



Environmental Management

Toshiba Group wishes to contribute proactively to build a sustainable society. Accordingly, we are promoting environmental management with the aim of attaining the target of the Environmental Vision 2010: the doubling of Toshiba Group's overall eco-efficiency by fiscal 2010 compared with fiscal 2000.

Toshiba Group's Environmental Management

Through value creation inspired by our three over-arching themes —“Surprise and Sensation,” “Safety and Security,” and “Comfort”— coupled with a wholehearted commitment to the prevention of global warming, control of chemical substances and efficient utilization of resources, we intend to bring our business processes and

products into ever closer harmony with the needs of planet Earth. We believe these efforts will help to build a sustainable society. At Toshiba environmental considerations are built into management. We are promoting environmental management covering all products and all business processes in every phase from manufacturing and usage through to recycling of end-of-life products. This approach is the practical realization of our slogan: “Committed to People, Committed to the Future. Toshiba.”

Environmental Vision 2010

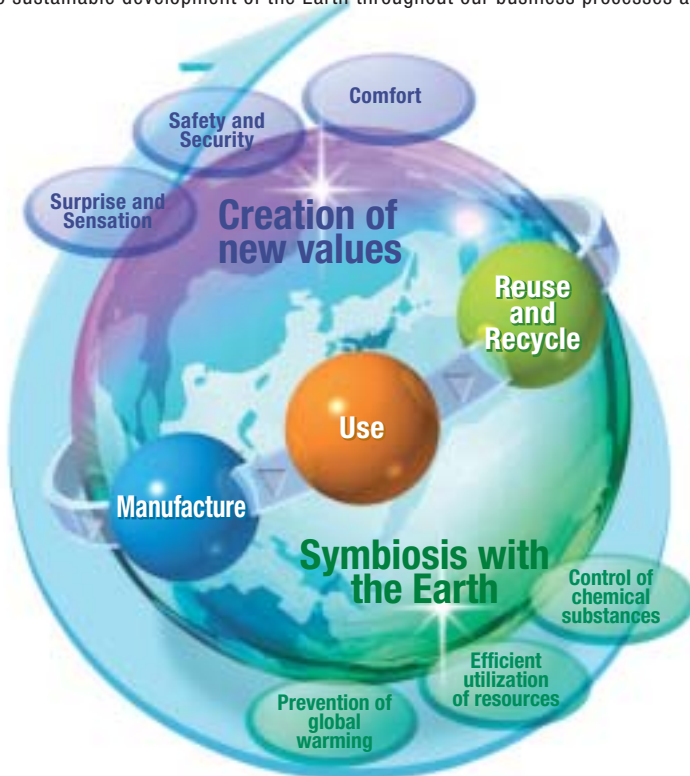
We have long recognized that flexible, comprehensive assessment of environmental impacts throughout product life cycles is essential. So, in addition to product eco-efficiency introduced in 2003, we have now introduced business process eco-efficiency. Toshiba Group's overall eco-efficiency target covering all products and all business processes is at the heart of Environmental Vision 2010.

Within the Factor T conceptual framework, Toshiba aims to improve product eco-efficiency 2.2 times and business process eco-efficiency 1.2 times. By stepping up our environmental activities, we aim to double Toshiba Group's overall eco-efficiency by fiscal 2010 compared with fiscal 2000. These activities will place Toshiba at the forefront of efforts to hasten the emergence of a sustainable society.

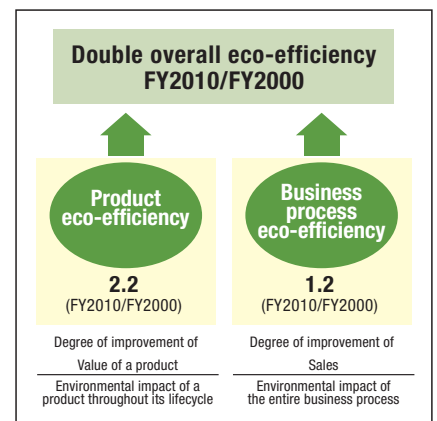
Toshiba Group's Environmental Management

Committed to People, Committed to the Future. Toshiba

Contribute to sustainable development of the Earth throughout our business processes and products



Environmental Vision 2010



Environmental Management Promoted Globally

In accordance with the Basic Policy for the Environment, we are promoting environmental management throughout Toshiba Group. A database for management of performance data of Toshiba Corp. and 339 Toshiba Group companies worldwide has been established.

Environmental Management Promotion System

At Toshiba Group, Corporate Environment Management Division is positioned under the President and CEO and the Executive Officer responsible for environmental matters (Corporate Environmental Officer).

Four Pillars of Environmental Management

Toshiba Group's environmental management comprises four principal items: 1) improvement of the environmental management system, 2) creation of environmentally conscious products, 3) business activities designed to reduce environmental impacts and risks, and 4) vigorous environmental communication. Reflecting the interests of all stakeholders, and in light of legal compliance and the global environment, Toshiba positions environmental management as a vital management issue. Environmental management is implemented in accordance with Toshiba Group's mid-term business strategy.

Corporate Environmental Management Committee and Taskforces

The Corporate Environmental Management Committee, chaired by the Corporate Environmental Officer, consists of executives, environmental management officers of in-house companies and overseas managing directors. The Committee's mission is to ensure that Toshiba Group's Basic Policy for the Environment is thoroughly inculca-

ted. The Committee has a wide-ranging brief: it proposes solutions to problems concerning management, technology development, production and sales that are related to environmental issues, deliberates on concretizing the Environmental Vision in the voluntary environmental plan, determines the orientation of activities, and reviews the progress made at in-house companies and sites. Its subordinate organizations, the Environmentally Conscious Products (ECP) Promotion Committee and the Business Process

Environmental Protection Promotion Committee, establish action plans and implement solutions.



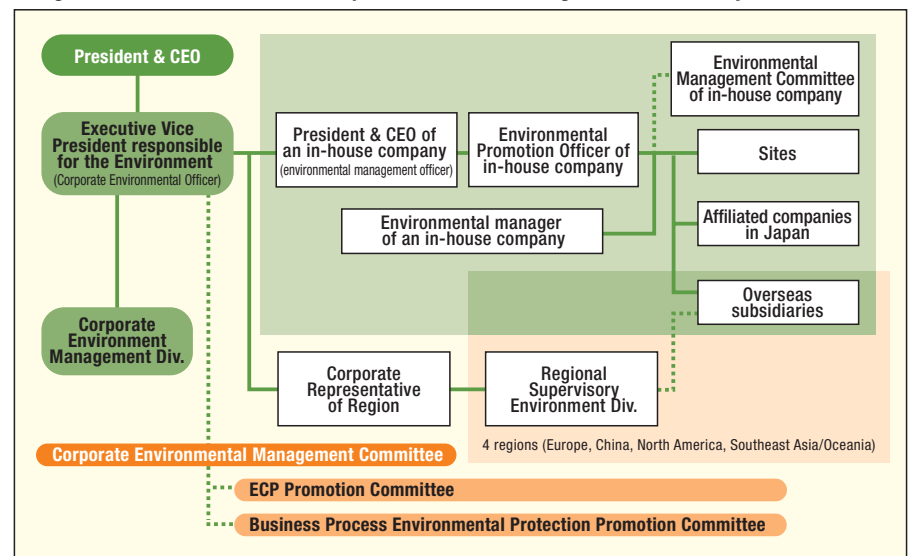
Environmental Management Committee of the Americas

Basic Policy for the Environment

Recognizing that the Earth is an irreplaceable asset and it is humankind's duty to hand it on to future generations in a sound state, Toshiba Group promotes environmental activities, to the extent technically and economically feasible, in accordance with Toshiba Group's environmental Vision.

- 1) Toshiba considers environmental stewardship to be one of management's primary responsibilities.
- 2) Toshiba specifies objectives and targets for its business activities, products and services with respect to the reduction of environmental impacts and prevention of pollution.
- 3) Toshiba strives to continuously improve environmental management through vigorous implementation of environmental measures.
- 4) Toshiba contributes to society through its environmental activities, which include the development and supply of excellent, environmentally conscious technologies and products and cooperation with the local community.
- 5) Toshiba complies with all laws and regulations, industry guidelines which it has endorsed, and its own standards concerning the environment.
- 6) Toshiba recognizes that natural resources are finite and promotes their efficient utilization.
- 7) 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.
- 8) Toshiba operates globally, and accordingly, promotes environmental activities throughout Toshiba Group.

Organizational Chart of Toshiba Group's Environmental Management Promotion System



■ Environmental Management Cycle

To attain its goal, Toshiba is implementing an environmental management cycle (Plan-Do-Check-Action cycle).

The Environmental Vision clearly articulates the vision of Toshiba Group in 2010 and the Voluntary Environmental Plan sets numerical targets. (Plan)

In-house companies and major subsidiaries implement the policies and the vision in each product segment and promote activities using eco-efficiency indicators covering all products and business processes. (Do)

Regarding the results of activities, the environmental measures implemented are reviewed and performance data is aggregated and analyzed to monitor progress and achievements. (Check)

Using the Evaluation System for the Degree of Environmental Management introduced in fiscal 2004, companies are evaluated in terms of 67 items in six fields*1: Results are fed back to companies so that they can be used for the purpose of achieving continuous improvement. (Action)

*1 1) systems, 2) compliance, 3) environmental impacts, 4) products and services, 5) environmental information and 6) environmental communication.

■ Workplace-oriented Approach

As well as environmental management,

Toshiba emphasizes a workplace-oriented approach. By 1997 all 16 of Toshiba Corp's sites had gained ISO-14001 certification. Of the 99 sites of Toshiba Group companies in Japan and overseas, 91 sites have gained ISO-14001 certification and we are working to achieve certification for all our facilities.

Toshiba Group has set voluntary standards that are stricter than legal requirements in order to ensure compliance and to reduce environmental risks on a continuous basis. Based on the internal Environmental Management Standards and Environmental Structural Design Guidelines, enhancement of environmental protection technologies is promoted, taking productivity into account.

■ Audit System

In accordance with Toshiba's audit system known as EASTER (Environmental Audit System in Toshiba on the basis of ECO Responsibility), annual audits of sites have been conducted since 1993.

With EASTER, Toshiba has been emphasizing a workplace-oriented approach called "3 Zen (all) 3 Gen (actual)," meaning that all employees need to participate in management of all facilities in all areas and the actual situation of actual items should be checked at actual workplaces.

EASTER is important for enhancing the

quality of overall environmental protection of Toshiba Group and for ensuring legal compliance. The focus of evaluation of sites in Japan is shifting to items to be improved and recommendations, reflecting the improvement of their environmental systems. Also, Toshiba is applying EASTER to its subsidiaries overseas.

■ Global Application of EASTER

Toshiba applied EASTER to eight principal subsidiaries in fiscal 2003 and to 28 subsidiaries in fiscal 2004.

Application of EASTER has helped penetrate the concept of preventive maintenance (an approach to prevent trouble or non-compliance by implementing voluntary control standards).

■ Expansion of the Boundary

Toshiba Group has expanded the boundary of environmental management to include sites worldwide and has established a database for environmental management information in order to manage performance data of Toshiba Corp. and 339 affiliated companies. Data on environmental impacts, such as energy consumption and waste discharge, is gathered.



Data registration screen of the environmental management information system

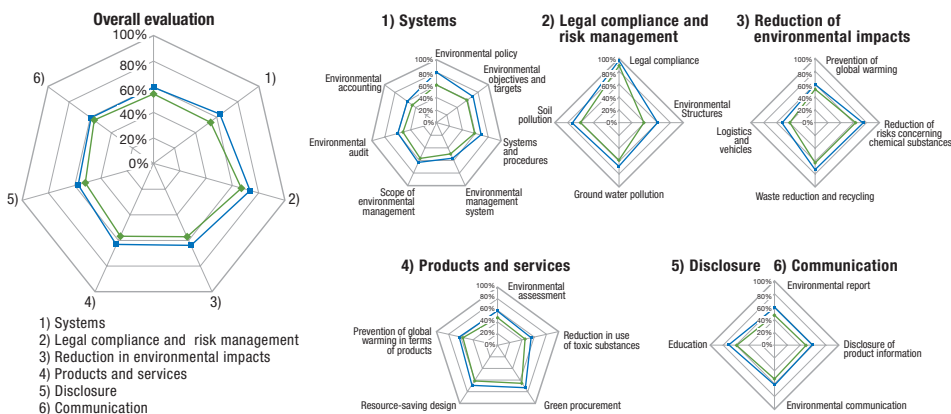
■ Compliance

Toshiba Group's sites have implemented strict voluntary standards and management systems to ensure compliance. The trend of new legislation and information on environmental trouble are shared.

In fiscal 2004, Toshiba Group was not in breach of any law and not subject to any fine or other penalty concerning the environment.

● Example of a result of evaluation of the degree of environmental management

— FY2004 results — FY2005 targets



Environmental Education

In order to maintain and enhance the level of environmental activities, all Toshiba employees receive environmental education according to their positions and their tasks. The curriculum consists of education programs according to position, general environmental education, specialty education and ISO 14001 education.

For corporate-wide general education, e-learning is utilized to eliminate travel time and improve the participation rate, enabling employees to take courses at remote branch offices and via mobile PCs during business trips. Programs for managerial



e-learning utilized for general environmental education

personnel include a course designed to cultivate environmental awareness. On that course, in addition to gaining knowledge of a more general nature, participants disassemble personal computers so that they recognize the importance of environmentally conscious products.

Specialty education programs consist of ECP education and internal auditor education. The objective of ECP education is to ensure that engineers engaged in development and design fully understand the concept of environmentally conscious product (ECP) design.

Toshiba intends to continue provision of environmental education for all employees, and enhance content of education, enrich ECP education and expand IT-based education.

Environmental Communication

Toshiba Group stresses environmental communication for the purpose of communicating environmental information to stakeholders and eliciting their requests, comments and suggestions.

Toshiba Group Environment Technology Exhibition

At the 14th Toshiba Group Environment Technology Exhibition held in March 2005 at Toshiba headquarters building, Toshiba announced Environmental Vision 2010 and the Fourth Voluntary Environmental Plan. The themes of the exhibition included environmentally conscious products, measures to prevent global warming, and Toshiba Group's global activities of environmental communication.

It attracted some 3,000 visitors, including customers, central and local government officials, journalists, academics, environmental-protection professionals from other companies, students, and employees of Toshiba Group. We invited junior high school students to an environmental seminar where they were able to learn about the environment with the aid of quizzes and experiments. Through such activities, we intend to expand opportunities for sharing environmental information while accelerating commercialization of exhibits. Visitors' comments are introduced on p.62.



14th Toshiba Group Environment Technology Exhibition

Toshiba Exhibits at Eco-products 2004

Toshiba participated in Eco-products 2004, a show held at Tokyo Big Sight in December 2004. Based on the Factor T concept, we exhibited Toshiba Group's environmentally conscious products characterized by minimal environmental impacts and the embrace of new life-enhancing values.



Ecoproducts 2004

Environmental Communication in Advertising

We place TV commercials and magazine and newspaper advertising designed to heighten awareness of environmental issues among the public at large and to show the world what Toshiba is doing to protect the planet.

For Home Appliances, advertising conveyed the message that consumers can be environmentally virtuous, without awareness, simply by using Toshiba products.



Environmental advertising for Home Appliances

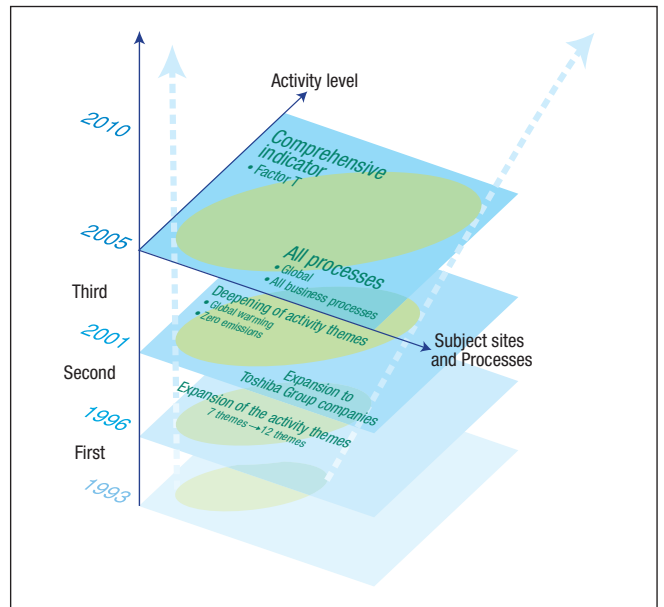
Targets and Results

Through execution of the Third Voluntary Environmental Plan launched in fiscal 2001 whose final year is fiscal 2005, Toshiba has already achieved most of the final targets more than a year earlier than originally planned. Since fiscal 2005 we have expanded the scope to cover all sites and processes and are implementing a new environmental management strategy with the aim of doubling overall eco-efficiency by fiscal 2010.

Third Voluntary Environmental Plan

Toshiba launched the First Voluntary Environmental Plan, an action plan specifying quantitative targets, in fiscal 1993. In the Second and Third Voluntary Environmental Plans, we expanded the scope step by step to include more sites and processes while setting increasingly tough targets. Although fiscal 2005 is the final year of the Third Voluntary Environmental Plan, we have already achieved most of the final targets more than a year earlier than originally planned as a result of the Group-wide efforts. In light of our achievements so far, we have decided to expand the scope of our environmental activities to include all sites and processes world-wide.

● Evolution of the Toshiba Group Voluntary Environmental Plan



● Third Voluntary Environmental Plan: Evaluation of Results in Fiscal 2004

Items		Target	Result for fiscal 2004	Evaluation
Operations	1 Zero emission of waste	The quantity of final disposal to be 1% or less of total discharge in fiscal 2003	• 0.8% in fiscal 2002 at all sites of Toshiba Corp. • 0.4% in fiscal 2004	○
	2 Reduce release of chemical substances	30% reduction in fiscal 2005 compared with fiscal 2000	• 47% reduction compared with fiscal 2000	○
	3 Reduce CO ₂ release	25% reduction in the ratio of CO ₂ release to net sales in fiscal 2010 compared with fiscal 1990	• 1% reduction in the ratio of CO ₂ release to net sales compared with fiscal 1990 • 49% reduction in the ratio of CO ₂ release to net production output	△
Products	4 Green procurement	100% of suppliers to be certified as green partners by fiscal 2005 (80% in 2003, 90% in 2004)	• Green procurement ratio of 86%	△
	5 Provide product information (Ratio of ECPs to net sales)	50% of products to be in compliance with the voluntary environmental standards by fiscal 2005	• 66% of products are in compliance with the voluntary environmental standards.	○
	6 Reduce electricity consumed per product function	30% reduction in fiscal 2005 compared with fiscal 2000	• 52% reduction in power consumption of registered models	○
	7 Apply lead-free soldering	Application of lead-free soldering to all products by fiscal 2003 (100%)	• Lead-free soldering is applied to most products except for certain products for special applications.	△
	8 Abolish HCFCs	Abolition by December 2004	• Abolition of HCFCs completed	○

■ Fourth Voluntary Environmental Plan

The Fourth Voluntary Environmental Plan launched in fiscal 2005 provides concrete targets along the trajectory toward achievement of Environmental Vision 2010; specifically, to double Toshiba Group's overall eco-efficiency by fiscal 2010 compared with fiscal 2000. We

will promote prevention of global warming, efficient utilization of resources and control of chemical substances globally throughout business processes encompassing manufacturing, usage and recycling so as to achieve Environmental Vision 2010. In the Fourth Voluntary Environmental Plan, we expanded environmental management boundary to 339 consolidated subsidiaries.

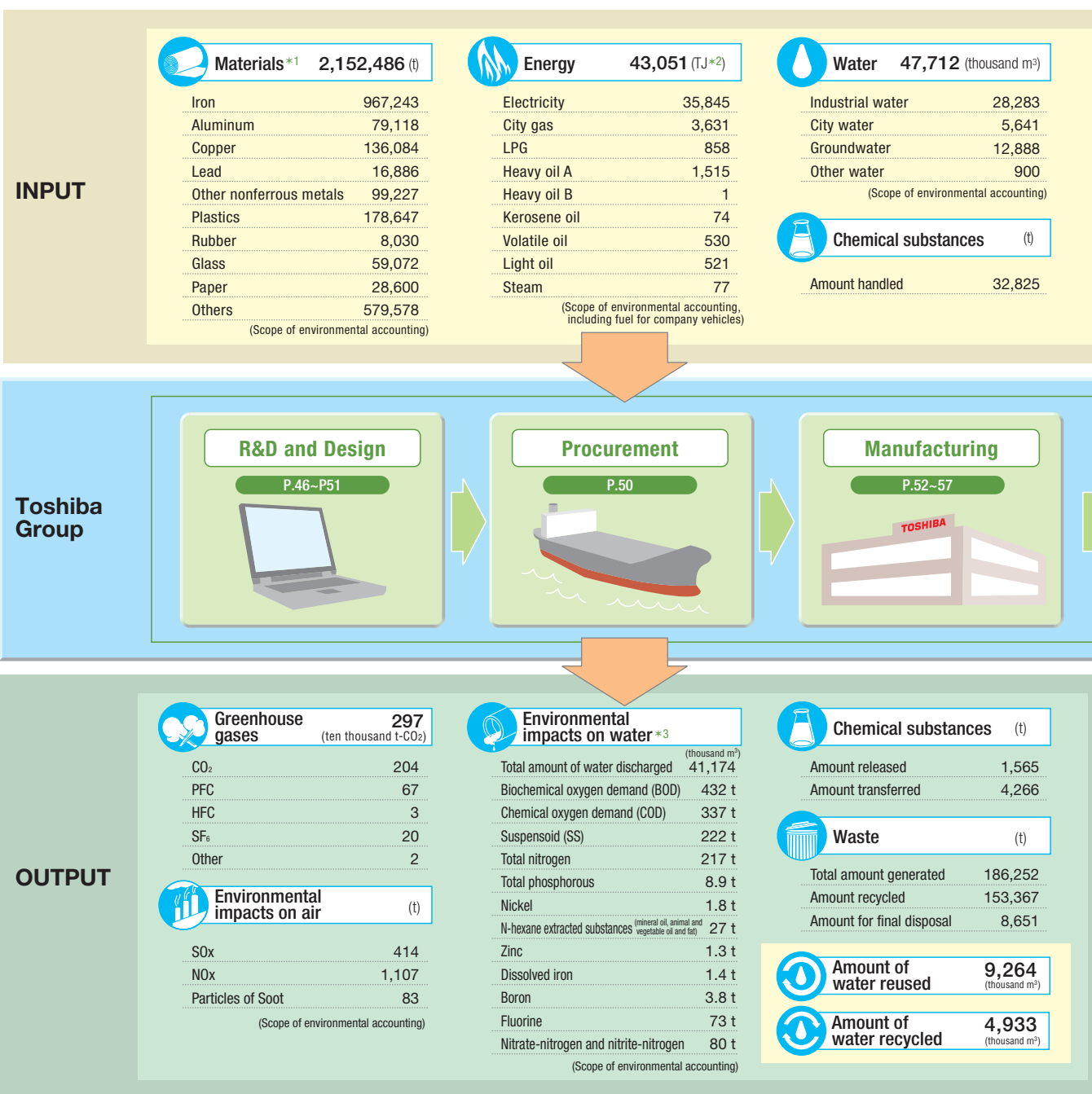
● Fourth Voluntary Environmental Plan

Enhancement of product eco-efficiency		Indicator	Target for fiscal 2010	
Provision of environmentally conscious products Abolition of use of certain chemical substances	It is essential to develop and provide environmentally conscious products (ECPs) for the establishment of a sustainable society. The criteria for ECPs have been revised and a new target has been set based on the revised criteria.	Principal voluntary criteria •Reduction of power consumption •Use of recycled parts and materials •Easy-to-recycle design •Useable for a long-period of time, etc.	Ratio of ECPs (based on new criteria) to net sales	60%
	Although it is one of the criteria for ECPs, we have set a target for reduction of chemical substances contained in products. The scope of our activities is wider than the regulatory framework. 15 substances groups subject to restriction: bis (tributyl tin) oxide (TBTO), tributyl tins (TBTs) compounds, triphenyl tins (TPTs), polychlorinated biphenyls (PCBs), polychlorinated naphthalenes (PCNs with 3 or more chlorines), short-chain chlorinated paraffins, asbestos, azo colorants, ozone-depleting substances, radioactive substances, cadmium and its compounds, hexavalent chromium compounds, lead and its compounds, mercury and its compounds, polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs). *Detailed definitions and specific applications to be excluded are specified separately.		15 certain substances groups contained in products	Completed abolition
Business process innovation				
Prevention of global warming	Reduction of energy-originated CO₂ emissions We reduce CO ₂ emissions by applying the optimum mix of three approaches (administrative improvement, energy-saving investment and saving of energy at clean rooms) throughout business activities globally, including at labs and offices. We adhere to the targets of the electrical and electronics manufacturing industry at production sites throughout Japan.	Energy-originated CO ₂ emission rate (*1) (Manufacturing sites in Japan)	25% reduction (25%reduction)	
	Reduction of greenhouse gas emissions (other than CO₂) We reduce the use of CFC substitutes and expand the use of alternatives to those substitutes. Also, we implement measures to recover exhaust gases and remove toxic substances from the exhaust gases.	Total emissions of greenhouse gases (other than CO ₂)	35% reduction	
	Reduction of CO₂ emissions associated with product logistics We implement measures to reduce CO ₂ emissions through modal shift, improvement of the load efficiency and introduction of low-pollution vehicles in cooperation with transportation companies.	CO ₂ emission rate associated with product logistics in Japan	25% reduction	
Control of chemical substances	Reduction of total emissions Many chemical substances are useful things indispensable to present-day social life. However, on the other hand, while using it, managing appropriately, it is important to reduce the chemical substance discharge to environment as much as possible. For this reason, we promoted measures, such as process changes, use of alternatives, and recovery and removal, have reduced discharge of chemical substances, and will continue promotion. This time, we increase the number of substances to reduce their emission and implement such measures globally, and aim at future chemical substance zero emission realization.	Emissions of chemical substances to air and water	50% reduction	
Efficient utilization of resources	Reduction in the total quantity of waste generated For efficient utilization of resources, we aim to create and provide products and services that are efficient both in terms of reduction and reuse so as to reduce the quantity of waste generated.	Rate of the total quantity of waste generated	20% reduction	
	Reduction in the quantity of waste for final disposal We reduce the quantity of waste for final disposal based on thorough disassembly and separation for discharge and by promoting waste separation and treatment in accordance with local characteristics in Japan and overseas.	Zero emissions of waste (*2)	Achievement of zero emissions at all sites	
	Reuse and recycling of products We promote reuse and recycling of waste products globally and endeavor to increase the amount of products recycled, in order to contribute to the establishment of a recycling-based society.	Amount of recycling of used products (*3)	Increase to 160%	

Unless otherwise specified, the targets are based on comparison with fiscal 2000 and cover manufacturing and non-manufacturing sites in Japan and overseas.
 For the purpose of evaluating activities, rates used as indicators are based on physical quantity (net output).
 *1: Compared with fiscal 1990 *2: Quantity of waste for landfill after treatment is equivalent to 1% or less of the total quantity of by-products and other items generated (total amount of waste discharged) as a result of business activities.
 *3: Compared with fiscal 2001 (year in which the Home Appliance Recycling Law in Japan came into force)

Considering Environmental Impacts

Since Toshiba Group's products and services range from home appliances and information and communications equipment to semiconductor devices, electronic components and heavy electrical apparatus, their environmental impacts vary. By clarifying and analyzing the environmental impacts throughout the Group, we enhance the eco-efficiency in accordance with the Environmental Vision.

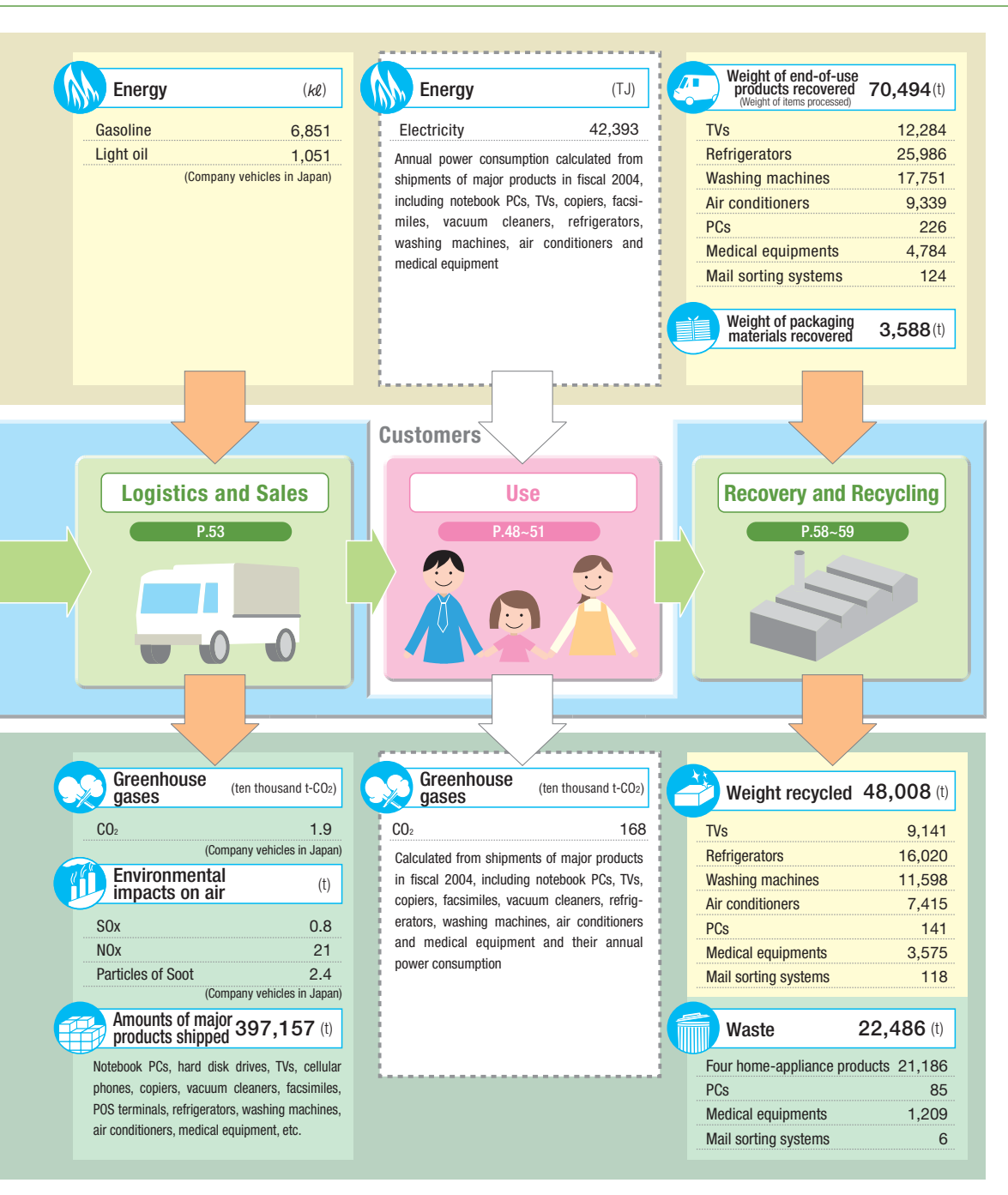


Gathering and Analysis of Material Flow Data

The figures show input of energy, water and chemical substances, and output, such as environmental impacts on water and air

and discharge of waste. From fiscal 2004 onward, the amounts of materials input and the amounts of major products shipped are also disclosed. Although accuracy of the data is not perfectly reliable, Toshiba intends to expand collection of data that

can be utilized for efforts to reduce the environmental impacts of its activities.



*1 Input of materials is calculated based on the Estimation method for Material-inputs using Input-Output Table (EMIoT), a method developed by Toshiba. EMIOT uses embodied intensities of materials, which are prepared based on the input-output table, to calculate input of materials. A characteristic is that input-output analysis is applied only to the flow of resources from upstream to downstream and embodied intensities of materials by industrial sector are entered a database. Using this method, it is possible to calculate weights of input resources by resource type from the data on procurement (monetary value) by resource category, which is gathered by procurement department. So, the data can be gathered not only on direct materials but also on indirect materials. Previously, it was difficult to clarify the amounts of resources in parts made of composite materials but the amounts of resources associated with services. EMIOT has enabled clarification of the amounts of resource inputs by resource type for such materials.

*2 TJ=10¹²J

*3 Environmental impacts on water are calculated as follows: annual average value of the measured concentration of a substance at the drain mouth multiplied by total drain discharge for the year. In the case that measured concentration is less than the lower detection limit, 1/2 of the lower detection limit is used as concentration for calculation. Substances whose discharged amounts are 1 ton or more are listed.

Environmental Accounting

Toshiba introduced environmental accounting in fiscal 1999 as a tool for promoting environmental management. The role of environmental accounting is increasing in the context of the drive to achieve Environmental Vision 2010, i.e., to double overall eco-efficiency by fiscal 2010.

Environmental Accounting Underpins Environmental Management

Toshiba Group defines environmental management as management integrating environmental considerations based on the recognition that the Earth's environment is vulnerable. Environmental accounting underpins environmental management and is a critical tool used to reflect environmental considerations in decision-making.

The figure shows the outline of Toshiba Group's environmental accounting. Although our environmental accounting initially concerned the second and the fourth quadrants, subsequently the first and third quadrants were included. Measurement of benefits is still in its infancy. We are working to establish a better approach so that measured benefits serve as appropriate indices for environmental management.

Environmental Costs Increased

Toshiba's environmental accounting for

fiscal 2004 covers Toshiba Corp. and its 74 subsidiaries and affiliates in Japan and 29 overseas subsidiaries. Classification of environmental costs and the calculation criteria are in accordance with the Environmental Accounting Guidelines 2005 issued by Japan's Ministry of Environment. Regarding benefits, environmental impact reduction benefits are indicated quantitatively and also calculated in monetary value in Toshiba's environmental accounting.

Environmental costs increased by 4% from fiscal 2003 to 38.9 billion yen due to higher R&D costs associated with development of environmentally conscious products. Meanwhile, environmental benefits decreased by 18% from fiscal 2003 to 20.4 billion yen due to the increased environmental impacts resulting from the opening of new factories overseas.

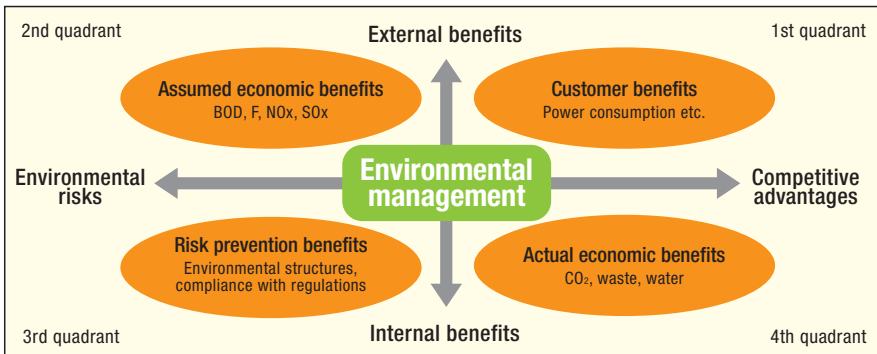
Environmental expenditure accounted for 3.29% of total expenditures in fiscal 2004 (3.13% in fiscal 2003). Environment-related R&D expenditure accounted for

2.89% of total R&D expenditure in fiscal 2004 (2.48% in fiscal 2003).

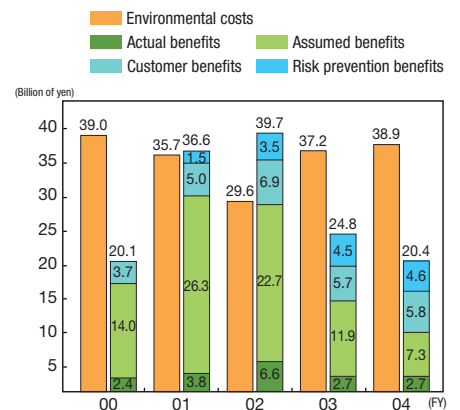
Regarding the six-year trend, although accumulation of environmental activities contributed to the downward trend of newly incurred costs until fiscal 2002, environmental costs have increased since fiscal 2003 partly due to the expansion of the boundary of environmental accounting.

Benefits have been on a downward trend since fiscal 2003. While customer benefits and risk prevention benefits are stable, actual benefits and assumed benefits, which are calculated based on comparison with the previous year, are on a downward trend because environmental impacts increased due to rising production overseas. In order to ensure consistency with the Factor T eco-efficiency indicator for products, we revised the definition of eco-efficiency for business processes. Toshiba commissioned a third-party review of its environmental accounting by Ernst & Young ShinNihon. (See Page 65)

Environmental Accounting as an Environmental Management Tool



Trend of Environmental Costs and Benefits



● Environmental Costs

Classification		Content	Expenditure	Costs	Change in costs from fiscal 2003	Budget for expenditure in fiscal 2005	Budget for costs in fiscal 2005
Business area costs		Reduction of environmental impacts ①~③	10,418 (7,948)	18,749 (11,906)	△ 2,594 (2,091)	7,273 (4,458)	43,250 (20,326)
Content	① Pollution prevention costs	Prevention of pollution of atmosphere, water, soil, etc.	6,450 (5,542)	11,191 (7,958)	△ 1,708 (1,426)		
	② Global environmental protection costs	Prevention of the greenhouse effect, protection of the ozone layer, etc.	3,127 (1,980)	2,338 (1,211)	36 (454)		
	③ Resource circulation costs	Effective utilization of resources, reduction of volume of waste, etc.	841 (426)	5,219 (2,737)	△ 923 (210)		
Upstream/downstream costs		Green procurement, recycling, etc.	470 (0)	2,065 (263)	669 (55)		
Administration costs		Environmental education, maintenance of EMS, planting of greenery at factories, etc.	233 (78)	5,027 (2,376)	△ 208 (288)		
R&D costs		Development of environmentally conscious products	919 (468)	10,073 (4,512)	1,735 (432)		
Social activity costs		Support of environmental activities, contributions, etc.	22 (0)	728 (681)	565 (573)		
Environmental remediation costs		Recovery from soil pollution, etc.	196 (0)	2,300 (390)	1,535 (△310)		
Total			12,259 8,494	38,941 20,127	1,703 3,129		

Total expenditure during the period 372,100 (172,620) *Figures in parentheses are figures for Toshiba Corp. on a non-consolidated basis
 Total R&D expenditure during the period 348,010 (244,619) *Environmental liabilities reported as expenses for detoxification of polychlorinated biphenyls (PCBs) in the year ended March 31, 2005, are not included in this table.

● Environmental Benefits

Classification	Content	Toshiba Corp.	Affiliated companies	Total	Basis for calculation
Actual benefits ... (1)	Benefits that can be directly converted into monetary value, such as reduced charges for electricity, water, etc.	550	2,203	2,753	Total of the monetary value of the reductions of electricity charges, costs of waste disposal, etc. compared with the previous year and the proceeds from sale of items with value
Assumed benefits ... (2)	Benefits concerning reduction in environmental impacts expressed in monetary value	6,284	1,010	7,294	Monetary values were calculated by giving each substance, calculated in terms of cadmium, a weighting based on environmental standards and ACGIH-TLV (allowable concentration of each substance as determined by the American Conference of Governmental Industrial Hygienists) and multiplying the result by the amount of compensation in the case of cadmium pollution. Reduction in environmental impacts on atmosphere, water and soil is indicated quantitatively and the environmental impact reduction volumes are compared with the previous year's results, and also reduction of environmental impacts is calculated in terms of monetary value to enable comparison of various environmental impacts on the same basis.
Customer benefits ... (3)	Reduction of environmental impacts at the usage phase expressed in monetary value	380	5,449	5,829	Benefits of reduction of environmental impacts of products throughout their life cycles are calculated in terms of physical quantity units and monetary units. A life cycle comprises several phases: 1) procurement of raw materials, 2) manufacturing, 3) transport, 4) use, 5) collection, 6) recycling and 7) appropriate processing. Toshiba's environmental accounting focuses on the benefits of reduction of environmental impacts at the use phase. Energy-saving benefits are calculated using the following formula: Benefits (yen) = ∑ [(power consumption per year of the former model - power consumption per year of the new model) × number of units sold per year × benchmark unit price of electricity charge]
Risk prevention benefits	The extent to which risks are reduced after the investment compared with before the investment is calculated	1,280	3,284	4,564	Benefits of investment in environmental structures, such as dikes, for the purpose of preventing pollution of soil and groundwater are evaluated as benefits to prevent risks that might otherwise occur in the future. Risk prevention benefits for each capital investment item are calculated according to the following formula: Risk prevention benefits = Quantity of chemical substances stored × Standard amount (monetary value) required for purification and restoration × Impact coefficient × Occurrence coefficient where the standard amount required for purification and restoration and the occurrence coefficient are values unique to Toshiba. Risk of occurrence of leakage of chemical substances etc. is evaluated.
Total		8,494	11,946	20,440	

(1) Breakdown of actual benefits

Item	Amount of reduction in environmental impacts	Monetary value of benefits
Energy	Toshiba Corp.	△ 737,749 GJ
	Affiliated companies	△ 887,259 GJ
	Total	△ 1,625,008 GJ
Waste	Toshiba Corp.	222 t
	Affiliated companies	985 t
	Total	1,207 t
Water	Toshiba Corp.	589,807 m ³
	Affiliated companies	1,457,169 m ³
	Total	2,046,976 m ³
Total		2,753

*Indicated in the above table are differences in volumes of environmental impacts between fiscal 2003 and fiscal 2004. Minus figures indicate that increase in environmental impacts exceeded reduction benefits due to increased production etc.

(2) Breakdown of assumed benefits

Item	Amount of reduction in environmental impacts	Monetary value of benefits
Environmental impact reduction benefits at the manufacturing phase	Toshiba Corp.	33 t
	Affiliated companies	111 t
	Total	144 t

*Indicated in the above table are differences in volumes of environmental impacts between fiscal 2003 and fiscal 2004.

(3) Breakdown of customer benefits

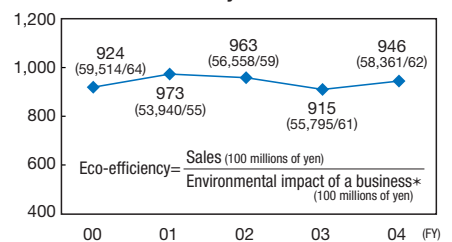
Item	Amount of reduction in environmental impacts	Monetary value of benefits
Environmental impact reduction benefits at the usage phase	Toshiba Corp.	6,427 t-CO ₂
	Affiliated companies	59,602 t-CO ₂
	Total	66,029 t-CO ₂

■ Eco-efficiency Improved

The trend of eco-efficiency, which is defined by Toshiba as an environmental management indicator, is shown at right. Eco-efficiency is a ratio of sales to the amount of environmental impacts of business activities. The amount of environmental impacts is calculated using the Life Cycle Impact Assessment Method based on

Endpoint Modeling (LIME). With LIME, damage caused by discharges, such as CO₂, NO_x, SO_x and waste in four domains, that is, primary plant production, social welfare, human health and biodiversity, is estimated, and determining their relative importance by using conjoint analysis to reflect consumers' views, environmental impacts are converted into economic values.

● Trend of eco-efficiency



*The monetary value of environmental impacts is calculated using LIME. Main inventories: CO₂, chemical substances released to water and air, waste
 Since a new method of calculating eco-efficiency is adopted from fiscal 2004 onward, figures for previous years were calculated based on the new method.

Environmental Impacts of Products

Toshiba Group is striving to create environmentally conscious products (ECPs) with minimal environmental impacts throughout their lifecycles. In this section Toshiba Group's efforts to reduce environmental impacts of products are reported from the three perspectives: prevention of global warming, management of chemicals and efficient resource utilization.

■ Reducing Environmental Impacts of Products

In its 4th Voluntary Environmental Plan for the period from fiscal 2005 to 2010, Toshiba Group aims to improve product eco-efficiency in fiscal 2010 by 2.2 times*1 compared with that in fiscal 2000. To attain this target, we are applying Factor T to all Toshiba Group products other than software and services, setting targets for each fiscal year.

Measures to improve eco-efficiency involve environmentally conscious product design, environmental assessment of products and disclosure of environmental performance of products.

*1 The average factor of 30 Toshiba Group products in fiscal 2004 was 1.36 times (compared with fiscal 2000). Continuing design efforts will make the target, 2.2 times, attainable.

■ Environmental Considerations at the Product Planning Phase

For environmentally conscious product design, numerous items, such as resource saving, reuse and recycling, energy saving and reduction in use of toxic substances, need to be taken into consideration as early as at the product planning phase. Life cycle planning (LCP) is a technique for formulating a concept of an environmentally conscious product at the planning stage that satisfies the quality and cost requirements while decisively reducing environmental impacts throughout the life cycle. Effective utilization of data obtained by life cycle assessment (LCA) and quality

function development (QFD) contributes to determination of environmental specifications, taking the product's lifecycle into consideration, and identification of ideas for improving maintainability and reusability at the parts level.

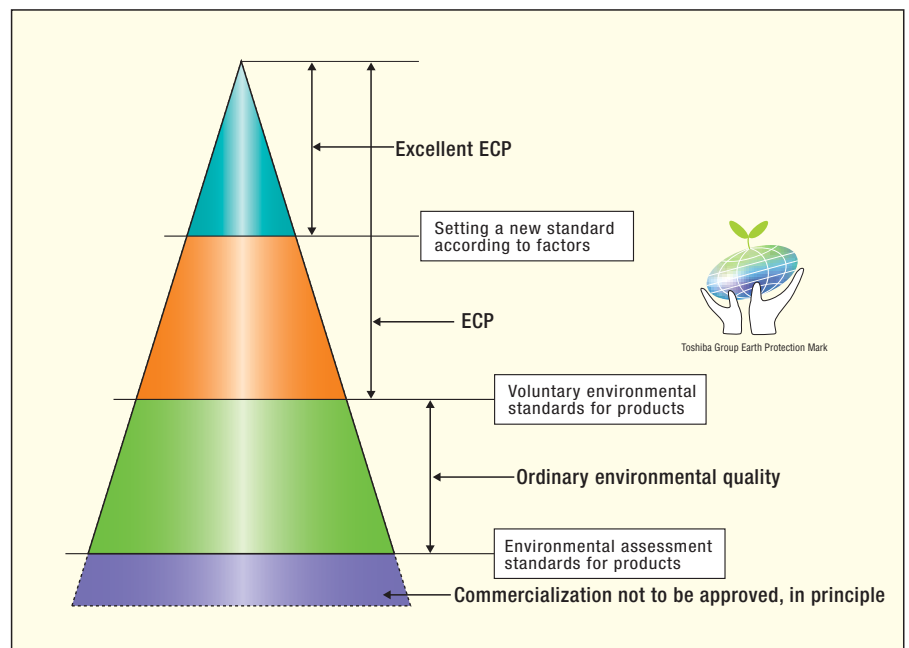
Toshiba has developed life cycle simulation (LCS), a technique for evaluating feasibility of reuse businesses, which can be used in combination with LCP. As well as promoting environmentally conscious product design, we also consider its commercial feasibility.

■ Environmental Assessment of Products

For environmental assessment of prod-

ucts, we conduct LCA upon completion of product design to verify the appropriateness of environmental considerations in the design and these assessment results are utilized in the planning of subsequent products. The introduction of the Factor T concept is a part of Toshiba's efforts to create environmentally conscious products from a comprehensive perspective. Not only environmental impacts but also product value is included in elements determining eco-efficiency and it has become possible to numerically clarify the degree of improvement compared with previous products.

● Environmentally Conscious Product (ECP) Concept

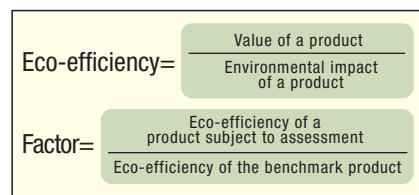


Evaluation Value and Environmental aspects of a product

Toshiba Group introduced Factor T, its unique eco-efficiency indicator for evaluating value and environmental aspects of a product, in fiscal 2003. Eco-efficiency is calculated by dividing the “value” of a product by the product’s “environmental impact”. The smaller the environmental impact and the higher the value of the product, the greater is the eco-efficiency. The value of a product is calculated based on its functions and performance, taking the voice of customers into consideration. The environmental impact of a product is calculated, taking into consideration various environmental impacts throughout its life cycle (from procurement of materials, manufacturing and distribution, through to consumption and disposal). For calculation of environmental impact, we use LIME (Life-cycle Impact Assessment Method based on Endpoint Modeling) developed by the National Institute of Advanced Industrial Science and Technology through an LCA project run by the Ministry of Economy, Trade and Industry and the New Energy and Industrial Technology Development Organization (NEDO).

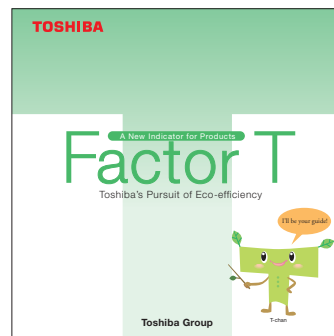
The factor is calculated by dividing the eco-efficiency of a product subject to assessment by the eco-efficiency of the benchmark product. The higher the eco-efficiency of the product, the larger the factor become. We refer to creation of environmentally conscious products (ECPs) through calculation of factors as “Factor T.”

Definitions of Eco-efficiency and Factor



Application of Factor T

Factor T is applied to a wide range of prod-



Factor T leaflet
 URL <http://www.toshiba.co.jp/env/en/products/>

ucts including social infrastructure systems and medical equipment. Toshiba has created a leaflet to promote Factor T and plans to apply Factor T to 70 product lines out of 100.

Disclosure using Eco-labeling

In 1999 Toshiba introduced Toshiba Group Earth Protection Mark as a part of its efforts to strengthen disclosure of products’ environmental performances. Products in conformity with Toshiba’s voluntary environmental standards, which cover such criteria as energy saving, no use of toxic substances, green procurement, design facilitating recycling, and recycling of end-of-life products, bear this mark. A product whose particular environmental performance is greatly improved bears this mark together with the description of the data.

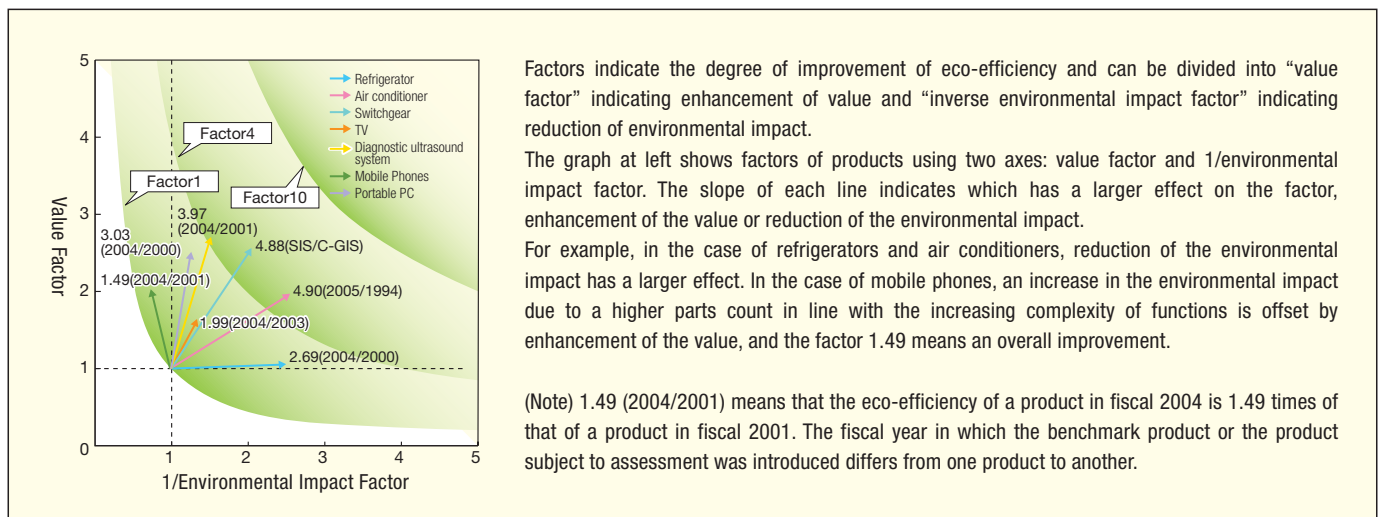
The voluntary environmental standards for products are included in product manuals.

Toshiba Group Earth Protection Mark



Toshiba Group Earth Protection Mark

Example of Calculation of Factors of Toshiba Group Products



Global Warming

Target for Fiscal 2004

●25% reduction of electricity consumed per product function compared with fiscal 2000

Result in Fiscal 2004

●52% reduction

Efforts to Prevent Global Warming

According to the investigation of CO₂ emissions of Toshiba Group products throughout their life cycles, in the case of digital products, 60% is during the usage phase and 35% is during the procurement phase, and in the case of home appliances and social infrastructure systems, 80% is during the usage phase and 15% is during the procurement phase. This result shows the importance of energy saving during the usage phase.

So far Toshiba Group's energy saving efforts have been centered on reducing electricity consumption per product function and targets were set using electricity consumption per product function as an indicator. From now on these efforts will be integrated into Factor T activities.

Reducing Energy Consumption during Product Use

Since the Second Voluntary Environmental Plan launched in fiscal 1996 Toshiba Group has been addressing reduction of electricity consumed per product function as an indicator of energy saving. Whereas the target was to achieve a 10% reduction in fiscal 2000 compared with fiscal 1995, the result was a 39% reduction. The effort to reduce electricity consumed per product function has been continued in the Third Voluntary Environmental Plan launched in fiscal 2001. In fiscal 2004 a 52% reduction was achieved, which greatly exceeds the target of a 30% reduction in fiscal 2005 compared with fiscal 2000. Described below are Toshiba's efforts concerning refrigerators and air conditioners whose energy consumptions (CO₂ emissions) are large according to the results of LCA.

Refrigerators

"Energy saving" and "keeping freshness" are the two attributes customers most desire from refrigerators. The Parallel Engine (New Twin Cooling) adopted for the Nano Optical Plasma Deodorizing Sensoko GR-W41FA controls cooling of both the refrigerator and the freezer compartments. In addition, adoption of a vacuum insulation material and a DSP inverter have resulted

in annual power consumption of 170 kWh/year, which is one fifth that of the model introduced 10 years ago.

Also, the Parallel Engine contributes to control of temperature fluctuation and the amount of frost built up on frozen food is reduced to one fourth that with a conventional model, making the GR-W41FA an attractive choice in terms of "keeping freshness" too. Moreover, maintenance-free, nano optical plasma provides improved deodorizing capability. Usability is also improved as the capacity of the refrigeration compartment, which is most frequently used, is increased as well as the capacity of the door pocket.

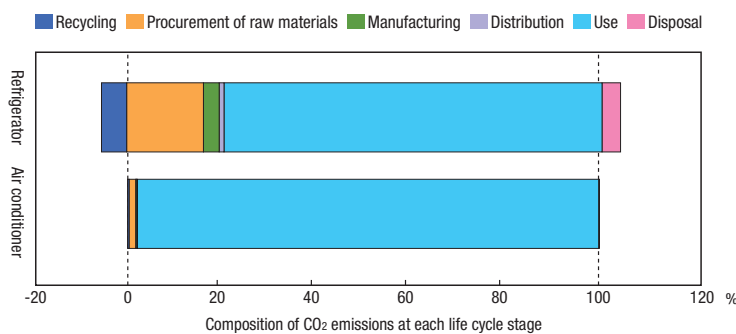


Nano Optical Plasma Deodorizing Sensoko refrigerator
Factor 2.69 (2004/2000)

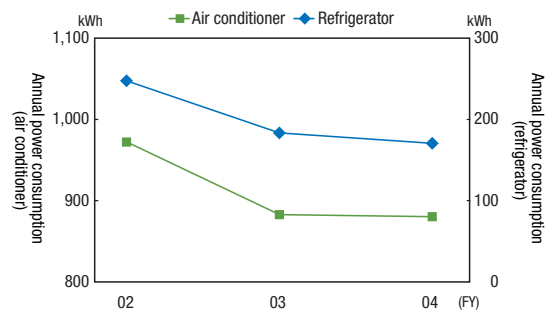
Air Conditioners

Daiseikai EDR Series are new products for fiscal 2005 that achieve both a comfortable indoor environment and great saving of energy. The coefficient of power (COP) of the 4.0 kW model is 5.12, which is 140% of the energy efficiency standard. The annual electricity charge is slashed to 40% compared with that of the model introduced 11 years ago. The newly developed

Results of LCA of a Refrigerator and an Air Conditioner (Example)



Annual Power Consumption of a Refrigerator and an Air Conditioner



3D Action Panel controls indoor airflow to provide comfort with tender airflow. During dehumidifying operation, airflow-less reheat dehumidification halves the electricity charge compared with the conventional reheat dehumidification system. Also, use of lead-free printed circuit boards and a new refrigerant whose ozone-depleting potential is zero has realized environmentally conscious air conditioners.



Daiseikai EDR Series
home air conditioner

Factor 4.90 (2005/1994)

Reducing Greenhouse Gases Contained in Products

We are working to reduce greenhouse gases, such as sulfur hexafluoride (SF₆), used in products. For example, gas-insulated switchgears using SF₆ gas for insulation of the main circuit have been the mainstream in the 24/36 kV class. However, SF₆'s greenhouse effect is 24,000 times that of CO₂. So, we have developed a compact and lightweight solid insulated switchgear with a reduced components count that uses no SF₆.

Vacuum valves are used for the circuit breaker and the disconnect switch, which are main components of a switchgear, and most of the portions subject to high voltage are solid insulators. Moreover, a simple structure is applied to realize compactness and light weight. The newly developed balance-type solenoid operation mechanism has contributed to a great reduction in the

components count and realization of resource saving and longer life of switchgear.

Thanks to the development of the solid insulated switchgear, Toshiba received the 52nd Electrical Science & Engineering Encouragement Award (Ohm Technology Award) and the 51st Okochi Memorial Award-Production Award in fiscal 2004.



Solid insulated switchgear

Factor 4.88 (SIS^{*1}/C-GIS^{*2})

- *1 SIS: Solid insulated switchgear
- *2 C-GIS: Cubicle type gas insulated switchgear

Development of Renewable Energy System

Toshiba Group manufactures not only equipment that consumes energy but also equipment that supplies energy and is pursuing higher energy efficiency and environmental consciousness.

Micro Wind Power Generation

Toshiba Plant Systems & Services Corp. provides Wind Flower, a hybrid micro wind power generation system combining wind-power generation, solar power and batteries. Wind Flower, which uses an efficient vertical-axis windmill, operates so quietly that it is suitable for installation even in urban areas. Following the 400 W model, the line-up will be expanded.

Micro Hydro Power Generation

Toshiba Corp. and Toshiba Plant Systems & Services Corp. provide Hydro-eKIDS, micro hydro power generation equipment for low head and small-scale hydroelectric power plants. This product with an output ranging from 1 kW to 200 kW enables efficient use of hydro-energy at head as low as 2 m, which has not been used previously. Three types of units and runners are available for Hydro-eKIDS, making it suitable for a wide range of applications, including in rivers, check dams, water and sewage facilities and canals for industrial wastewater (energy saving is also achieved by recycling) and agricultural water. Units can be combined in parallel connection or series connection according to the effective head and the volume of water to maximize efficiency. At Batutegi power plant in Indonesia three units of Hydro-eKIDS are used in cascade arrangement, generating 100 kW of power.



Wind Flower micro wind power generation system



Hydro-eKIDS micro hydro power generation equipment

Chemicals

Target for Fiscal 2004

- Abolition of use of six substances specified by the RoHS Directive in products

Result in Fiscal 2004

- Introduction of products that do not contain the six substances

Management of Chemicals in Products

Toshiba Group is doing its utmost to manage chemicals, so that customers can use its products with confidence and in order to prevent release of environmentally harmful substances.

Whereas the RoHS (Restriction of Hazardous Substances in electrical and electronic equipment) Directive of the European Union (EU) bans use of six substances in products to be released in the EU from July 2006 onward, Toshiba Group has already ceased use of the six substances specified by the RoHS Directive in most of its products introduced since April 2005.

Promotion of Green Procurement Worldwide

Toshiba has been conducting green procurement worldwide in accordance with

the Green Procurement Guidelines established in December 1999 (revised in June 2003). Suppliers are required to evaluate their environmental protection activities based on the criteria determined by Toshiba. Priority is accorded to suppliers with a high ranking.

In cooperation with suppliers, Toshiba conducts an environmental performance survey of procurement items. Ratios of environment-related substances (environmentally harmful substances) and scarce resources to the weight of a procurement item are checked and Toshiba accords priority to items superior in terms of environmental impacts. A database containing the results of the environmental performance survey is utilized for developing environmentally conscious products.

For details, refer to the Green Procurement Guidelines of Toshiba Group.

[URL](http://www.toshiba.co.jp/procure/english/green/) <http://www.toshiba.co.jp/procure/english/green/>

Case Study

Toshiba has put in place a system to clarify whether or not chemicals are used in parts and components by making inquiries to parts manufacturers. In addition, chemicals analysis is applied to detect chemicals contained in products.

Parts containing banned chemicals have been replaced by alternatives in cooperation with parts manufacturers.

Introduced below are cases of cellular phones and PCs, which frequently come into direct contact with users.

Mobile Phones

LCA results reveal that environmental impact during the procurement phase is especially large in the case of mobile phones compared with other products. Toshiba abolished hexavalent chromium plating for decoration and chromate treatment (containing hexavalent chromium) after nickel plating and replaced them with trivalent chromium plating and tin/cobalt plating, respectively. Since April 2005 Toshiba has been introducing mobile phones in compliance with the RoHS Directive.



Vodafone 902T mobile phone
Factor 1.49 (2004/2001)

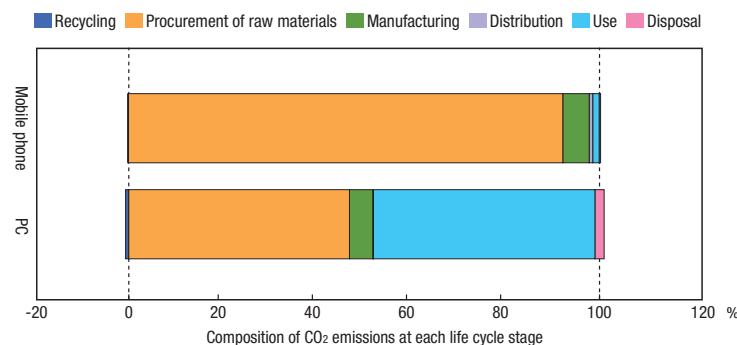
PCs

Toshiba was early to realize halogen-free and antimony-free substrates and lead-free soldering. Also, technical guidance provided to numerous parts suppliers, development of packaging technology, reliability evaluation and establishment of an environmental database led to the commencement of shipment of PCs (substrates and cases) in compliance with the RoHS Directive in January 2005.



dynabookSS mobile notebook PC
Factor 3.03 (2004/2000)

Results of Mobile Phone and PC (Example)



Resource Utilization

Target for Fiscal 2004

●20% reduction of weight per product function compared with fiscal 2000

Result in Fiscal 2004

●35% reduction

Resource Utilization of Resources in terms of Products

Numerous natural resources are used for manufacturing of products and in the case of certain products, resources are used even during the usage phase. To minimize consumption of resources as well as discharge of resources as waste, it is essential to promote design that facilitates resource saving, reuse and recycling. Resource-saving design includes design facilitating upgrading and repair by use of modules, in addition to design to reduce product weight and extend life. With the design that facilitates reuse and recycling, materials and structures easy to reuse and recycle are applied.

Case Study

Introduced below are cases of TVs, which generate great environmental impact during the procurement phase according to the LCA results, and of medical equipment, whose environmental impact during the procurement phase is minor but whose weight is large.

TVs

Toshiba's *Ekisho beautiful face* LCD digital Hi-Vision TV realizes resource saving, improved ease of disassembly and reduction of use of toxic chemical substances. The circuit is designed and arranged so that generation of electrical noise is minimized. Thanks to the complete redesign of the internal structure, a one-layered frame is now used instead of a three-layered frame. The result is a 40% reduction of weight compared with a previous year's model. The number of screws is also reduced by 61%. As a result, time required for disassembly is halved, contributing to recycling.



Ekisho beautiful face
LCD digital Hi-Vision TV

Factor 1.99 (2004/2003)

Medical Equipment

Toshiba is striving to provide people friendly and environmentally friendly medical equipment. For example, in the case of diagnostic ultrasound systems, a 33% reduction of resources is achieved by improvement of semiconductor packaging density, adoption of a structural design technique and integration of functions. In particular, the effective utilization ratio of materials for a frame increased from 58% with a previous model to 88% with the new product Xario. Whereas the completed frame made from input materials weighing 75.1 kg weighs 43.4 kg in the case of a previous model, it weighs 16.1 kg in the case of Xario with an input of materials weighing 18.2 kg. The amount of input materials is one fourth and the parts count is almost halved from 55 to 27.

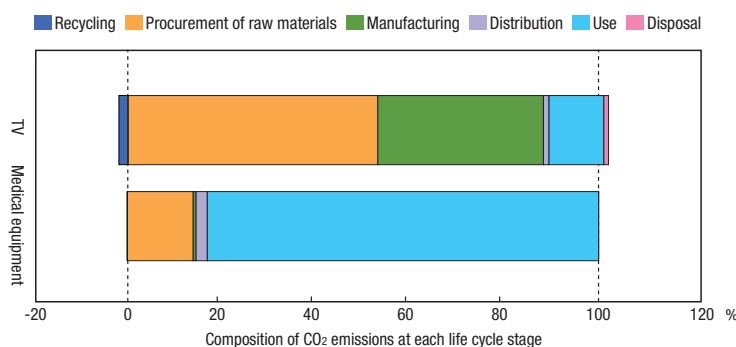
Also, environment-related substances are reduced by abolition of vinylchloride covers and application of lead-free soldering. Moreover, electricity consumption per function is reduced by 33% due to adoption of a high-speed CPU and reduced start-up time.



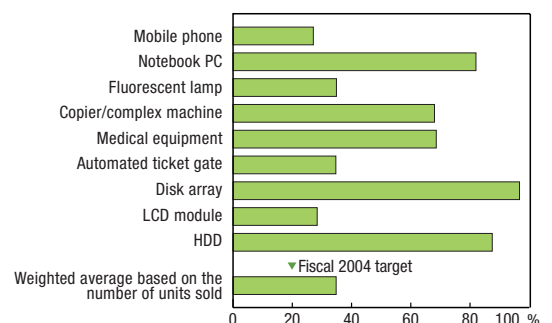
Xario
diagnostic ultrasound system

Factor 3.97 (2004/2001)

Results of LCA of a TV and Medical Equipment (Example)



Reduction of Weight per Product Function (Fiscal 2004 results compared with fiscal 2000)



Environmental Impacts of Business Activities

Toshiba Group is fully aware of the impacts of its business activities on the environment and is striving to reduce such environmental impacts. In this section Toshiba Group's efforts to reduce environmental impacts of its business activities are reported from three perspectives: prevention of global warming, control of chemical substances and efficient utilization of resources.

Global Warming

Target for Fiscal 2004

●18% improvement in the ratio of CO₂ emissions to net sales compared with fiscal 1990

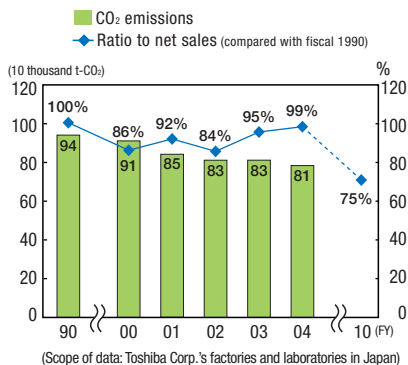
Result in Fiscal 2004

●1% improvement compared with fiscal 1990

To Prevent Global Warming in terms of Business Activities

The Third Voluntary Environmental Plan's target for reduction of CO₂ emissions at Toshiba Corporation's factories and laboratories was a 25% improvement in the ratio of CO₂ emissions to net sales by fiscal 2010 compared with fiscal 1990. The ratio for fiscal 2004 was 1% lower than that for fiscal 1990, but 4% higher than for the previous year. This increase was partly

CO₂ Emissions and Ratio to Net Sales



attributable to the expansion of the semiconductor business whose ratio is high. However, due to the recent reshaping of Toshiba's business structure, the scope of the indicator no longer fully reflects reality. So, in the Fourth Voluntary Environmental Plan, the scope is expanded to make it less susceptible to changes in the business structure, and emissions of greenhouse gases other than CO₂ and CO₂ emissions attributable to logistics are also included in the items to be controlled. As a result, the new indicator reflects the reality of Toshiba Group's business activities, covering all greenhouse gases emitted through business activities.

(Note) Guideline for calculation of greenhouse gas emissions
In accordance with the "Guideline for Investigation of Greenhouse Gases Emitted by Businesses (tentative)." For electricity, the coefficient announced by The Federation of Electric Power Companies of Japan (average of all power sources at generating ends) had been used until fiscal 2003 and the coefficient for fiscal 2003 was used for calculation of the amount in fiscal 2004.

Reducing Energy-originated CO₂ Emissions

We are working to reduce CO₂ emissions by applying the optimum mix of three approaches (administrative improvement, energy-saving investment and saving of energy in clean rooms) throughout business activities globally, including at laboratories and offices.

Regarding production sites, we are focusing on energy saving at semiconductor factories, whose energy consumption is the largest. CO₂ emissions increased by 70,000 tons in fiscal 2004 compared with fiscal 2003 due to increased production of semiconductor and LCD devices. Although opening of a new semiconductor clean room is expected to result in an increase in energy consumption, we intend to minimize the increase by implementing energy-saving measures to the maximum extent.

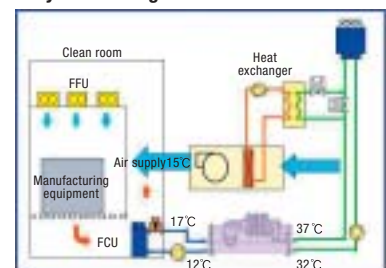
The Fourth Voluntary Environmental Plan

TOPICS

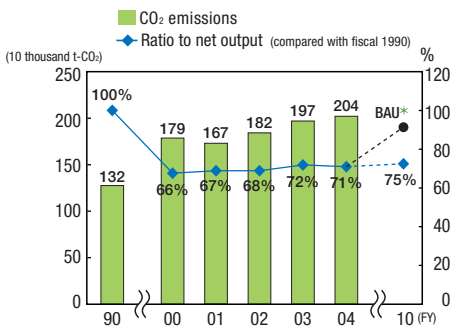
Ultra-energy-saving Semiconductor Clean Room

For construction of Yokkaichi Operations' clean room for semiconductor production on 300 mm wafers, the design of the air conditioning systems is optimized based on measurement and analysis of the heat environment of Oita Operations' clean room. At the same time, measures are implemented to reduce air-conditioning thermal load and recover waste heat from the heat source. As a result, compared with a clean room that handles 200 mm wafers, energy consumption of the new clean room is halved (reduction of 59,180 tons of CO₂ emissions per year).

Heat Source Waste Heat recovery System during Winter



Energy-originated CO₂ Emissions and Ratio to Net Output



*BAU: Business As Usual (Forecast based on current energy efficiency and taking business trends into account)

calls for a 25% reduction in the ratio of CO₂ emissions to net output*¹ by fiscal 2010 compared with fiscal 1990. The ratio for fiscal 2004 was 29% lower than that for fiscal 1990. Despite the expected expansion of the semiconductor and LCD businesses, we aim to achieve the reduction target for fiscal 2010 by implementing further energy-saving measures.

*¹ Net output: See note for the Fourth Voluntary Environmental Plan on Page 41.

Reducing Greenhouse Gas Emissions other than CO₂

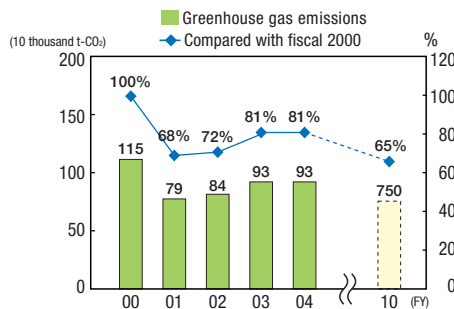
We are also working to reduce emissions of greenhouse gases other than CO₂ through reduction of the use of CFC substitutes and replacement with alternatives as well as through recovery of emitted gases and introduction of gas scrubbers.

The Fourth Voluntary Environmental Plan calls for a 35% reduction in Toshiba Group's greenhouse gas emissions in fiscal 2010 compared with fiscal 2000. This overall target is based on the assumption that individual targets set by the semiconductor, LCD and other industries are attained.

In fiscal 2004 a 19% reduction was achieved compared with fiscal 2000. However, the amount of greenhouse gas emissions has been on an upward trend since fiscal 2001 due to the increased production of semiconductor and LCD devices, similar to the case of energy-originated CO₂ emissions.

From fiscal 2005 onward we intend to install gas scrubbers at all new production lines and continue our efforts to reduce the use of greenhouse gases and replace them with alternative gases so as to reduce emissions of greenhouse gases.

Emissions of Greenhouse Gases other than CO₂



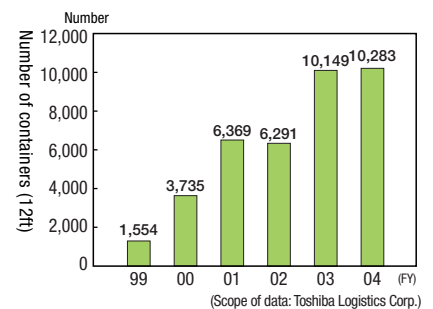
Reducing CO₂ Emissions Attributable to Logistics

Toshiba Group is working to save energy during transportation of products and implementing the following three measures in cooperation with Toshiba Logistics Corp., a subsidiary.

- 1) Modal shift to rail transport
- 2) Optimization of transport using trunk routes by means of integration and sharing of freight information; optimization of distribution by a flexible vehicle assignment system attuned to daily fluctuations in freight volumes
- 3) Reduction in the number of vans and trucks by optimizing the shipment of freight and utilization of vehicles among logistics subsidiaries of electronic/electrical companies

Toshiba intends to widen use of rail transport and expand application of the flexible vehicle assignment system so as to reduce environmental impacts.

Trend of Rail Transport



TOPICS

Efforts to Reduce Emissions of PFC at an LCD Device Plant in Singapore

Advanced Flat Panel Display Pte., Ltd. (AFPD), an LCD plant in Singapore, is working to reduce emissions of perfluorocarbon (PFC), which is a greenhouse gas, although Singapore has not ratified the Kyoto Protocol. As shown in the diagram below, AFPD has installed a scrubber in the process subsequent to that of equipment that uses PFC and has greatly reduced PFC emissions.



PFC gas scrubber

System for PFC scrubbing



Using Renewable Energy

In order to facilitate the use of renewable energy, in January 2005 Toshiba entered into a contract to purchase electricity generated using renewable energy under a green power certificate system. In accordance with the contract, more than 4% of the electricity demand at the Toshiba headquarters building is covered by biomass power generation.

Chemicals

Target for Fiscal 2004

- 24% reduction in release of chemical substances compared with fiscal 2000 (30% reduction in fiscal 2005)

Result in Fiscal 2004

- 47% reduction compared with fiscal 2000. (Improvement of 5 percentage points compared with fiscal 2003)

Management of Chemicals in terms of Business Activities

Toshiba's use of chemicals is based on three fundamental policies: avoid use of toxic substances to the maximum extent possible, promote reduction and substitution to the maximum extent, and subject use to appropriate controls.

Some 2,000 substances covered by the PRTR Law*1 of Japan and other environment-related laws and regulations are classified into three ranks, A, B and C, based on the control level set by the laws and regulations and the hazard. Control classifications*2 (prohibition of use, reduction of release control of use) for substances are determined based on the risk associated with the substance. Tosh-

*1 PRTR Law: Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management. PRTR is an abbreviation of Pollutant Release and Transfer Register.

*2 An explanation of the substance ranking and control classifications is available on the Toshiba website.

URL <http://www.toshiba.co.jp/env/en/data/>

List of Substances Whose Use is Abolished

- Trichloroethylene
- Tetrachloroethylene
- CFCs
- Halons
- 1,1,1-trichloroethane
- Carbon Tetrachloride

iba adopts a quasi-risk assessment approach in which the risk posed by a substance is expressed as the product of the hazard and the level of exposure.

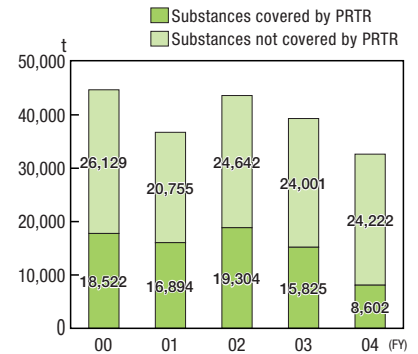
Reducing Release of Chemicals

The previous voluntary plan's target was to reduce total release of 24 types of chemicals by 30% by fiscal 2005 compared with fiscal 2000 at Toshiba Corp. and major subsidiaries. In fiscal 2004 we achieved a 47% reduction, exceeding the target for the second consecutive year. Substitution of materials, change of processes and installation of recovery/removal equipment yielded this gratifying result.

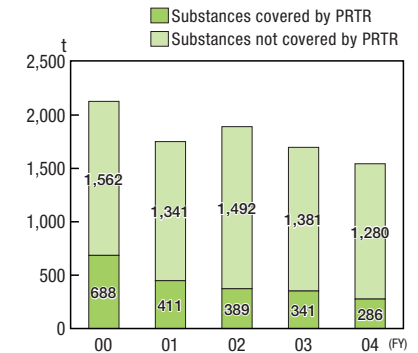
As the PRTR system has become pervasive, there is an increasing need for systematic reduction in the use of substances covered by PRTR, and also there is a move to control release of volatile organic compounds due to the revision of the Air Pollution Control Law in Japan.

Taking such trends into consideration, we established the Fourth Voluntary Environmental Plan in which the scope of our activities and the substances has been expanded. This plan calls for a 50% reduction in total release of chemical substances by fiscal 2010 compared with fiscal 2000. The number of substances whose release is to be reduced has been increased from 24 types in the Third Voluntary Environmental Plan to 100 types in the new plan. The amount of release in fiscal 2004 was 1,565 tons, which is about 70% of that in fiscal 2000 (2,250 tons). The figures show the amounts of chemical substances handled and released by Toshiba Group. From fiscal 2005 onward, we will redouble our efforts to attain the target set by the Fourth Voluntary Environmental Plan.

Amount Handled by Toshiba



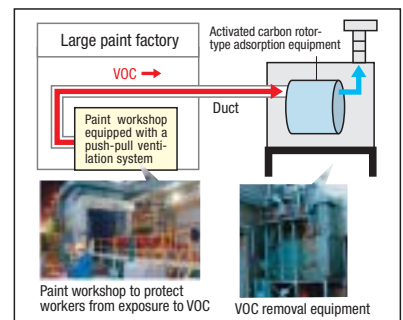
Amount Released by Toshiba



TOPICS

Measures in the Painting Process for Large Parts used for Power Generation Facilities

Parts used for thermal and hydraulic power stations are large and a thick layer of paint is applied to provide weather resistance. Keihin Product Operations is one of a few factories in Japan that have a paint workshop equipped with a large push-pull ventilation system. Volatile organic solvents (toluene and xylene) discharged during the painting process are recovered and removed using this system and an adsorption/catalytic combustion-type scrubber.



Response to the PRTR Law

Since April 1, 2002, reporting of the types of chemical substances released and their quantities has been mandatory in accordance with the PRTR Law. Toshiba Group companies in Japan are complying with the PRTR Law.

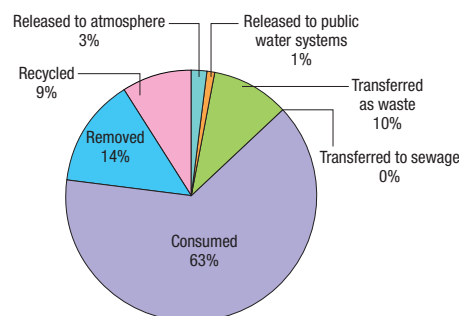
Toshiba was among the first in the industry to disclose PRTR data when it published the data for fiscal 1997 in the Toshiba Environmental Report 1998. In fiscal 2004 the scope of PRTR data was expanded to cover the entire Toshiba Group, including overseas operations.

A comparison of the results for fiscal 2004 with those for fiscal 2003 reveals that the amount of chemical substances Toshiba handled decreased by 7,200 tons, primarily due to wider use of lead-free soldering. The amount released to the environment was reduced by 55 tons thanks to technical measures, such as substitution of water-soluble paints for organic solvent-based paints and the installation of scrubbers. The amount consumed relating to products accounted for 63% and the amount released to the atmosphere, public water systems and soil accounted for less than 5%*3.

*3 Details of substances released and PRTR data for individual business premises are available on the following Toshiba website.

URL <http://www.toshiba.co.jp/env/en/data/>

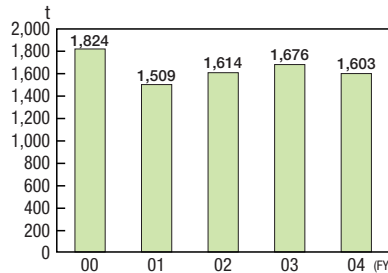
PRTR Breakdown (Fiscal 2004)



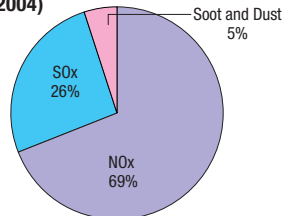
Preventing Air and Water Pollution

We are working to apply appropriate control based on the data on environmental impacts due to sulfur oxides (SOx) and nitrogen oxides (NOx), which are the main causes of air pollution, and wastewater. All operations have set voluntary standards to ensure compliance with the regulatory environmental standards. The total amount changes according to fluctuations in production.

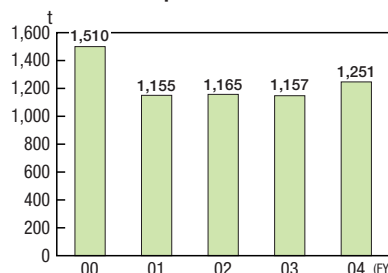
Environmental Impacts on Air (SOx, NOx, Soot and Dust)



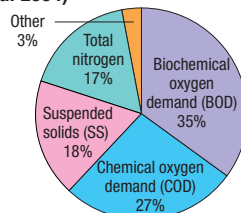
Breakdown of Environmental Impacts on Air (Fiscal 2004)



Environmental Impacts on Water



Breakdown of Environmental Impacts on Water (Fiscal 2004)



*Other: N-hexane extracts, phenol, copper, zinc, dissolved iron, dissolved manganese, total chromium, total phosphorus, nickel

Elimination Use of Ozone-depleting Substances

Previously we used chlorofluorocarbons (CFCs), trichloroethane and other ozone-depleting substances for parts cleaning and dry etching for semiconductors, and as refrigerant for refrigerators and blowing agent for insulation materials. Regarding specified CFCs, we ceased use of those for cleaning in December 1993 and those to be contained in products in September 1995. In addition, we ceased use of carbontetrachloride and trichloroethane for cleaning in May and November 1994, respectively.

Meanwhile, 1,223 air-conditioning systems containing 27 tons of CFCs and 409 fire extinguishing systems containing 47 tons of halon are still in use. A sticker indicating that the facility contains CFCs/halon is affixed to the facility for control purposes and when such a facility becomes aged and is replaced, the CFCs/halon are recovered and appropriately treated. The installation of new facilities containing ozone-depleting substances is prohibited.

PCB Storage and Control

As of 2004, the products and items stored by Toshiba Corp. and major subsidiaries include 240 transformers, 6,500 high-pressure condensers, and about 200,000 compact condensers and fluorescent lamp stabilizer, amounting to some 360 tons of PCB. In addition to the prescribed storage rules, installation of dikes and double containers (receiver tanks) ensures safety.

Recognizing that a definitive solution to the PCB problem would necessarily involve treating PCB and products containing PCB as soon as possible using reliable technology, Toshiba has set itself the goal of completing treatment of its entire stock of PCB stored in house by fiscal 2010 and is conducting R&D of appropriate treatment technology.

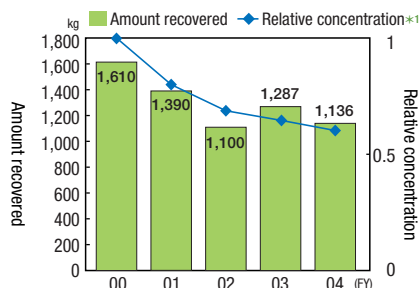
Purifying Soil and Groundwater and Preventing Pollution

As well as monitoring soil and groundwater pollution at factory sites and executing purification, Toshiba Group is implementing fail-safe measures for facilities to prevent pollution and reduce risk.

1,136 kg of VOCs Recovered

Toshiba Group is conducting purification and monitoring of pollution caused by volatile organic compounds at 16 sites. At these sites 447 pumping wells or gas suction wells are installed to recover and purify volatile organic compounds, and 222 observation wells are used to monitor trends of the concentration of pollutants in groundwater. 1,136 kg of compounds was recovered in fiscal 2004.

Amount of Volatile Organic Compounds Recovered from Soil and Groundwater



*1 Relative concentration: Relative average concentration when the average concentration in fiscal 2000 is 1

Purification of Volatile Organic Compounds in Soil and Groundwater (Fiscal 2004)

Site	Location	Progress	Purification method*1	Amount recovered*2
Fukaya Operations	Fukaya, Saitama prefecture	Transition to monitoring*3	A	—
Toshiba Electric Appliances Co., Ltd.	Maebashi, Gunma prefecture	Transition to monitoring	D, F	—
Komukai Operations	Kawasaki, Kanagawa prefecture	Purification in progress	A	56.1
Microelectronics Center	Kawasaki, Kanagawa prefecture	Purification in progress	A	8.9
Yanagicho Complex	Kawasaki, Kanagawa prefecture	Purification in progress	A, B, C	0.7
Taishi Area of Himeji Operations	Taishi-cho, Ibo-gun, Hyogo prefecture	Purification in progress	A	445.0
Oita Operations	Oita, Oita prefecture	Purification in progress	A	4.2
Fuji Operations, Toshiba Carrier Corp.	Fuji, Shizuoka prefecture	Purification in progress	A, B	351.3
Tsuyama Operations, Toyo Carrier Engineering Co., Ltd.	Tsuyama, Okayama prefecture	Purification in progress	A	0.8
Osaka Works, Toshiba HA Products Co., Ltd.	Ibaraki, Osaka	Purification in progress	A	0.2
Kimitsu Operations, Toshiba Components Co., Ltd.	Kimitsu, Chiba prefecture	Purification in progress	A, B	211.0
Site of the former Yokohama Works, Toshiba Components Co., Ltd.	Yokohama, Kanagawa prefecture	Purification in progress	A	52.0
Kawamata Seiki Co., Ltd.	Kawamata-machi, Date-gun, Fukushima prefecture	Purification in progress	A	0.1
Kitashiba Electric Co., Ltd.	Fukushima, Fukushima prefecture	Purification in progress	A	0.3
Site of the former Kawasaki Works, Toshiba Shomei Precision Co., Ltd.	Kawasaki, Kanagawa prefecture	Purification in progress	A, B, F	5.4
Site of the former Yokohama Operations, Asia Electronics Inc.	Yokohama, Kanagawa prefecture	Work in progress	A, E, G	—

*1 Purification method: A: Groundwater pumping, B: Soil gas suction method, C: Reduction decomposition method (fine iron permeation piles), D: Oxidation decomposition method, E: Interception containment method, F: Removal by excavating soil
 *2 Amount recovered: Amount recovered during the period from April 2004 to March 2005
 *3 Transition to monitoring: Purification has been completed and the site is now under follow-up monitoring.

Case Studies on Measures to Deal with Soil and Groundwater Pollution

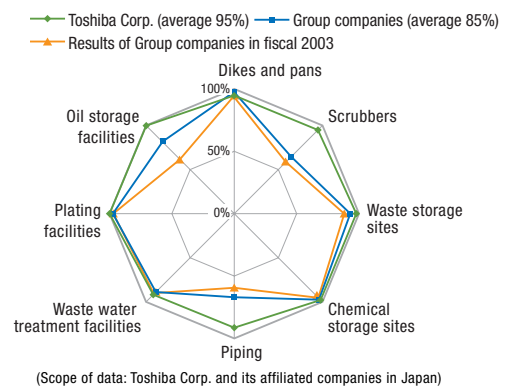
The investigation of soil at the site of the former Yokohama Operations of Asia Electronics Inc., which was closed in 2001, revealed that concentrations of PCBs etc. exceeded environmental quality standards. In December 2004 work was commenced to cut off the exposure route as an emergency measure based on a fundamental measure to be implemented in the future.

As a result of the investigation of soil at the former Yanagicho Complex of Toshiba Corp., which was conducted upon closure of the business there, it was found that concentrations of heavy metals and volatile compounds exceed the environmental quality standards. At present, further investigation is being conducted and measures are being implemented in accordance with the laws and regulations and the municipal ordinance. Noncompliance with environmental standards for heavy metals was found at Tsuyama Operations of Toyo Carrier Engineering Co., Ltd., as a result of the groundwater investigation conducted in July 2004. At present, diffusion is prevented by pumping of groundwater and a measure is being implemented for soil, which is the source of pollution.

Structural Design Guidelines to Prevent Pollution

Toshiba has guidelines for the eight types of structural design. By ensuring that structures are in conformity with these guidelines, pollution is prevented. Conformity ratios of Toshiba Group companies, which lagged for fail-safe measures, improved about 10% on average in terms of scrubbers, piping and oil storage facilities.

Conformity Ratios according to Structural Design Guidelines (Fiscal 2004)



(Scope of data: Toshiba Corp. and its affiliated companies in Japan)

Pollution Risk Assessment at Overseas Sites

Toshiba Group is conducting pollution risk assessment of overseas sites based on the land history and environmental assessment when purchasing new sites and reassigning sites. Our policy is to ensure compliance with the laws and regulations of the country in which the site is located. In countries where a regulatory framework is not established, we apply voluntary standards, which are stricter than the regulatory limits. In fiscal 2004 we conducted a survey of land ownerships and land history at 200 overseas sites in 31 countries to achieve an update and strengthen control. In the event that any site is found to have a high pollution risk, we will voluntarily conduct an investigation regardless of legal requirements.

Resource Utilization

Target for Fiscal 2004

● Maintaining zero emissions at Toshiba factories, laboratories and major subsidiaries

Result in Fiscal 2004

● Zero emissions achieved at all subject sites. The rate of final disposal improved to 0.4% in fiscal 2004 from 0.7% in fiscal 2003.

Efficient Utilization of Resources in Business Activities

According to Toshiba's definition, zero emissions is achieved when the quantity of waste for landfill after treatment is equivalent to 1% or less of the total quantity of by-products and other items generated (total amount of waste discharged) as a result of business activities. As Toshiba Group's business activities are wide ranging, it tends to be difficult to apply a recycling measure that worked well for one site to another site, especially in the case of items, such as sludge, whose recycling is not easy, and each site is working to identify a way to make effective use of such items.

Toshiba is promoting recycling of the four

types of home appliances stipulated by the Home Appliance Recycling Law, personal computers and compact secondary batteries in accordance with the Law for Promotion of Effective Utilization of Resources as well as other equipment. Although recycling has become second nature, we are working to establish a reliable recovery and recycling system. In accordance with the Fourth Voluntary Environmental Plan, for efficient utilization of resources, we are implementing measures to 1) reduce the total quantity of waste generated, 2) reduce the quantity of waste for final disposal and 3) expand reuse and recycling of end-of-use products.

Zero Emissions Achieved and Quantity of Waste Reduced

The rate of final disposal was 1.9% in fiscal 2000 when the Third Voluntary Environmental Plan was launched. Since then, individual operations have worked to reduce the total quantity of waste for final disposal based on thorough disassembly and separation of waste, and in cooperation with the steel, cement, chemical and other industries. As a result, in fiscal 2004, zero emissions were achieved at all Tosh-

iba factories, laboratories and major subsidiaries. Waste for final disposal discharged by these sites amounted to 266 tons in fiscal 2004.

The total quantity of waste for final disposal including waste discharged by affiliated companies in Japan and overseas production sites amounted to 186,000 tons and the final disposal rate was 4.6%. From now on, we will aim to reduce the total quantity of waste and achieve zero emissions at all sites.

Strengthened Governance concerning Waste and Recycling

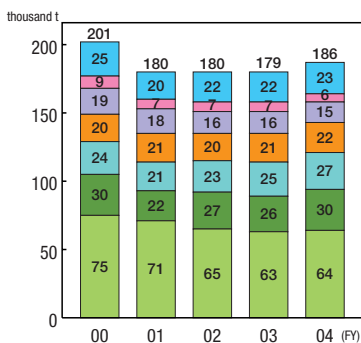
Toshiba Group recognizes appropriate treatment of waste to be an important management issue and responsibilities are clarified according to position from management to personnel in charge of waste management at workplaces. We are working to optimize the system involving a wide range of parties concerned in cooperation with waste treatment and recycling companies, affiliated companies, partner companies and companies in the supply chain such as suppliers and distributors. In addition, where intermediary treatment is contracted, we monitor the waste treatment route up to final disposal. For thorough governance, we are focusing on education and activities to raise awareness of employees as well as the gathering and dissemination of information on a regular basis.

For Efficient Utilization of Water

To save and recycle water, at many Toshiba Group sites various water circulation systems have been introduced that involve filtration and purification of water used at sites. In fiscal 2004 4.93 million tons of water was recycled group-wide.

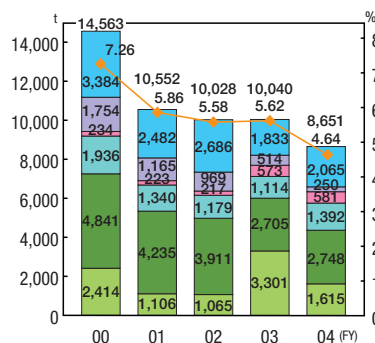
Total Quantity of Waste Generated

Legend: Metal chips, Waste acid, Sludge, Waste paper, Waste plastics, Glass, Others



Quantity of Waste for Final Disposal and Final Disposal Rate

Legend: Sludge, Waste plastics, Glass, Waste acid, Metal chips, Others, Final disposal rate



Product Recycling Concept

We are promoting 3R (reduce, reuse, recycle) on many fronts in an effort to contribute to establishment of a recycling based society. Recycling of products has an important bearing on resource saving and waste reduction.

Recycling as Parts for New Products

Most tanks of washing machines and vegetable compartments of refrigerators are made of polypropylene (PP) and most shelves of refrigerators are made of polystyrene (PS). These relatively large plastic parts are now recovered and classified according to material before crushing so that they can be recycled as materials for parts for new products. These recycled materials are mainly applied in base plates for washing machines/driers and dish washers/driers and fixtures for printed circuit boards for refrigerators. Recovered and classified materials undergo washing, crushing, repelletization, and preparation through the addition of additives and virgin materials so that the recycled materials satisfy quality requirements including material characteristics, external appearance and moldability. Other plastic waste is also classified and recycled as construction materials, building materials and sundry articles.

Product Recycling Worldwide

In view of the international trends toward mandatory recycling of products, we are establishing a recycling system in Europe, the United States, China and elsewhere around the world. In readiness for the mandating of recycling of Waste Electrical and Electronic Equipment (WEEE) in Europe from August 2005, Toshiba established a recycling system in Europe in April 2003 and is holding environmental meetings periodically. At the same time, we are monitoring trends in the regulatory frame-

work in each country, ensuring compliance and integrating recovery and treatment plans in our efforts to fulfill producer responsibility.

Reflecting Recycling Information in Product Development

In Japan where product recycling has already been established, Toshiba is focusing on feeding back recycling information into product development. This is because development of environmentally conscious products and not just development of recycling technology is important for establishment of a recycling-based society. Term Corp. and Nishinohon Kaden Recycle Corp., which have recycling facilities for Toshiba Group, feed back information on decomposition directly to product designers so that they can reflect the information obtained during the recycling phase in development of environmentally conscious products.

Recycling of Home Appliances

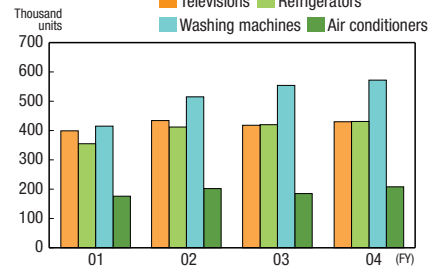
According to the Ministry of Economy, Trade and Industry, in fiscal 2004, 11.21 million units of end-of-use home appliances (four products) were collected at designated facilities in Japan, a year-on-year increase of 7%.

Toshiba Corp., Toshiba Consumer Marketing Corp., and Toshiba Carrier Corp. collected 1.64 million units of end-of-use home appliances (a 3% year-on-year increase), accounting for 15% of the total number of units collected nationwide. The figures on the right show the trends of the number of units collected by Toshiba Group and the recycling rate from fiscal 2001 to 2004 and compositions of materials recycled from end-of-use home appliances for fiscal 2004.

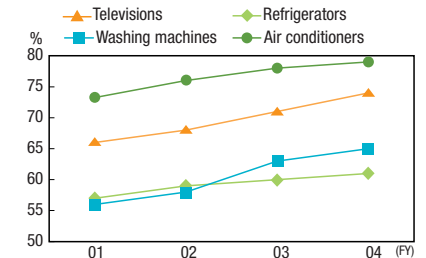
More information on recycling of home appliances is available at the following Toshiba website.

[URL http://www.toshiba.co.jp/kdnrc/english/index.html](http://www.toshiba.co.jp/kdnrc/english/index.html)

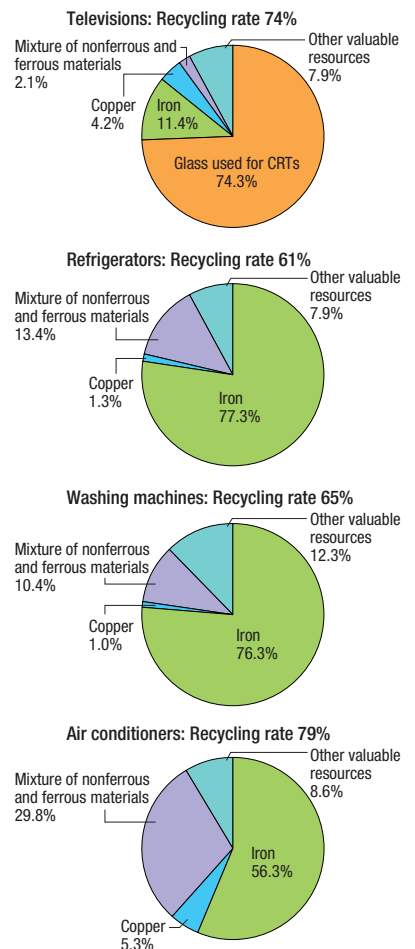
Number of Units of Home Appliances Collected (4 Products)



Recycling Rate of Home Appliances (4 Products)



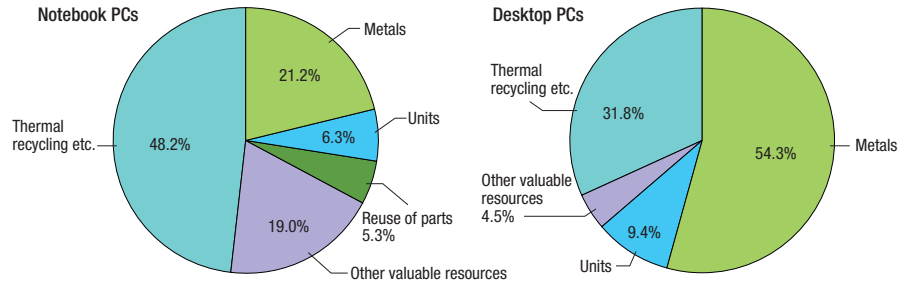
Materials Recycled from End-of-use Home Appliances (4 Products) (Fiscal 2004)



Recycling of Personal Computers

In Japan, Toshiba started the recycling of end-of-use PCs discharged by enterprises in fiscal 2001 and the recycling of PCs discharged by consumers in October 2003. The pie charts on the right show compositions of materials recycled from end-of-use PCs for fiscal 2004.

Materials Recycled from End-of-use PCs (Fiscal 2004)



Results of Recovery and Recycling of End-of-use PCs (Fiscal 2004)

Product type	Discharged by	Number of units recovered	Weight recovered (t)	Weight of resources recycled (t)	Recycling rate
Notebook PCs	Enterprises	7,457	30.0	18.5	51.7%
	Consumers	2,111	5.8		
	Total	9,568	35.8		
Desktop PCs	Enterprises	4,364	33.6	28.9	68.2%
	Consumers	979	8.9		
	Total	5,343	42.4		
CRT displays	Enterprises	6,681	118.5	87.6	64.1%
	Consumers	1,092	18.2		
	Total	7,773	136.7		
LCD displays	Enterprises	2,263	11.2	6.3	55.8%
	Consumers	9	0.04		
	Total	2,272	11.3		

(Scope of data: Recoveries within Japan)

Recycling of Other Products

Toshiba is promoting the recycling of a wide range of end-of-use products, including POS systems, X-ray CT systems and automatic ticket gates, in cooperation with customers.

We emphasize development of technologies that enable effective utilization of the materials recovered and reduction of recycling costs.

As the Law for Promotion of Effective Utilization of Resources covers a wide range of products including copiers, microwave ovens and clothes driers as shown in the figure on the right, Toshiba is endeavoring to expand use of recycled resources and recycled parts.

Products Covered by Toshiba Group's 3R

Collection and recycling in accordance with the Home Appliance Recycling Law

Collection and recycling in accordance with the Law for Promotion of Effective Utilization of Resources

Specified Resources-Reutilized Products
Designated Resources-Reutilizing Industry

.....

Specified Resources-Reconverted Products

Voluntary collection and recycling