), birds (33%), and dragonflies (3%).

Incorporating these three steps into the medium-term plan enabled implementation of PDCA cycles by individual sites as well as by the Group as a whole.

Data on activities at individual sites is stored in a database for disclosure on our website. We will update the database as our environmental activities make progress.

■ Fifth Environmental Action Plan: Plans and Results

	FY2012 Plan (Result)	FY2013 Plan (Result)	FY2014 Plan (Result)	FY2015 Plan (Result)	FY2016 Plan (Result)
Percentage of sites surveyed	50% (81%)	100% (100%)	-	-	_
Percentage of sites where indicators have been selected	_ (19%)	50% (91%)	100% (100%)	-	-
Percentage of sites where effects have been mea- sured	-	_ (18%)	50% (67%)	100% (100%)	-

■ Toshiba Group Biodiversity Conservation Activity Database

http://www.toshiba.co.jp/env/jp/biodiversity_database/







Sixth Environmental Action Plan

Aichi targets were adopted at the tenth Conference of the Parties to the Convention on Biological Diversity (COP10) held in Nagoya City in 2010. To take effective and urgent actions to minimize the loss of biodiversity to ensure by 2020 that ecosystems are resilient and continue to provide essential services, Aichi Targets define 20 goals for the international community to achieve by 2020.

To better understand these goals, an in-house biodiversity working group examined the relationship between Toshiba Group's business activities and Aichi Targets. As a result, we discovered that our business activities relate to 10 of the 20 individual Aichi targets (targets, 1, 2, 4, 5, 8, 9, 11, 12, 14, and 19). With the aim of contributing to the achievement of these 10 targets, Toshiba Group is now promoting biodiversity conservation activities at 70 sites worldwide.

■ Goals for the Sixth Environmental Action Plan

Choosing 10 goals from the 20 Aichi Targets	Toshiba Group's initiative (plan)
Target (1):	Environmental education, information disclosure,
Raising awareness	and collaboration with outside organizations
Target (2):	Incorporation of targets into environmental
Incorporating targets into	policies, Environmental Action Plans,
strategies and plans	and ISO 14001 goals and targets
Target (4):	Mitigation of climate change and effi-
Sustainable production	cient use of resources
Target (F)	Building ecosystem networks that connect
Target (5): Reducing habitat loss	natural habitats with Toshiba Group sites,
Reducing habitatioss	planting trees
Target (8):	Management of the series in
Reducing chemical pollution	Management of chemicals
Target (9):	Elimination of alien species at company
Eliminating alien species	sites
Target (11):	Activities that contribute to preserving pro-
Conserving protected areas	tected areas outside Toshiba Group sites
Target (12):	Protecting rare plant and animal species,
Conserving endangered species	ex-situ conservation
Target (14):	Material and the control of and
Maintaining and managing	Maintenance and improvement of cul-
ecosystem services	tural services
T	Accumulating and disclosing ecosystem
Target (19):	survey data
Improving and spreading	(including habitat maps) and creating
knowledge and technology	biodiversity conservation technologies

In addition to conducting ecosystem surveys, building ecosystem networks, and protecting rare animal and plant species, which we promoted under the Fifth Environmental Action Plan, we will play a more active part in promoting employee education, conserving protected areas, organizing nature observation meetings, and collaborating with stakeholders.

Moreover, Toshiba Group also participates in a biodiversity working group organized by the 4 Electrical and Electronic Industry Associations. Together with working members from other companies, we implement measures to improve electric and electronic companies' recognition of biodiversity and conduct research on international trends.

Toshiba Group will continue to expand our educational activities inside

To shiba Group will continue to expand our educational activities ins and outside the group toward mainstreaming of biodiversity.

Case Study 1

Protecting bird species

TOSHIBA TEC EUROPE IMAGING SYSTEMS S. A.

In an effort to protect bird species, we collaborate with a local NPO to establish a protection area on our factory premise. We adjust lawn-mowing schedules, and conduct surveys to count the number of birds that

visit this area. Since such a measure was evaluated, we received the "Jury Prize" (the highest award) in the trophy of sustainable development held annually in Normandy.



Case Study 2

Employee education and raising of environmental awareness in local communities

Japan Semiconductor Corporation Headquarters & Iwate Operations
Oita Operations

At Iwate Operations, seven divisions inside the factory premises worked together to breed rare flower species, while at Oita Operations, employees bred Japanese freshwater snails, which firefly larvae feed on, by using wastewater treated inside the premises, and then released them in the nearby Kitabana River. For our environmental education for employees and contributions to raising environmental awareness in local communities, Toshiba Group was awarded an encouragement award in the Environmental Human Resource Building Corporate Award 2016 awards ceremony held by the Ministry of the Environment and the Environmental Consortium for Leadership Development.





Case Study 3

Collaboration with Dai Nippon Printing Group: Joint hamakanzo daylily returning ceremony in Koajiro Forest

Toshiba Lighting & Technology Corporation Yokosuka Operations

poration and DNP Technopack Co., Ltd. (Dai Nippon Printing Group company) in 2015, we held a Joint Daylily Returning Ceremony on June 4, 2017 to transplant the daylily stocks grown on the two companies' premises to Koajiro Forest. At Toshiba Lighting & Technology Corporation's Head Office and then Yokosuka Operations in 2012, we transplanted 28 stocks of hamakanzo daylily, which were on the verge of extinction in the Miura Peninsula's Koajiro Forest due to the serious damage caused by the Great East Japan Earthquake and excessive picking. We then bred them on the company premise. In 2015, we transplanted 30 daylily stocks from the company's site to DNP Technopack's Yokohama Plant. We also returned to Koajiro Forest in 2014 the daylily stocks we bred at Yokosuka Operations and in 2016, DNP Technopack's Yokohama Plant returned their stocks. At this year's returning ceremony, with the support of the Koajiro Field Activity Coordination Council', the two companies' employees worked together to return all of the approximately 900 daylily stocks to their natural habitat. We expect them to bloom beautiful orange flowers from summer to autumn every year.

As the culmination of the hamakanzo daylily protection program launched jointly by Toshiba Lighting & Technology Cor-

* A non-profit organization that promotes management and maintenance of Kanagawa Prefecture-owned Koajiro Forest on the Miura Peninsula in collaboration with the prefecture, Miura City, and the Kanagawa Trust Midori Foundation.







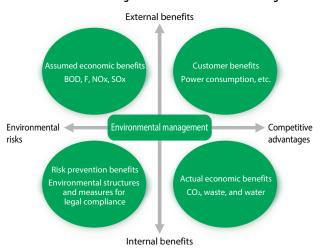
Environmental Accounting

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 conservation benefits, Toshiba Group's environmental accounting assumes four basic concepts: competitive advantages, prevention of potential environmental risks, external benefits, and internal benefits. We classify benefits into four categories based on combinations of these concepts: customer benefits due to reduced power consumption of products, actual economic benefits resulting from reductions in the amount of energy consumed and waste processed, assumed economic benefits estimated to result from reductions in air pollutant emissions, and benefits resulting from preventing potential risks. To assess benefits, we show reductions in environmental impacts in physical amounts and also calculate benefits on a monetary basis.

■ Environmental accounting as a tool for environmental management

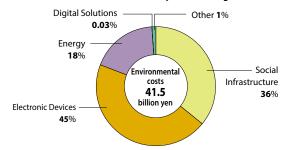


Environmental costs and benefits

Total environmental costs decreased by 21% from FY2015 to 41.5 billion yen. The breakdown of environmental costs by business segment shows that the electronic device business, which includes the semiconductor business, incurred the largest costs, followed by the social infrastructure and then by the energy business.

Total investments decreased by 26% from FY2015 to 8.5 billion yen.

■ Breakdown of environmental costs by business segment (FY2016)

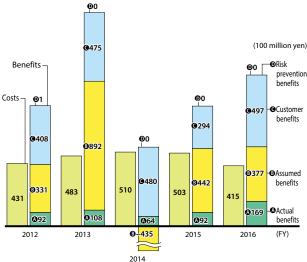


The total amount of environmental benefits was 104.3 billion yen. The breakdown of the total is as follows: actual economic benefits were 16.9 billion yen; assumed economic benefits were 37.7 billion yen; customer benefits were 49.7 billion yen; and risk prevention benefits were 5 million yen. Notably, customer benefits increased by 69% compared to FY2015. This was largely due to expanded sales of products with high energy-saving performance, such as industrial air conditioners and LED lighting systems.

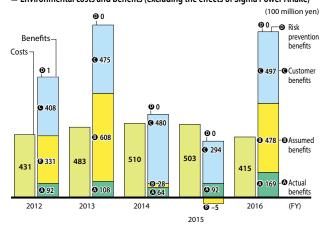
With respect to assumed economic benefits, in light of the major impact of Sigma Power Ariake Co., Ltd., which engages in the thermal power generation business, we also present data on changes in environmental benefits for Toshiba Group after excluding Sigma Power Ariake.

We will continue to appropriately analyze environmental costs and develop environmental management measures to further increase environmental benefits.

■ Environmental costs and benefits (including the effects of Sigma Power Ariake)



■ Environmental costs and benefits (excluding the effects of Sigma Power Ariake)



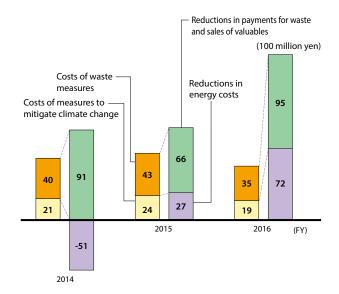
Cost benefits of environmental management measures

The figure 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 related to climate change and waste disposal 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 below, costs are expressed as business area costs and benefits as actual benefits.

In FY2016, measures related to climate change and waste disposal both brought larger benefits than the costs of implementing 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 (FY2016)

Unit: million yen

Category	Description	Investments	Costs
Business area costs	Reduction in environmental impacts	7,226	20,252
Upstream/downstream costs	Green procurement, recycling, etc.	521	722
Administration costs	Environmental education, EMS maintenance, tree planting on factory grounds, etc.	184	3,024
R&D costs	Development of environmentally conscious products, etc.	542	16,948
Public relations costs	Support for local environmental activities, donations, etc.	10	31
Environmental damage restoration costs Restoration of polluted soil, etc.		18	474
	Total	8,501	41,451

■ Environmental benefits (FY2016)

Category	Description	Reductions in environmental impacts		Benefits measured as a monetary value (million yen)	Calculation method	
	Costs that can be	Energy	-1,121,691 (GJ)	7,227		
(A) Actual	measured directly as a monetary value,	Waste	-5,412 (t)	9,467	Reductions in electricity charges and waste processing costs com-	
benefits	such as electricity	Water	2,686,071(m ³)	242	pared to the previous year, plus sales of valuables.	
	and water charges	Total monetary	benefits	16,936		
(B) Assumed benefits	Reductions in environmen- tal impacts measured as a monetary value	Reductions in the amount of chemicals discharged	866(t)	37,730	To obtain monetary values, we assessed the impact of different substances by using t equivalent amount of cadmium for each substance, which we calculated based on en ronmental standards and on threshold limit values for chemical substances specified the American Conference of Governmental Industrial Hygienists (ACGIH-TLV), and th multiplying such amounts by the damage compensation for cadmium contamination. order to compare different environmental impacts by the same standard, reductions in a vironmental impacts on the atmosphere, hydrosphere, and soil compared to the previce year are shown alongside monetary amounts that represent the values of such reduction	
(C) Customer benefits	Reductions in environmental impacts during product use measured as a monetary value	Reductions of CO ₂ emissions during use	0.48 (million t-CO ₂)	49,667	Reductions in environmental impacts throughout product life cycles measured in physical and monetary units (monetary amounts). The product life cycle includes (1) material procurement, (2) manufacture, (3) transport, (4) use, (5) collection and transport, (6) recycling, and (7) proper treatment. In this report, we focused on reductions in environmental impacts during product use. We used the following equation to calculate energy-saving benefits:	
	monetary value				Benefits (yen) = Σ [(Old model annual power consumption – New model annual power consumption) × Number of units sold annually × Standard unit electricity price]	
(D) Risk prevention benefits	Reductions in environmental risks before investment		5	Benefits from investments in environmental structures, such as dikes designed to prevent soil and groundwater contamination, evaluated for their effects of hedging against possible future risks. We used the following equation to calculate risk avoidance effects per capital investment project: Standard purification and repair costs and the occurrence factor were calculated using values originally estimated by Toshiba to evaluate risks involved in chemical leaks. Risk avoidance effects = Amount of chemicals, etc. stored or retained × Standard purifi-		
Total as an atom, han after				104 222	cation/repair costs × Occurrence factor	
Total monetary benefits				104,338		

Reductions in environmental impacts for actual and assumed benefits indicate differences between FY2015 and FY2016.
Reductions in environmental impacts for customer benefits are based on comparisons between the benchmark year (in principle FY2000) and FY2016.
Negative benefits indicate that the increase in environmental impacts exceeded reductions due to increases in production and other factors.



Third-party Assurance

In order to improve the reliability of the environmental performance data presented in this report, Toshiba Group requested PwC Sustainability LLC to provide third-party assurance for Toshiba Group's GHG emissions listed on P14. The details are as follows.

Scope of the assurance

• GHG emissions caused by business processes:

GHG emissions generated by Toshiba Corporation and its group companies in Japan and overseas (Scopes 1 and 2*1)
We selected and visited two production sites (Toshiba Corporation Fuchu Complex and Kaga Toshiba Electronics Corporation).

GHG emissions caused by use of products sold:

GHG emissions caused by use of products sold by Toshiba Corporation and its group companies in Japan and overseas (Scope 3 Category 11*2)

- *1 Scopes 1 and 2: GHG emissions generated by Toshiba through use of fuels and electricity (Scope 1: direct emissions; Scope 2: indirect emissions)
- *2 Scope 3 Category 11: GHG emissions caused by use of products and services produced and sold during the year covered by the report



Result

Based on research conducted in accordance with Toshiba Group's policies and standards as well as with ISAE 3000*3 and 3410*4, it was concluded that there are no significant items that have not been disclosed or covered by the report.

*3 ISAE 3000: International Standard on Assurance Engagements 3000 (assurance engagements other than audits or reviews of historical financial information)
*4 ISAE 3410: International Standard on Assurance Engagements 3410 (assurance engagements on greenhouse gas statements)

Methods of calculation

- CO₂ emissions caused by use of fuels: Calculated based on the Ministry of the Environment's Manual for Calculating and Reporting GHG Emissions (Version 4.1).
- CO₂ emissions coefficient for electricity purchasing: 5.31 t-CO₂/10,000 kWh is used as the power factor in Japan for FY2016. GHG Protocol data is used overseas.
- Greenhouse gases other than CO₂: Calculated by using the Global Warming Potential (GWP) in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).
- CO₂ emissions caused by use of products sold: Calculated by aggregating the emissions estimated to be generated during use of products in the future for the year the products were sold.

Evaluation by External Parties (FY2016 results)

■ Evaluation of products

Award title		Award-winning item(s)	Winner
FY2016 Energy Conservation Grand	Chairman of the Energy Conservation Center Japan's Prize (Product and Business Model Category)	Air conditioning system for light commercial use "SPEG P224/P280"	Toshiba Carrier Corporation
Prize	Chairman of the Energy Conservation Center Japan's Prize (Example in the Energy Conservation Category)	Construction and operation of next-generation energy-conserva- tion office model	Toshiba Corporation Infrastructure Systems & Solutions Company*1
FY2016 Minister of the Environment's Award for Activities to Mitigate Global Warming	Technology development and productization Category	Development and productization of a small-sized dimmable LED light bulb with Gallium Nitride power device and LED conversion of all light-bulb type light source	Toshiba Lighting & Technology Corporation
FY2016 Kawasaki Mechanism Certification System		Secondary Surveillance Radar System TW4477 Drivers license issuing system VL-L1390	Toshiba Corporation Komukai Complex
City of Kawasaki's Low CO2 Kawasaki Bran	nd 2016	Secondary Surveillance Radar System TW4477 Drivers license issuing system VL-L1390	Toshiba Corporation Komukai Complex
65th Electrical Manufacturers' Technology	Award of merit	Practical application of power regenerative system for a stress test of a power generator	Nishishiba Electric Co., Ltd.
Award	Encouragement award	Development of shaft generator control system with an electric propulsion function	Nishishiba Electric Co., Ltd.
H&V News Awards 2016	Mechanical and Electrical Building Services Product of the Year	VRF system SMMS-e	Toshiba Carrier UK Ltd.
RAC Cooling Industry Awards 2016	Air Conditioning Innovation of the Year - VRF Systems	VRF system SMMS-e	Toshiba Carrier UK Ltd.

■ Evaluation of business activities

Award title		Award-winning item(s)	Winner
FY2016 Minister of the Environment's Award for Activities to Mitigate Global Warming	Activity Implementation and Promotion Category	Environmental conservation activities at Toshiba Corporation Yokohama Complex	Toshiba Corporation Yokohama Complex
The 3rd JAB Award	JAB Award	Construction and operation of environmental management system	Toshiba Elevator and Building Systems Corporation
Green distribution	Green Distribution Partnership Conference Special Award	Development of transportation efficiency of end-of-life products by establishing exchange system of recovery equipment	Toshiba Tec Corp. has received the award as a member of JBMIA Reverse Logistics Committee
Awarding of Excellent Energy Conservation Factory & Building recognized by Director-General	Awarding of Excellent Energy Conservation Factory & Building recognized by Director-General, Chu-goku Bureau of Economy, Trade and Industry 2016	Planning and implementing energy-saving measures and promoting energy-saving-technologies across departments by communicating inside and outside the factory	Takashi Yamamoto Toshiba Carrier Corporation Tsuyama Factory
Yokohama Environmental Action Awards Yokohama 3R Dream Promotion Award	Award for Business Sites with Outstanding 3R Activities	3R activities	Toshiba Corporation Storage & Electronic Devices Solutions Company* ² Ofuna Office
The 24th Yokohama Environmental Activity Award	Enterprise Category Practice Award	Activity of waste reduction	Toshiba Corporation Storage & Electronic Devices Solutions Company Ofuna Office
lwate Prefecture Environmental Conserva- tion Contact Conference Environmental Conservation Outstanding Employee Award	Chairman's Prize	Activities of waste reduction and recycling promotion	Hiroshi Sato Japan Semiconductor Corporation Iwate Operations
Iwate Prefecture Environmental Conserva- tion Activity Award 2016	Governor of Iwate Prefecture's Prize	Outstanding activity and achievement in the aspect of public interest	Japan Semiconductor Corporation Iwate Operations
5th Kawasaki City Smart Life Style Awards	Encouragement Award (Promotion of Environmen- tal Education)	Enlightenment activity with employee participatory events aiming to enhance employees' environmental awareness	Toshiba Corporation Komukai Complex
	Distinction Award	Measure to Reduce Packaging Waste	Toshiba TEC Singapore Pte Ltd
3R Packaging Awards 2016	Gold Award	Looking for ways to improve its operations and practices so as to reduce packaging waste	Toshiba TEC Singapore Pte Ltd
The Prime Minister Industry Award 2016	Energy Management Category Award & certificate	Energy saving activity	Toshiba Semiconductor (Thailand) Co., Ltd.
CSR-DIW Continuous Awards		Environmental Law Compliance	Toshiba Semiconductor (Thailand) Co., Ltd.
Department of Energy	Outstanding Energy Efficiency Award	Energy and CO ₂ reduction projects	Toshiba Information Equipment (Philippines), Inc.
CEMIG Suppliers Award, Edition 2016	Featured	Actions on the theme of "Environmental Responsibility".	Toshiba América do Sul Ltda.
Award from International Green organisa- tion for Best Environment Practise for the year 2016	Green Apple Award, Bronze Rating	For implementing Best Practices of Reduction of Carbon dioxide emission, Energy conservation, Green Procurement of chemicals, Biodiversity, and Environmental education to school children	Toshiba JSW Power Systems Private Limited
9th edition of the Sustainable Development Awards	Best Award (Categorie Grande Enterprise)	Environmental commitment and engagement on the regional territory	Toshiba TEC Europe Imaging Systems S.A.

■ Evaluation of communication programs

Award title		Award-winning item(s)	Winner
		Toshiba Group Environmental Report 2016	Toshiba Corporation
Environmental Communication Awards	Award of merit	Toshiba Corporation Komukai Complex Environmental Report 2016	Toshiba Corporation Komukai Complex
		Toshiba Carrier Group Social & Environment Report 2016	Toshiba Carrier Corporation

^{*1:} Currently, Toshiba Infrastructure Systems & Solutions Corporation

^{*2:} Currently, Toshiba Electronic Devices & Storage Corporation