

# Environmental Data Book 2006

Matsushita Group



**Panasonic**  
ideas for life

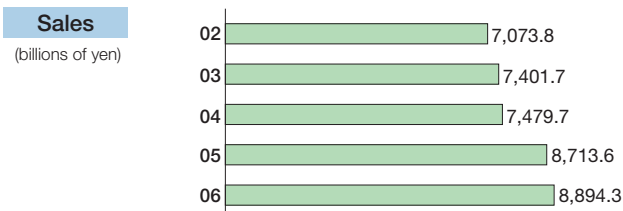
## Company profile

### Matsushita Electric Industrial Co., Ltd.

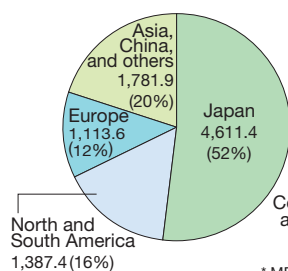
<b>Head office:</b>	1006 Kadoma, Kadoma City, Osaka 571-8501, Japan Tel: +81-6-6908-1121
<b>Date of incorporation:</b>	December 15, 1935
<b>Date of foundation:</b>	March 7, 1918
<b>Representative:</b>	Fumio Ohtsubo, President
<b>Capital:</b>	JPY 258.7 billion
<b>Stock exchange listings:</b>	Tokyo, Osaka, Nagoya, New York, Euronext Amsterdam*1 and Frankfurt*2 stock exchanges

\*1: Matsushita delisted its shares in June 2006.  
\*2: Matsushita delisted its shares in August 2006.

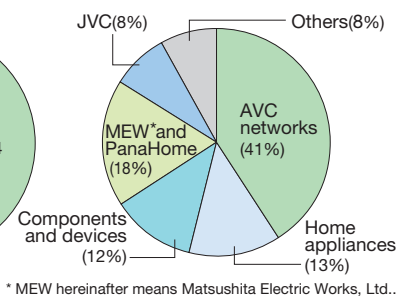
**URL** Matsushita Electric Industrial website: [panasonic.net/](http://panasonic.net/)



#### ●Sales by region (fiscal 2006) (billions of yen)

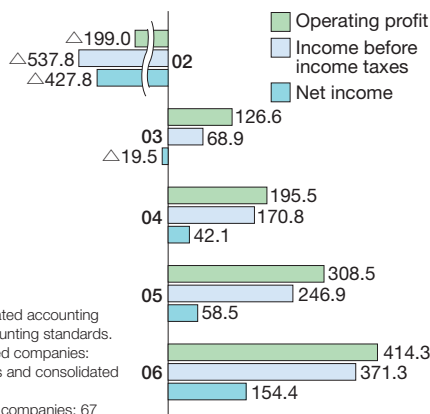


#### ●Sales by business segment (fiscal 2006)



#### Profit (Loss)

(billions of yen)

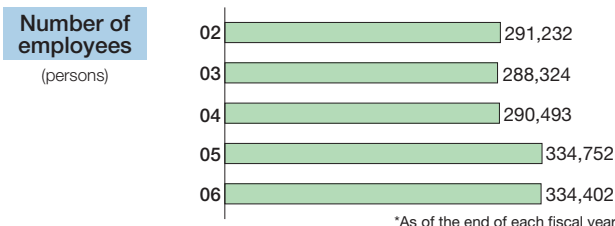


\* Matsushita's consolidated accounting conforms to U.S. accounting standards.

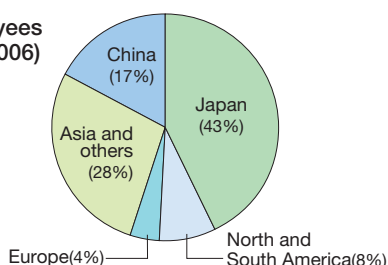
\* Number of consolidated companies: 638 (parent companies and consolidated subsidiaries)

\* Number of associated companies: 67

**URL** For results of operations, refer to IR information:  
[ir-site.panasonic.com/](http://ir-site.panasonic.com/)



#### ●Number of employees by region (fiscal 2006)



## Main products

### AVC networks

Plasma, LCD and CRT TVs, DVD recorders/players, VCRs, camcorders, digital cameras, compact disc (CD), Mini Disc (MD) and Secure Digital (SD) players, other personal and home audio equipment, SD Memory Cards and other recordable media, optical pickup and other electro-optic devices, PCs, optical disc drives, copiers, printers, telephones, mobile phones, facsimile equipment, broadcast- and business-use AV equipment, communications network-related equipment, traffic-related systems, car AVC equipment, etc.



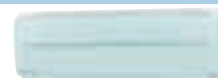
Plasma TV VIERA



Digital camera LUMIX

### Home appliances

Refrigerators, room air conditioners, washing machines, clothes dryers, vacuum cleaners, electric irons, microwave ovens, rice cookers, other cooking appliances, dish washer/dryers, electric fans, air purifiers, electric and gas heating equipment, electric and gas hot water supply equipment, sanitary equipment, health-care equipment, electric lamps, ventilation and air-conditioning equipment, car air conditioners, compressors, vending machines, medical equipment, etc.



Air conditioner with a built-in automatic filter cleaning system



Tilted-drum washer/dryer

### Components and devices

Semiconductors, general components (capacitors, modules, circuit boards, power supply and inductive products, circuit components, electromechanical components, speakers, etc.), electric motors, batteries, etc.



PEAKS engine (System LSI for digital TVs)



VENUS engine (System LSI for digital cameras)



Film capacitor for hybrid electric vehicles



Angular rate sensor

### MEW and PanaHome

Lighting fixtures, wiring devices, distribution panelboards, personal-care products, health enhancing products, water-related products, modular kitchen systems, interior furnishing materials, exterior finishing materials, electronic and plastic materials, automation controls, detached housing, rental apartment housing, medical and nursing care facilities, home remodeling, residential real estate, etc.



Modular kitchen system FITI



PanaHome EL SOLANA

### JVC

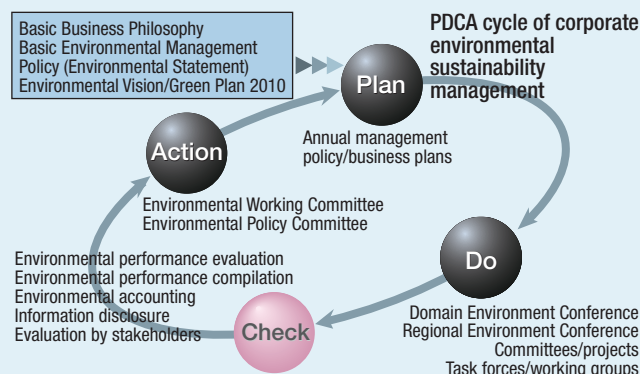
LCD, rear projection, plasma and CRT TVs, VCRs, camcorders, DVD recorders/players, CD/DVD/MD audio systems and other audio equipment, car AV equipment, business-use AV systems, motors and other components for precision equipment, recordable media, AV software for DVD, CD and video tapes, AV furniture, etc.

### Others

Electronic-components-mounting machines, industrial robots, welding equipment, bicycles, imported materials and components, etc.

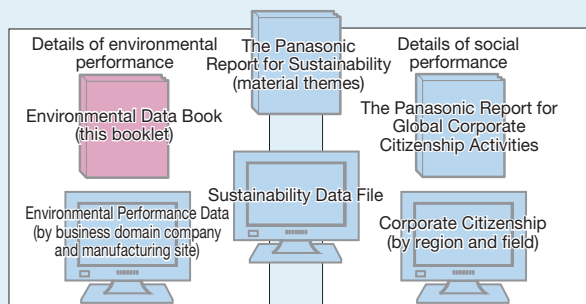
## Publication objective and editorial policy

The Matsushita Group (hereinafter called Matsushita) has established environmental management systems at our 250 business sites worldwide and is promoting environmental sustainability management based on its environmental action plan, the Green Plan 2010. We have issued environmental reports since fiscal 1998 and we have just issued the second Panasonic Report for Sustainability for the current year (10th report). This Environmental Data Book aims to provide detailed data to supplement the environmental information available in the Sustainability Report. The Panasonic Report for Sustainability, the Environmental Data Book, and other disclosure items, play an important role in the Check phase of our management system's Plan-Do-Check-Action (PDCA) cycle. By disclosing environmental information, we solicit stakeholders' evaluation and feedback to step up our efforts for the Action phase. We value your frank opinions on this report.



### Structure for CSR information disclosure

Information on Matsushita's corporate social responsibility (CSR) activities is reported annually within the following structure. We prepare the Environmental Data Book to comprehensively disclose environmental performance data with regard to our overall business operations, in addition to material information provided in The Panasonic Report for Sustainability. All information covered in the two reports is also available on our website. Environmental Performance Data (Domain Report: 19 domains; Site Report: 314 business sites) is also available on our website and provides a detailed report on each business domain company and manufacturing site.



- URL** The Panasonic Report for Sustainability 2006: [panasonic.net/report/2006/](http://panasonic.net/report/2006/)
- URL** Sustainability Data File: [panasonic.net/report/data\\_file/](http://panasonic.net/report/data_file/)
- URL** Environmental Performance Data: [panasonic.net/eco/data/](http://panasonic.net/eco/data/)
- URL** Corporate Citizenship: [panasonic.co.jp/ccd/index\\_eng.html](http://panasonic.co.jp/ccd/index_eng.html)

### Scope of this report and conventions used

**Reporting period:** Fiscal year 2006 (April 1, 2005 - March 31, 2006)  
The abbreviated year indication in graphs means the fiscal year (April 1 - March 31).

**Organization covered:** Matsushita Electric Industrial Co., Ltd. and affiliated companies inside and outside Japan globally (Matsushita Group).

**Data covered:** All manufacturing sites (including some non-manufacturing sites) that have established environmental management systems (P. 63-66). Sales prior to fiscal 2004 used for the basic unit include sales by MEW and PanaHome and exclude sales within the group.

\*Where there are no indications of fiscal year or region in the performance data, results are of fiscal 2006 (on a global basis).

\*\*“(P. XX)” in the text indicates a related page.

\***URL** indicates the website address where related information is available.

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The J-AOEI imprint indicates that the environmental information contained in the Environmental Data Book 2006 satisfies the applicable provision of the code of the Japanese Association of Assurance Organizations for Environmental Information.

#### Reference guidelines

- The Japanese Ministry of the Environment's Environmental Reporting Guidelines 2003
- The Global Reporting Initiative (GRI)'s Sustainability Reporting Guidelines 2002
- \* Matsushita has been a member of the GRI stakeholder organizations since 2004.

# Towards Coexistence with the Global Environment



A stylized, handwritten signature in black ink, consisting of several fluid, overlapping strokes.

Hidetsugu Otsuru  
Director for Environmental Affairs  
Matsushita Electric Industrial Co., Ltd.

Matsushita has adopted the corporate twin vision: "Realizing a ubiquitous networking society" and "Coexistence with the global environment" through our cutting-edge technologies for the 21st century.

In October 2001, Matsushita announced its corporate mission for the century of the environment in our "Environmental Vision," developed the "Green Plan 2010," a global environmental action plan targeting the ten years from 2001, and publicly committed ourselves to the realization of the defined goals. Fiscal 2006 is the middle year of this plan. By making full use of the experience gained over the past five years, we will renew our determination and step up our efforts to achieve our goals for fiscal 2011.

## "Creating Value for a New Lifestyle" for each household

Matsushita is striving to minimize the "Environmental Impact," while at the same time improving products' functions to enhance peoples' "Quality of Life." As a yardstick to measure the results of our endeavors aimed at "Creating Value for a New Lifestyle," Matsushita has developed "Factor X," and is developing environmentally-conscious products and services by referring to this indicator.

Since 2004, we have promoted comprehensive collaboration with Matsushita Electric Works, Ltd. and PanaHome Corporation to offer not only home appliances but also facilities and houses. This has enabled us to become a corporate entity capable of providing a total line of products and services for households. Taking this opportunity, we set out a plan that applies the concept of Factor X more broadly. The plan envisions achievement of a GHG Factor 5 for One Household (Resource Factor 3) in the equipment and facilities used in a household, by doubling the Quality of Life (numbers of product functions) and reducing the Environmental Impact (prevention of global warming) to 40% of the fiscal 1991 level by fiscal 2011. In addition, envisioning the lifestyle of 2010 that will realize Factor 5, we opened our Eco & Ud HOUSE in November 2005 in Ariake, Tokyo, to provide an opportunity for people to experience the kind of lifestyle we propose for 2010. We hope that the Eco & Ud HOUSE will serve as a center for Creating Value for a New Lifestyle, with the support of our customers.



## Never to supply products containing specified chemical substances

To mitigate the impact on the environment of the chemical substances included in our products, in 2000 we announced a policy to completely eliminate lead solder from our products. We succeeded in this aim by the end of fiscal 2003. Building on the technologies and structures acquired through this endeavor, we launched a group-wide project in June 2003 to achieve the non-use of specified chemical substances\* in all our products throughout the world. In October 2005, we completed the project and completely discontinued the use of such substances in all our products worldwide. This is a direct result of five full years of effort by the Matsushita Group. We continue to make efforts, driven by our strong determination not to leave any negative assets for the future, and comprehensively reduce the impact of chemical substances on the environment, based on our precautionary principles.

\* Lead, mercury, cadmium, hexavalent chromium, and two specified brominated flame retardants.

## Making all our products Green Products

We appreciate the importance of improved environmental performance across all of the life cycle. However, we recognize the greatest benefit can be realized by addressing the product-related impacts, and these must be our key targets for improvement. We refer to products that satisfy our original environmental criteria throughout their lifecycles as “Green Products (GPs)” and aim at making almost all our products (90% or over) GPs by 2010. In spite of the fact that we strengthen our criteria every year, the pace of the development of environmentally-conscious products has been faster than each year’s target, and in fiscal 2006, the ratio of sales of GPs against sales of all products developed that year reached 94%. We will continue to steadily upgrade the criteria. The number of “Superior GPs” that have achieved the industry’s highest level of environmental performance nearly doubled, from 19 in fiscal 2005 to 37 in fiscal 2006. We accredited the tilted-drum washer/dryer that employed a heat pump drying system as a “Super GP,” representing a trend-setting product contributing to achieving a sustainable society. Matsushita will speed up the pace of the development of GPs.

## Nurturing employees responsible for environmental activities

The significance of environmental aspects in management is increasing. To reinforce our environmental initiatives, it is essential to develop staff members who will lead such activities. In April 2006, we introduced our in-house skills evaluation system company-wide, a pioneering approach for a Japanese company. Simultaneously, within key areas of the organization, we have formally assigned responsibility to individuals who are to champion improved environmental performance. We will proactively implement training programs to foster personnel specializing in environmental affairs.

I believe that it is most important that as many people as possible carry out even minor activities promptly and continue activities for environmental sustainability and conservation. All of Matsushita’s 220 business sites in Japan have turned off their neon and electric signboards at 8:00 p.m. since July 2005. This effort alone resulted in a reduction of 384 tons of CO<sub>2</sub> emissions during the last fiscal year.

However, a sustainable society cannot be attained through corporate efforts alone. Through this Environmental Data Book, we intend to inform as many stakeholders as possible of our environmental activities, receive feedback from the stakeholders and incorporate their valuable comments into our environmental sustainability management. We also aim to contribute on a continuous basis to “Coexistence with the global environment” as a leading environmentally-conscious company.

In closing, I would like to take this opportunity to thank you all for your continued support and cooperation.



Matsushita uses hybrid electric vehicles as company cars in an effort to promote the introduction of “eco-cars.”

# Performance Highlights 2005

- Activities whose targets were achieved, or which made progress or produced results
  - Activities whose targets were partially achieved or the results of which remained unchanged
  - Activities whose targets were not achieved or the results of which showed a deteriorating trend
- GP2010** Object theme of the environmental action plan, the Green Plan 2010 (P. 13)

## Creating Value for a New Lifestyle

P9-12

### GHG Factor for One Household\* 2.3 (fiscal 2005: 1.8)

**GP2010** \* The figure indicating the total of the factors of appliances and facilities used in an average Japanese household (approximately 90 products)

In order to achieve both the "improvement in the quality of life" and the "prevention of global warming" for one household, in fiscal 2011 we aim to achieve Factor 5 compared to fiscal 1991.

### Resource Factor for One Household 1.6 (fiscal 2005: 1.3) **GP2010**

In order to achieve both an "improvement in the quality of life" and the "effective utilization of resources" for one household, by fiscal 2011 we aim to achieve Factor 3, compared to fiscal 1991.

### Opening of Eco & Ud HOUSE **GP2010**



An experimental facility that realizes the GHG Factor for One Household to 5 towards 2010 was opened in January 2006.

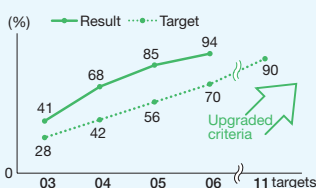
## Green Products (GPs)

P17-26

Tilted-drum washer/dryer, which incorporates a heat pump drying system, was accredited as a Super GP.

37 models were accredited as Superior GPs

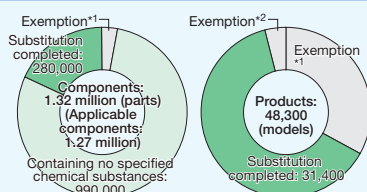
GP development rate\* 94% (target 70%) **GP2010** NA-VR1000



Matsushita will further reinforce the GP accreditation criteria from fiscal 2007 to increase the environmental efficiency of all products.

\* Sales ratio of GPs versus products developed in the current fiscal year

### Non-use of specified chemical substances\* was achieved for all products on a global basis **GP2010**



In all fields of Matsushita products sold worldwide, we investigated the content of specified chemical substances\* and promoted substitution of these substances with

alternative substances. As a result, we completed the switchover for all specified chemical substances in October 2005.

\* Lead, cadmium, mercury, hexavalent chromium and two specified brominated flame retardants.

\*1 Components and materials with no feasible alternatives or suppliers, for example, those commonly used in other industries, or those with components and materials specified by customers.

\*2 Models for which Matsushita has applied for exemption from the RoHS Directive.

In the reinforcement of product design with sufficient consideration given to recycling, 31 items (approximately 100 models in total) were dismantled to evaluate their ease of recycling.

## Clean Factories (CFs)

P27-38

### Establishing the CF Accreditation System **GP2010**

Matsushita commenced its CF Accreditation System, under which the continuous efforts of each factory to reduce the environmental impact of their manufacturing processes and efforts to promote their unique CF activities are quantitatively evaluated based on concrete results. We call the percentage of accredited CFs in all Matsushita factories the "CF Accreditation Rate" and set a fiscal 2011 target of 90% or greater for this rate. In the first year, we implemented the CF Accreditation System only in Japan, and the CF Accreditation Rate reached 81%, and 38% globally.

### CO<sub>2</sub> emissions

The absolute amount of CO<sub>2</sub> emissions was reduced for the second consecutive year.

Basic unit\*  
reduced by 19%  
compared to fiscal 2001  
(Target: 5% reduction)

4.17 million tons  
(Reduced by 50,000 tons  
compared to the  
previous year)

\* CO<sub>2</sub> emissions / (consolidated sales / Bank of Japan's corporate goods price index [electrical equipment])

### Energy-conservation rate\*

Product-assembly segment  
3.5% (target: 3.5%)

Components and devices  
segment  
6.2% (target: 7%)

Our challenge is to improve energy-conservation technologies in device factories outside Japan.

\* Reduction in energy consumption (CO<sub>2</sub> conversion) attributable to energy-conservation measures for the current fiscal year / Gross energy consumption (CO<sub>2</sub> conversion) in the previous fiscal year. Matsushita's own indicator.

Received certification from the Japanese government for Matsushita's project to register energy conservation initiatives to be taken at its 11 Malaysian factories as CDM projects (February 2006)

### Consumption and release/transfer of chemical substances\* **GP2010**

Japan  
(compared to fiscal 1999)  
"Reduction" substance  
Consumption 81% reduction  
"Adequate-management" substance  
Release/transfer  
60% reduction  
(Target: 56% reduction for both)

Asia and Oceania  
(compared to fiscal 2001)  
"Reduction" substance  
Consumption 5% reduction  
"Adequate-management" substance  
Release/transfer  
35% reduction  
(Target: 45% reduction for both)

Other regions  
(compared to fiscal 2003)  
"Reduction" substance  
Consumption 90% reduction  
"Adequate-management" substance  
Release/transfer  
86% reduction  
(Target: 33% reduction for both)

\* Includes the mass of substances discharged into water, air, and soil, and transferred as waste, as well as water discharge into the sewage system.

### Total waste arisings

Per unit of sales  
Increased by 3%  
compared to fiscal 2001  
(Target: 10% reduction)  
**GP2010**

Achieved "zero emissions"\*  
of waste for  
four consecutive years

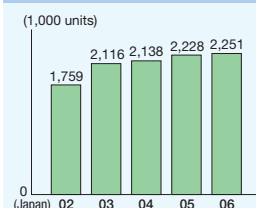
\* A recycling rate of at least 99% (mass of recycled resource / [mass of recycled resource + mass of final disposal]) since fiscal 2006 and at least 98% up to fiscal 2005.

Water consumption per unit of sales  
Reduced by 7% compared to fiscal 2001  
(target: 5% reduction) **GP2010**

## Product Recycling

P39-40

Recycling 2,251,000 units of home appliances\* in Japan **GP2010**



In order to improve the collection rate of waste electronic products, Matsushita reinforced activities for raising awareness of recycling. Recycling seminars were held targeting approximately 11,000 retailers.

\* Air conditioners, TVs, refrigerators, and washing machines are included. Freezers are also included since fiscal 2005.

Commencing recycling of home appliances in Germany (March 2006) **GP2010**

Matsushita commenced recycling management through ENE Ecology Net Europe GmbH, which was established in April 2005.

## Environment and Energy Business

P41-42

Contract numbers of our "Light and Trust Service" reached 3,600 offices of 425 corporations

This service does not involve the sale of fluorescent lamps, but is only the function supply of "light," targeting factories and business offices.

Wind/solar Hybrid Power "Kaze-Kamome" (Wind Seagull)  
A total of 624 units are in operation worldwide



Approximately 100 units of Household Fuel Cell Cogeneration System are in operation **GP2010**

This is a system that produces electricity as water is generated in a chemical reaction between hydrogen and oxygen, and also utilizes the exhaust heat that is generated simultaneously with the electricity as a household energy source. It is gaining widespread interest as a future energy source that will contribute to prevention of global warming.

## Green Marketing and Distribution

P45-46

17,595 containers were transported by rail in Japan (Target: 20,000 containers) **GP2010**

Matsushita is promoting a "modal shift" from trucks to rail with lesser environmental impact. In fiscal 2006, we reduced CO2 emissions by 8,777 tons when compared to the projected figure if trucks had been used instead.

Recycling vegetable cooking oil used at a factory canteen as a biodiesel\* for fuelling trucks

According to the results of an experiment conducted in Kusatsu in Shiga Prefecture, Japan, if we refined all the cooking oil used in the area, we could conserve the light oil equivalent of the annual consumption of two trucks (6,000 liters).

\* Fuels derived from biomass

## Environmental Risk Management

P59-60

First success in Japan by the private sector -Remediation test of soil contaminated by polychlorinated biphenyl (PCB)

Matsushita achieved its initiative of placing all 295 manufacturing sites both in and outside Japan under management supervision\* regarding soil and groundwater contamination

\* Completing surveys, starting remediation, installing inspection wells, preventing outflow, and thorough operational management. Matsushita's own standards.

## Environmental Communication

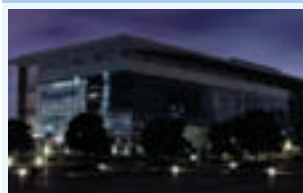
P47-54

"Cherry Tree Parks" were opened in Osaka and Chiba Prefectures (April 2006)



We converted land belonging to the company into parkland planted with cherry trees (Sakura) for everyone to enjoy, from the perspective of environmental conservation and as a contribution to local communities. The concept proposal, design, and supervision of this project were conducted by world renowned architect, Mr. Tadao Ando.

Matsushita's 220 business sites in Japan turn off their neon and electric signboards at 8:00 p.m.



As the result of the Lights-out Campaign from July 2005 to the end of March 2006, we reduced CO2 emissions by approximately 384 tons. This campaign continues to be implemented in fiscal 2007.

Household Eco-account Book  
37,000 households of our employees in Japan keep Household Eco-Account Books

## Environmental Sustainability Management and Human Resources

P13-16,55-58

Preparing a new "Green Plan 2010"

We dissolved the Corporate Environmental Conference and transferred its functions to our Management Conferences

Systematizing our development systems for employees responsible for environmental activities **GP2010**

Environmental accounting **GP2010**

Figures within parentheses show actual results for fiscal 2005

Environmental conservation cost	Amount of investment: ¥13.4 billion (¥12.3 billion) Amount of expenditure: ¥58.2 billion (¥55.0 billion)
In-house economic benefit	¥24.6 billion (¥20.2 billion)
Customer economic benefit	Reduction of electricity expense: ¥67.8 billion

Customer economic benefit was calculated with 30 products (16 products in fiscal 2005). In particular, the improvement of energy-conservation technologies for plasma TVs, washers/dryers, and dehumidifiers contributed to customers' reduction of electricity expenses.

## External Evaluation

P49

Matsushita was listed in the Dow Jones Sustainability Index

We were also listed in the FTSE4Good Global 100 Index and the Ethibel Sustainability Index.

We were ranked No.1 in the 9th Nikkei Environment Management Survey (manufacturing industry)

We were awarded an AA Environmental Rating by the Tohatsu Evaluation and Certification Organization Co., Ltd. (TECO)





# Matsushita Group and Global Environment

## Product lifecycles and their impact on the environment

Matsushita, founded in 1918, currently employs approximately 330,000 people across the globe. We engage in manufacturing and marketing activities in countries all over the world centering on electronic products, including AV and information and communications equipment, home appliances, components, devices, facility equipment, housing, and industrial equipment, with support from various concerned parties, including our approximately 9,500 suppliers. These products provide convenience and comfort to peoples' lives, although the manufacturing, use, and disposal of these products each has an impact on the environment.

The major environmental impacts are emission of CO<sub>2</sub>, waste, and chemical substances. We call our efforts to reduce these emissions as far as possible in the product lifecycle\* as a whole, Creating Value for a New Lifestyle, aiming to further improve customers' Quality of Life, and make this our fundamental philosophy (P. 9).

\* Processes from resource acquisition to manufacturing, sales, usage, and disposal.

## Energy-conservation in products and manufacturing

The most important issue for curbing environmental impact is to reduce CO<sub>2</sub> emissions. CO<sub>2</sub> emissions are most prominent during product use by consumers, and in fact, CO<sub>2</sub> emissions from the use of our products are approximately 11 times that of manufacturing. We provide many household electrical and electronic products to society, and therefore, we have endeavored to develop products with the industry's top level energy efficiency and promote the spread of those products to consumers in order to reduce CO<sub>2</sub> emissions, in particular from people's daily lives. We will further reinforce the development of Green Products\* so that our major products will all reach the industry's top level in terms of energy conservation (P. 17).

Regarding the manufacturing stage, which has the second largest impact on the environment, we manage

CO<sub>2</sub> emissions from this stage by setting target

levels in terms of a basic unit, and the emissions per basic unit are steadily decreasing. The absolute amount of CO<sub>2</sub> emissions has been decreasing worldwide for the second consecutive year since fiscal 2005. By region, however, the amount is increasing in Japan, China, and other parts of Asia. This is mainly because digital home appliances, whose manufacturing and sales are increasing on a global basis, and the components and devices business, including semiconductors, which are vital for digital home appliances, entail greater energy consumption than other business fields. In addition, since coal is a major source of power in China, a large amount of CO<sub>2</sub> is emitted. For these reasons, we are placing our utmost priority on reducing CO<sub>2</sub> emissions in business for components and devices, and in our operations in China and other Asian countries (P. 28).

\* Environmentally-conscious products that satisfy Matsushita's own criteria.

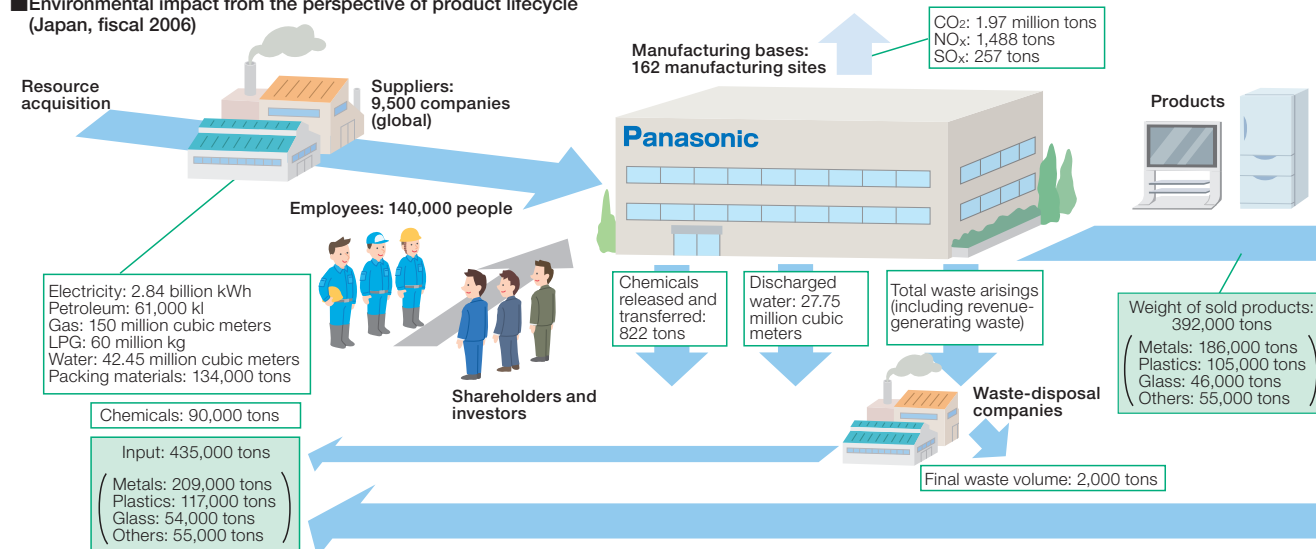
## Promoting effective utilization of resources worldwide

In Japan, approximately 70% of our major home appliances collected after use are recycled through our recycling network. Utilizing such know-how cultivated in Japan, we began establishing a mechanism for recycling in Europe in fiscal 2006. In addition, to develop products with sufficient consideration given to resource conservation and recycling, we dismantled 31 products (about 100 models in total) to demonstrate the ease of recycling in fiscal 2006.

Regarding measures implemented during the manufacturing stage, it is important to reduce the volume of final waste that is sent to landfills. Matsushita has consistently achieved what we call "zero emissions"\* of wastes since fiscal 2003 in Japan. We have also steadily increased the recycling rate in various regions throughout the world, regardless of the differences in infrastructure for waste disposal.

\* At least 99% of waste recycling rate (mass of recycled resource / [mass of recycled resource + mass of final disposal]) since fiscal 2006 and at least 98% up to fiscal 2005.

### Environmental impact from the perspective of product lifecycle (Japan, fiscal 2006)





## Managing the use of chemicals to minimize pollution risks

Chemicals are not only used during the stage of manufacturing, but are also included in purchased parts and materials. Therefore, waste electronic products may lead to environmental pollution risks unless they are appropriately treated. To prevent this, we have been committed to the comprehensive management of chemicals based on the Matsushita Group Chemical Substances Management Rank Guidelines (for products/factories) since 1998.

Currently we are concentrating our efforts on ensuring that all Matsushita products supplied worldwide comply with the EU RoHS Directive.\* For not only specified product fields for Europe, but also all Matsushita products supplied worldwide, we investigated the content of specified chemical substances and promoted substitution of these substances with alternative substances through cooperation from our suppliers. As a result, we completed the switchover for all specified chemical substances in October 2005.

In addition, we took measures to remediate soil and groundwater polluted by chlorinated organic solvents that were used in the past during the manufacturing stage at our manufacturing sites, and adequately manage any high-risk substances, including PCBs and asbestos.

\* Directive on the Restriction of the Use of Certain Hazardous Substances in electrical and electronic equipment.

## Fostering an “Eco-Mind”

It is important to nurture those who will be engaged in environmental services and foster the environmental awareness of all employees as a foundation for our environmental activities. To this end, Matsushita assigned responsibility to those who are to champion improved environmental performance formally, established an environmental education system, implemented awareness

activities, including the introduction of the Household Eco-account Book, and conducted tree-planting and forest conservation activities, including the Matsushita Green Volunteer (MGV) Club. In addition, we developed the “Lights-out Campaign” in which our business sites turned off their neon and electric signboards at 8:00 p.m. In this way, we provide not only our employees but also their families and local citizens with opportunities and tools to increase their environmental awareness.

## Important perspectives for our environmental activities

The basic guidelines for Matsushita concerning the various environmental impacts of conducting its business activities is the Matsushita Group Environmental Vision, and the concrete action plan is the Green Plan 2010 (P. 13). At present, we conduct business activities based on the three perspectives: “Pursue leading-edge sustainability management,” “Minimize environmental risks,” and “Enhance competitiveness through advanced activities beyond compliance.”\* “Pursue leading-edge sustainability management” represents our commitment to being a “top-runner” company that contributes to the development of a sustainable society. “Minimize environmental risks” refers to our efforts to identify and manage the overall environment risks of our business activities and steadily minimize them. “Enhance competitiveness through advanced activities beyond compliance” means that we will attempt to exceed compliance with basic laws and regulations and thereby enhance our competitiveness by taking the initiative in thoroughly implementing our independent actions. Support, trust and cooperation from stakeholders are indispensable for us to conduct these activities. We would like to strengthen relations of trust with stakeholders through disclosure of environmental information, and PR and advertising activities.

\* Compliance with laws and regulations.

### ● Calculation model

Target area: Japan; procurement and manufacturing: 162 manufacturing sites in Japan; distribution and marketing: transport from manufacturing sites to retail shops (in the case of imported items, transport within Japan only); use: CO<sub>2</sub> emissions associated with lifetime power consumption of target products. Lifetime power consumption is calculated based on the number of products sold, usage time, and service life (10 years); recycling: the weight of recycled products equals the weight of components and materials that can be either sold or provided free of charge to businesses that use such components and materials.

[Input items] electricity: amount purchased from power utilities; petroleum: used volume of heavy oil, and kerosene; water: used volume of water, industrial water and underground water; packaging materials: corrugated cardboard, polystyrene foam, paper board, etc. (excepting PanaHome).

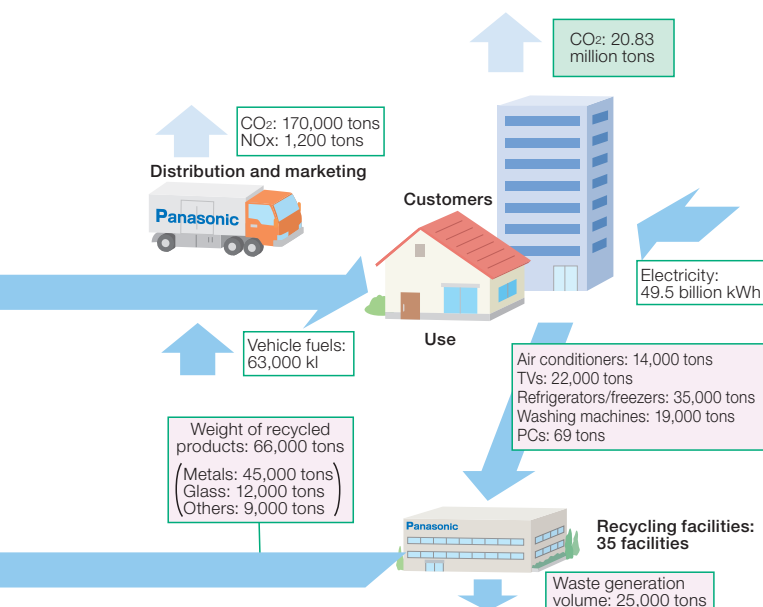
[Output items] CO<sub>2</sub>: CO<sub>2</sub> emissions associated with the use of electricity, gas, LPG and petroleum; NO<sub>x</sub> and SO<sub>x</sub>: emissions from business sites governed by legal regulations and ordinances; water: discharge to sewage and public water districts.

□ 162 manufacturing sites

■ 30 major products\* with the highest energy/resource consumption levels (including products from plants outside Japan)

□ Air conditioners, TVs, refrigerators, washing machines and PCs

\*The 30 products are plasma TVs, LCD TVs, CRT TVs, DVD recorders, SD stereo systems, fax machines, refrigerators, air conditioners, microwave ovens, IH cooking heaters, washing machines and dryers, fully-automatic washing machines, laundry dryers, rice cookers, dish washers & dryers, natural coolant (CO<sub>2</sub>) heat pump water heaters, electric thermos pots, electric carpets, vacuum cleaners, heated toilet seats with warm water sprays, electric irons, dehumidifiers, humidifiers, ventilators, air purifiers, bathroom ventilators & dryers, range hoods, fluorescent lamps, home-use lighting equipment and hair dryers.



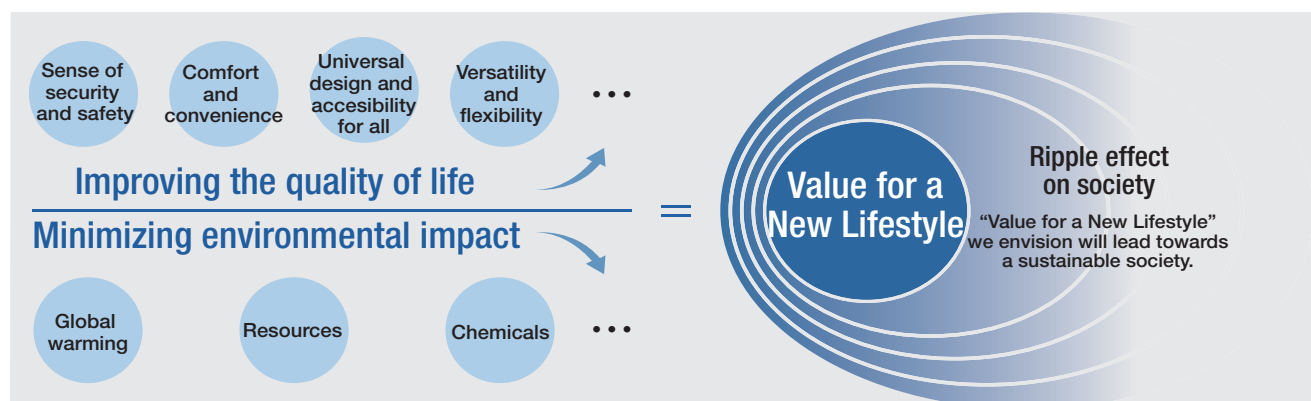


# Creating Value for a New Lifestyle

## Introducing products to the world that bring better Quality of Life with less Environmental Impact

Matsushita's policy is to minimize emissions of CO<sub>2</sub>, waste, and chemical substances during the product lifecycle while enhancing the Quality of Life of our customers. We call this idea, Creating Value for a New Lifestyle and place this at the very core of our corporate policy. In fiscal 1992, we introduced the Matsushita Products Environmental Assessment System to assess—during the planning and design stages—the environmental impact of a product across its entire product lifecycle. In fiscal 2002 we further advanced the idea and introduced an indicator called “Factor X” to assess Creating Value for a New Lifestyle, which is also used as accreditation criteria for our Green Products (P. 17).

### Philosophy on Creating Value for a New Lifestyle



## Factor X for One Household

As we have made improvements in Factor figures for each product, the number of products per household is increasing every year. We have therefore further developed the Factor idea and decided to calculate and assess some 90 equipment items and appliances in a household as “Factor X for One Household.” We aim at realizing the GHG (Green House Gas) Factor 5 and Resource Factor 3 (both in comparison to fiscal 1991) for one household by fiscal 2011. We intend to extend this idea to the social infrastructure, such as offices and transportation systems.

### Factor X for One Household

	Targets for fiscal 2011	Actual results for fiscal 2006
GHG Factor	5	Quality of life
		Number of product functions x 1.4
		Environmental impact
Resource Factor	3	GHG emissions x 0.60
		Quality of life
		Number of product functions x 1.4
		Environmental impact
		Non-circulating resources x 0.89

### Three perspectives of Factor X

GHG Factor	Improvement in “product life x product function” Reduction in “GHG emissions over the life cycle”
Resource Factor	Improvement in “product life x product function” Reduction in “non-circulating resources over the life cycle”
+	
Chemicals	Non-use of lead, cadmium, mercury, hexavalent chromium and two specified brominated flame retardants. Restriction of use of PVCs.

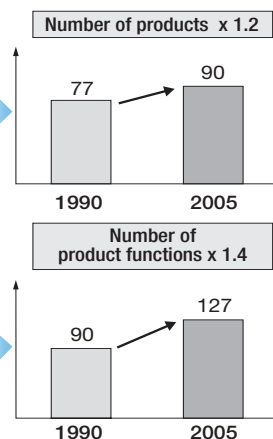
Larger Factor X figures indicate better products.

URL [panasonic.net/eco/factor\\_x/](http://panasonic.net/eco/factor_x/)

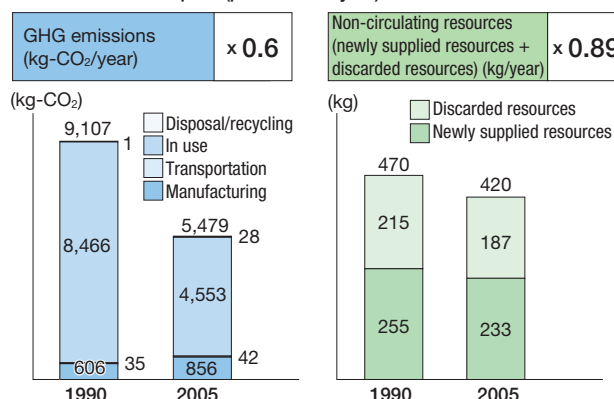
### Quality of Life

**Assumptions of Factor 5**

- Family and house  
We assumed a four-member, three-generation household with grandmother (70), father (40), mother (37), and daughter (6). The father works at home one day a week. The family live in a two-story house with 4 rooms and a living-dining room with total floor area of 136.9 m<sup>2</sup>, the national average in Japan.
- Home electrical appliances  
We assumed the latest model for home appliances with high market penetration for fiscal 1991. For fiscal 2006, considering changes in lifestyle, we assumed the latest products recommended by Matsushita regardless of market penetration. The simulation also reflects the increase in numbers and increased functionality of products.


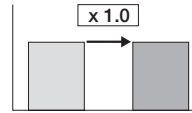
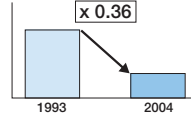
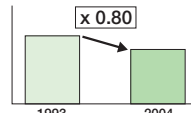

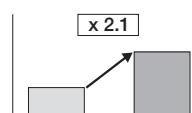
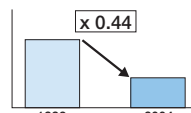
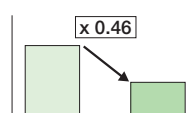

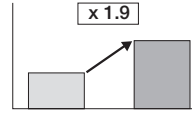
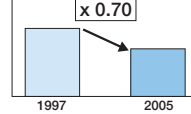


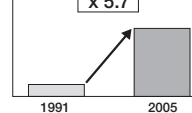
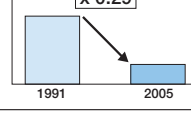
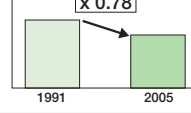

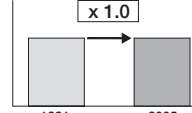
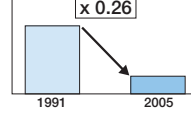
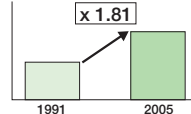
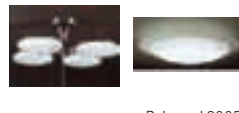
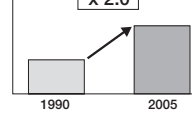
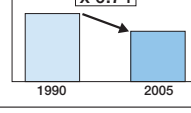



### Environmental impact (product lifecycle)



# Products to enhance Factor X for One Household

URL [panasonic.net/eco/factor\\_x/](http://panasonic.net/eco/factor_x/) 29 products examples are shown on our website.

Commodity item	Product functions x product life	GHG Factor	Reduction rate and reduction ground for "GHG emissions over the life cycle" (kg-CO <sub>2</sub> )	Chemical Substances
		Resource Factor	Reduction rate and reduction ground for "Non-circulating resources over the life cycle" (kg)	
<b>Refrigerators</b>  Released 1993 NR-E45EM1 (450 l) Released 2004 NR-F462U (455 l)	 <ul style="list-style-type: none"> <li>No change in rated volume</li> <li>No change in product life</li> </ul>	$\frac{1.0}{0.36} = 2.8$ $\frac{1.0}{0.80} = 1.3$	 <ul style="list-style-type: none"> <li>Improved heat insulation by using a vacuum insulator</li> <li>Energy conservation of compressor</li> </ul>  <ul style="list-style-type: none"> <li>Use of recycled polypropylene</li> </ul>	Non-use of specified chemical substances (lead, cadmium, mercury, hexavalent chromium, and two specified brominated flame retardants)
<b>Televisions</b>  Released 1993 TH-36HV10 (36 in) Released 2004 TH-36 D60 (36 in)	 <ul style="list-style-type: none"> <li>Digital broadcast receivable</li> <li>T-navigation service</li> <li>Program guide function</li> <li>No change in product life</li> </ul>	$\frac{2.1}{0.44} = 4.8$ $\frac{2.1}{0.46} = 4.6$	 <ul style="list-style-type: none"> <li>Conserves energy by new CRT</li> <li>Conserves energy during semiconductor production</li> </ul>  <ul style="list-style-type: none"> <li>Use of recycled glass</li> </ul>	Non-use of specified chemical substances (lead, cadmium, mercury, hexavalent chromium, and two specified brominated flame retardants)
<b>Drum-type washer/dryers</b>  Released 1997 NA-SK60 (washing capacity 6 kg) Released 2005 NA-VR1000 (washing capacity 8 kg)	 <ul style="list-style-type: none"> <li>Enhanced washing capacity</li> <li>Enhanced drying capacity</li> <li>No change in product life</li> </ul>	$\frac{1.9}{0.70} = 2.7$ $\frac{1.9}{1.02} = 1.9$	 <ul style="list-style-type: none"> <li>Conserves energy by using a heat pump</li> <li>Substantial reduction in water consumption</li> </ul>  <ul style="list-style-type: none"> <li>Use of recycled polypropylene</li> </ul>	Non-use of specified chemical substances (lead, cadmium, mercury, hexavalent chromium, and two specified brominated flame retardants)
<b>Personal fax machines</b>  Released 1991 KX-PW1 (facsimile function only) Released 2005 KX-PW603DL (with cordless handset)	 <ul style="list-style-type: none"> <li>Multiple functions of FAX and telephone</li> <li>More user-friendly voice guidance</li> <li>Bone conduction cordless handset</li> <li>Handset with extra large volume receiver</li> <li>No change in product life</li> </ul>	$\frac{5.7}{0.29} = 19.7$ $\frac{5.7}{0.78} = 7.3$	 <ul style="list-style-type: none"> <li>Consumes less standby power by using energy-conservation circuit technology</li> </ul>  <ul style="list-style-type: none"> <li>Conserves resource by using high-density packaging</li> </ul>	Non-use of specified chemical substances (lead, cadmium, mercury, hexavalent chromium, and two specified brominated flame retardants)
<b>Heat-pump water heaters</b>  Released 1991 DH-3771AT (Electric water heater) Released 2005 HE-37K2QSS (CO <sub>2</sub> heat-pump)	 <ul style="list-style-type: none"> <li>No change in water storage capacity</li> <li>No change in product life</li> </ul>	$\frac{1.0}{0.26} = 3.8$ $\frac{1.0}{1.81} = 0.6$	 <ul style="list-style-type: none"> <li>Conserves energy by using CO<sub>2</sub> heat pump</li> <li>High-efficiency compressor</li> </ul>  <ul style="list-style-type: none"> <li>Increase in number of heat pump units</li> </ul>	Non-use of specified chemical substances (lead, cadmium, mercury, hexavalent chromium, and two specified brominated flame retardants)
<b>Lighting equipments</b>  Released 1990 HM448AT (30w x 4) Released 2005 HFA8220KC (twin fluorescent tube)	 <ul style="list-style-type: none"> <li>Double brightness</li> <li>No change in product life</li> </ul>	$\frac{2.0}{0.74} = 2.7$ $\frac{2.0}{0.46} = 4.3$	 <ul style="list-style-type: none"> <li>Reduces the power-on energy by using a new lighting method</li> </ul>  <ul style="list-style-type: none"> <li>Conserves resources by using light-weight materials</li> </ul>	Non-use of specified chemical substances (lead, cadmium, mercury, hexavalent chromium, and two specified brominated flame retardants)

# Experience Value for a New Lifestyle in the Eco & Ud HOUSE

## Life in 2010: realizing Factor 5 for One Household

In January 2006, Matsushita Electric Industrial, Matsushita Electric Works, and PanaHome Corporation jointly developed the Eco & Ud HOUSE, in Ariake, Tokyo, a facility where consumers can experience Value for a New Lifestyle, a lifestyle with enhanced Quality of Life and less Environmental Impact.

Eco & Ud HOUSE is a house for year 2010. The house realizes Factor 5, which doubles the Quality of Life on the basis of product function assessment and reduces Environmental Impact to 0.4 times on the basis of whole lifecycle GHG emissions relative to 1990.

## Scenario for achieving Factor 5 (1) “Quality of Life will double”

“Number of Product Functions” defined as Quality of Life for one household means the number of functions for each product and facility used in an average household with regard to, (1) universal design, (2) comfort and convenience, (3) sense of security and safety, and (4) flexibility. Number of product functions can be explained by taking the example of air conditioning, where each action of cooling, heating, air purification, and automatic filter cleaning is counted as one function. In this case, this results in a total of four functions.

In 1990, the number of products in a typical household was deemed to be 78 and the number of product functions was 91. We assume that in 2010, the number of products will increase by 1.4 times and product functions will double to 181, relative to 1990.

## Scenario for achieving Factor 5 (2) “Environmental Impact will decrease by 0.4 times”

The “Environmental Impact” of the Eco & Ud HOUSE is considered to be the annual emissions of GHG from one household. We calculated the reduction rate for 2010

### ■ Number of products and product functions

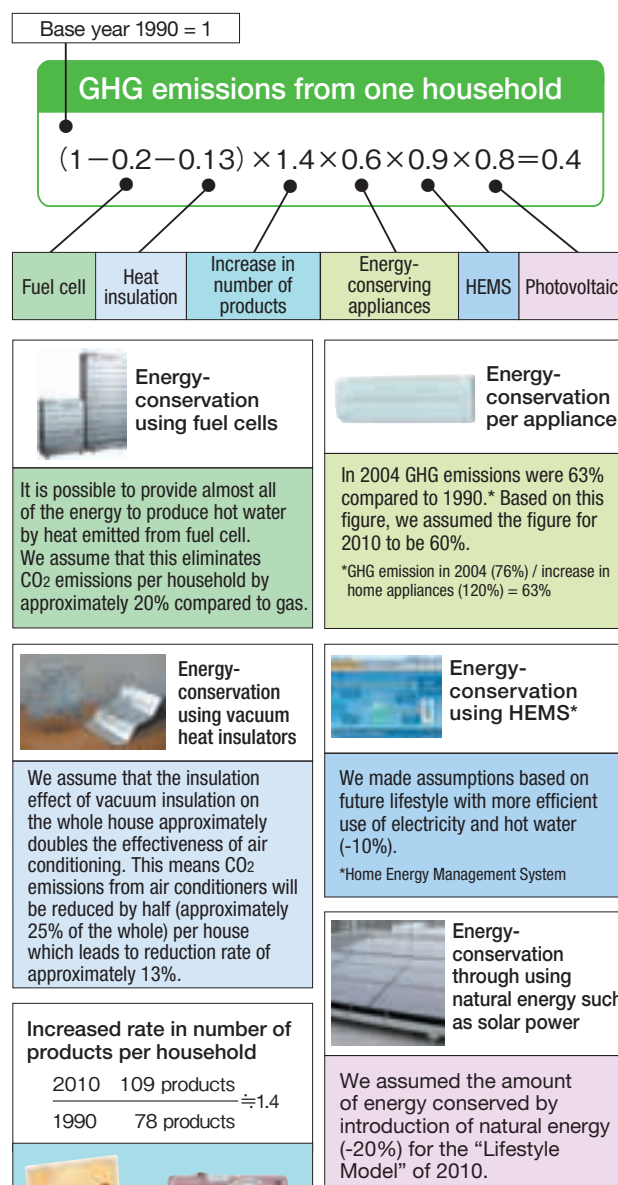
Number of products*		Number of product functions	
2010	109 products	2010	181
1990	78 products	1990	91
$\frac{109}{78} = 1.4$		$\frac{181}{91} = 2.0$	
Major products expected to increase		Major functional improvements	
<ul style="list-style-type: none"> <li>• Air conditioners</li> <li>• Personal computers</li> <li>• Mobile phones</li> <li>• Digital cameras</li> <li>• Dish washer &amp; dryers</li> <li>• Garbage disposals</li> </ul>		<ul style="list-style-type: none"> <li>• Drying function in washing machines</li> <li>• Air-purification function in air conditioners</li> <li>• Information function via Internet</li> <li>• Ubiquitous function in mobile phones</li> <li>• Various convenient functions in digital cameras</li> <li>• Sterilizing function in dish washer &amp; dryers</li> <li>• Amenity functions in garbage disposals</li> </ul>	

\* Includes house and heat insulation

taking into account the following four energy conservation improvements when completing the equation below (GHG 0.4 times scenario), and assessed against a 1990 baseline.

- (1) Energy conservation by each appliance
- (2) Energy conservation by high-performance insulation
- (3) Energy conservation through ubiquitous networking
- (4) Energy conservation by using energy-creating appliances

### ■ A scenario to reduce GHG by 0.4 times



URL [panasonic.co.jp/euhouse/en/](http://panasonic.co.jp/euhouse/en/)

## Experience the environmentally-conscious lifestyle of 2010 in the Eco & Ud HOUSE



### Systemized bath unit

A bath tub with vacuum heat insulation consumes approximately 80% less gas in re-heating the water (compared to our previous products).



### HEMS

This system display reports the condition of the House's fuel cells and related equipment, as well as the volume of hot water consumed. It also accumulates data and suggests further energy-conservation measures according to the family's lifestyle.



### Fuel Cell Cogeneration System

This is a home power generating system with high energy efficiency, capable of converting 78% of energy used as fuel into electricity or hot water. As no fuel is burned, there is no emission of NOx and CO2 emissions are reduced by 45% (based on our own internal research).



### Wind/Solar Hybrid Power "Kaze-Kamome"

"Kaze-Kamome" is a hybrid energy generating system combining solar power batteries and wind power. Connected to a person-detecting sensor installed near the building entrance, the system provides power to security cameras.



### Photocatalytic tiles

The photocatalytic effect on Titanium oxide, used within the make-up of these tiles means they are effectively self-cleaning. Titanium oxide's hydrophilicity and natural ability to disintegrate slowly over time means that dust can be easily washed away by rain so very little cleaning is necessary. Also, as the photocatalytic effect breaks down NOx, it also makes the air cleaner.



### Rooftop gardening

The garden itself works as a heat insulator, thereby reducing the energy required for air conditioning.

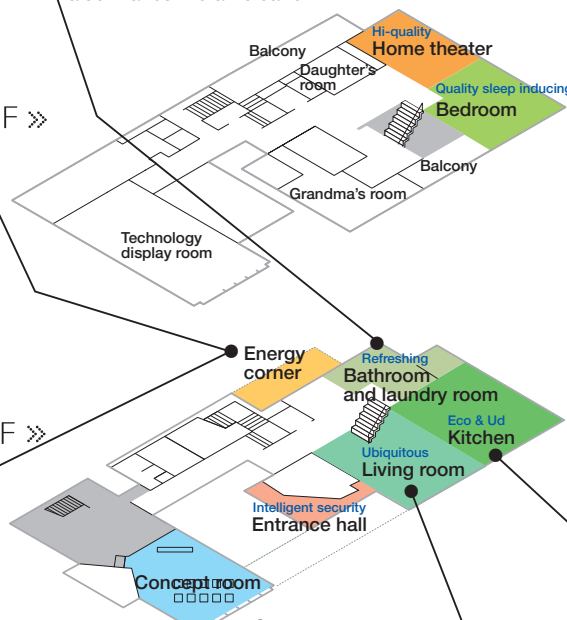


### Photovoltaic system

Together with Fuel Cell Cogeneration System, the system eliminates CO2 emissions. In the Eco & Ud HOUSE, 3.42 kW photovoltaic panels are installed as a Lifestyle Model.

2 F »

1 F »



### Dish washer & dryer

Consuming only one-eighth of the water associated with hand washing, this washer conserves energy and resources. The appliance is kept clean via high temperature washes (60-70 °C) and a sterilizing mist.



### Vacuum heat insulator (U-Vacua)

U-Vacua has a high heat insulating performance 30 times that of glass wool. Furthermore, it can also be flexibly shaped and its heat insulating effect also lasts longer. This, means it may be used in home electric appliances, bath tubs, and within houses themselves, to provide more efficient heat insulation.



### Plasma TV

Conserves energy by better power supply circuits and enhanced luminous efficiency of panels.



# Green Plan 2010: Environmental Action Plan

## Establishment of new “Green Plan 2010”

In 2001, we launched our “Green Plan 2010 (GP2010),” an environmental action plan with targets as far as fiscal 2011. In fiscal 2006, as the plan reached its middle year, we comprehensively reviewed our direction and target levels. We recognized several points requiring improvement: (1) Our stance regarding each particular item was unclear; (2) the plan lacked environmental risk items; and (3) there was a gulf between the targets and actual results in the Clean Factory area. In the new version of GP2010, we categorized our core targets into three groups; those issues that we deem to be most important in terms of environmental management as classified as “Basic Targets”; issues that should be tackled individually within their field are classified as “Area Targets”; and those issues that require management reorganization are “Management Targets.” We have also defined individual environmental indicators as “Environment Performance Targets” which support the achievement of the core targets in the above-mentioned three categories.

## Key revisions from fiscal 2007

### ●Introduction of more stringent “Green Products (GPs) Accreditation Criteria”

We have upgraded the GHG efficiency rate criteria for GPs. We also aim to achieve a GP Development Rate of 74% and to develop products based on such more stringent criteria.

### ●Introduction of “Clean Factory (CF) Accreditation System”

We introduced this system to assess the total reduction of environmental impact at each factory from fiscal 2006. The target for fiscal 2007 is for 58% of our factories to fulfill the criteria.

### ●Addition of “Environment Risk Management”

### ●New targets for factory chemical substance reduction

We have so far banned, reduced, or appropriately managed 3,486 chemical substances. Aiming to strengthen the management system, we reduced the number of target chemical substances to 368, such as the ones at the top of the PRTR (Pollutant Release and Transfer Register) list. We set a new target; to reduce release/transfer of these Key Target Reduction Substances by 10% in fiscal 2011 (relative to fiscal 2006).

### ●Revision of factory waste & water reduction indicators

As the previous basic unit of sales metric did not reflect the impact of price falls when calculating performance, we have adopted the basic unit of price-adjusted sales metric so that the indicators more accurately reflect reduction efforts.

## ■“Green Plan 2010” targets and actual results (global targets based on fiscal 2001 levels)

Self-assessment level: ○ = target achieved,  
△ = achieved 80% or more,  
× = achieved less than 80%

	Items	Targets for fiscal 2006	Results in fiscal 2006	Self-assessment
Creating Value for a New Lifestyle	Prevention of global warming	—	●GHG Factor for One Household (*): 2.3	—
	Efficient utilization of resources	—	●Resource Factor for One Household: 1.6	—
Green Products	Expansion of environmentally-conscious products	●Increase the Green Product Development Rate (*2) to 70% or more	●94%	○
	Prevention of global warming	●Increase GHG efficiency (*3) to 30%	●Increased to 30% for 656 models out of 877 models	○
	Efficient utilization of resources	●Increase resource efficiency (*4) to 50%	●Increased to 50% for 528 models out of 877 products	○
	Non-use of specified chemical substances	●Non-use in products shipped after April 2005: Lead, cadmium, hexavalent chromium and mercury ●Non-use immediately: Specified brominated flame retardants (PBB, PBDE) ●Restrict the use of PVC resin starting from April 2006	●In all products targeted (31,400 models), specified chemical substances* have been substituted.	○
Clean Factories	Increase of environmentally-conscious factories	●CF Accreditation Rate (*5): at least 50%	●81% for Japan (38% on a global basis) In fiscal 2006 our accreditation system was limited to Japan.	○
	Prevention of global warming	●CO <sub>2</sub> emission per basic unit (*6): 5% reduction from the level of fiscal 2001	●19% reduction	○
	Chemical substances	●(Japan) 56% reduction in use, release/transfer (*7) from fiscal 1999 ●(Asia/Oceania) 45% reduction in use and release/transfer from fiscal 2001 ●(Others) 33% reduction in use and release/transfer from fiscal 2003	●(Japan) 81% reduction in use, 60% reduction in release/transfer ●(Asia/Oceania) 5% reduction in use, 35% reduction in release/transfer ●(Others) 90% reduction in use, 86% reduction in release/transfer	△
	Total waste arising (including revenue-generating waste)	●Total waste arising per unit of sales: 10% reduction	●3% increase	×
	Water consumption	●Consumption per unit of sales: 5% reduction ●Promotion of effective use of water resources	●7% reduction	○
	Production methods and systems	●Establishment of new production methods and systems to use energy and resources more efficiently	●Holding of “Energy Conservation Management System” seminar at three areas in China	○
Product Recycling		●Establish a system to increase the variety of product items ●Increase recycling rates	●Commenced home-appliance recycling in Germany ●Increased recycling rates of four categories of home appliances by 10 % compared with the fiscal 2002	○
Environment/energy business		●Promote widespread use of household fuel cell cogeneration system ●Reinforce the energy management business	●Approximately 100 household fuel cell cogeneration system are in operation.	○
Green Marketing and Distribution	Conservation of resources	●Resource-conserving sales activities by utilizing the Internet	●Planting of trees and holding of consumer education campaigns under “N’s Eco Project.”	○
	Prevention of global warming	●Promote a shift to more environmentally-conscious transport options: Rail freight delivery target: 20,000 containers (Japan)	●17,595 containers (Japan)	△
Environmental Communication	Communication	●Evolve from Environmental Report to Sustainability Report ●Publish on-site reports ●Promote dialogue with a wide range of stakeholders	●Environmental Sustainability Report evolved to Sustainability Report ●On-site reports on 314 manufacturing sites were released ●Six dialogue sessions with stakeholders were held	○
	Green investment and contribution to local communities	●Continuously implement forest preservation activities. Greening of factory premises and roof tops of buildings ●Green investment promotion/Establishment of green fund	●Our program, “Forests for Co-existence” was maintained.	△
	Corporate citizens’ activities	●Expand LE (Love the Earth) family to more than 50% of total employees’ households (Japan) ●Expand LE Citizens’ Campaign outside the company	●52% of employees’ families participated in the LE family (Japan). ●Four information exchange meetings held with other companies.	○
	Partnerships	●Stronger partnerships and expansion of networks with environmental NPOs, etc. ●Actively participate in and contribution to environmental activities by international organizations, governments, local municipalities, etc.	●Participation in Ministry of the Environment’s campaign “Network of one million people for CO <sub>2</sub> reduction.” Neon signboards at 220 business sites in Japan were turned off for 254 days.	○
Environmental Sustainability Management and Human Resources	Organizational structure	●Reinforce our global systems to promote environmental initiatives ●Reinforce decision-making functions in particular regions	●Dissolved the Corporate Environment Conference and integrated it into the mainstream Management Conference for top management	○
	Development of human resource	●Prepare for environmental education curricula for individual sections and employee levels	●Prepared “Guidelines for Developing Staff with Environmental Affairs Responsibility” and curricula for staff education	○
	Management evaluation systems	●Establishment of a comprehensive environmental accounting system ●Incorporate environmental performance (reduced environmental impact of products and business activities) within business performance evaluations	●Establishment of a global environmental accounting system ●Modification of business performance evaluation systems to appropriately acknowledge efforts to reduce environmental impact	○

\*1 Total of some 90 products and systems used throughout the household \*2 Sales of GPs developed during the current fiscal year / sales of all products developed during the current fiscal year \*3 (Product life cycle x product function) / GHG emissions over the life cycle \*4 (Product life cycle x product function) / (Resources newly extracted from the earth + resources disposed of) \*5 Ratio of accredited factories based on the environmental impact reduction results such as CO<sub>2</sub> emissions and total waste arising \*6 CO<sub>2</sub> emissions / (consolidated sales / Bank of Japan’s corporate goods price index for electric appliances) \*7 Consumption amount of Reduction-ranked substances and release/transfer amount of Adequate Management-ranked substances



## Environmental Vision

The Matsushita Group will Contribute to “Coexistence with the Global Environment” through Environmental Technology and Ecological Thinking (ET<sup>2</sup>) !

### Value for a New Lifestyle

- Reduce environmental impact through entire lifestyle

### Green Products

- Make all Matsushita products “Green”

### Product Recycling

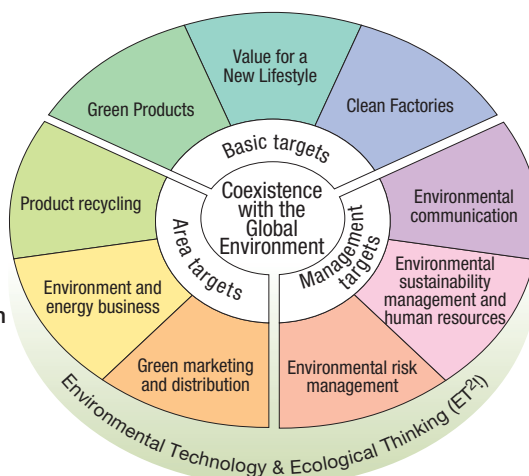
- Expand product categories for recycling

### Environment and energy business

- Make endeavors to develop sustainable energy such as fuel cells

### Green marketing and distribution

- Make commitment to conserve energy and resources



### Clean Factories

- Strive to achieve Zero Emissions
- Make all Matsushita factories “Clean”
- Strive to develop environmentally-conscious manufacturing methods and systems

### Environmental communication

- Use various means to communicate Matsushita’s environmental activities worldwide
- Take up future challenges by collaborating with internal members and external parties

### Environmental sustainability management and human resources

- Establish organizational structure to facilitate speedy and autonomous decision-making procedure
- Establish indicators and evaluation systems for environmental sustainability management
- Cultivate environmental awareness in employee

### Environmental risk management

- Minimize the risk of chemical pollution

## New “Green Plan 2010” (global targets based on fiscal 2001 levels)

### Basic Targets

Items	Indicators	Targets for 2007	Targets for fiscal 2011
Value for a New Lifestyle	Factor X for One Household (*1)	GHG Factor (relative to fiscal 1991)	2.8
		Resource Factor (relative to fiscal 1991)	1.9
Green Products	Green Products Development Rate	74% or higher	90% or higher
Clean Factories	Clean Factories Accreditation Rate	58% or higher	90% or higher

### Area Targets

Items	Targets for fiscal 2011
Product recycling	•Establish recycling systems for all home appliance categories
Environment/energy business	•Promote widespread use of household fuel cells, etc.
Green marketing/distribution	•Promote more environmentally-conscious transportation methods: increase rail freight to 30,000 containers in (Japan)

### Management Targets

Items	Targets for fiscal 2011
Environmental communication	•Increase “Love the Earth” families: to at least 80% of all employee households in Japan, etc.
Environmental sustainability management and human resources	•Promote visualization of environmental sustainability management, etc.
Environmental risk management	•Remedy soil contaminated with PCB, VOCs and heavy metals, etc.

### Environmental Performance Targets

Items	Targets for fiscal 2007	Targets for fiscal 2011
Preventing global warming	Products	Estimation of CO <sub>2</sub> emissions from product use
	Factories	6% reduction of CO <sub>2</sub> emissions per basic unit (*2)
	Distribution	(base year)
	Offices	4% reduction of CO <sub>2</sub> emissions per basic unit (relative to fiscal 2007)
Reducing chemical substances	Factories	1% reduction of CO <sub>2</sub> emissions per basic unit (relative to previous year)(under discussion)
	Factories	2% reduction in release and transfer of key target reduction substances (relative to fiscal 2006)
Sustaining resources	Waste	10% reduction in release and transfer of key target reduction substances (relative to fiscal 2006)
	Water	12% reduction per basic unit of waste generation (*3)
	resources	20% reduction per basic unit of waste generation
		6% reduction per basic unit of water consumption (*4)
		10% reduction per basic unit of water consumption

### Criteria for Green Products Development Rate and Clean Factories Accreditation Rate

Indicator	Definition	Accreditation Criteria for fiscal 2007	Accreditation Criteria for fiscal 2011
Green Products Development Rate	Sales of GP developed products for current fiscal year / Total sales of all developed products for current fiscal year (see p. 18 for GP Accreditation Criteria)	Each product	Improvement rate of GHG efficiency (*5) by 1.44 times
		Limit use of polyvinyl chloride (PVC) resin	Improvement rate of GHG efficiency by 2.0 times
		Improvement rate of resource efficiency (*6) by 1.54 times	Improvement rate of resource efficiency rate by 1.7 times
Clean Factories Accreditation Rate	Each factory is accredited with points for its environmental impact reduction achievements such as reduction of CO <sub>2</sub> emissions and waste. The ratio of factories surpassing the required base point is then calculated.	Each factory	Energy conservation rates (*7): Product-assembly segment: 3.5% Components and devices segment: 7%
		2% reduction in release and transfer of key target reduction substances (relative to fiscal 2006)	Energy conservation rates: Product-assembly segment: 3.5% Components and devices segment: 7%
		2% reduction in waste generation (*8)	10% reduction in release and transfer of key target reduction substances (relative to fiscal 2006)
		2.5% reduction in water consumption (*9)	2% reduction in waste generation
			2.5% reduction in water consumption

\*1 Total of some 90 products and systems used throughout one household \*2 CO<sub>2</sub> emissions / (consolidated sales / Bank of Japan’s corporate goods price index for electric appliances) \*3 Amount of waste generation / (consolidated sales / Bank of Japan’s corporate goods price index (electrical equipment) \*4 Amount of water consumption / (consolidated sales / Bank of Japan’s corporate goods price index for electric appliances) \*5 (Product life x product function) / GHG emissions over the life cycle \*6 (Product life x product function) / (Amount of resources newly extracted from the earth + amount of disposed resources) \*7 Amount of energy conserved by current fiscal year measures (converted to CO<sub>2</sub>) / amount of energy consumed during previous fiscal year (converted to CO<sub>2</sub>) \*8 Amount of total waste arisings reduced by current fiscal year measures (including revenue-generating waste) / total waste arisings amount during previous fiscal year (including revenue-generating waste) \*9 Amount of water consumption reduced by current fiscal year measures / amount of water consumed during previous fiscal year

# Environmental Accounting

## Aiming to maximize cost-effectiveness through environmental improvements

Matsushita's environmental accounting consists of "Environmental conservation cost" and "Environmental benefit." Environmental benefit include "Environmental conservation benefit" (in physical terms) and "In-house economic benefit" (in financial terms). However, we also evaluate "Environmental conservation benefit" (in financial terms) and "Customer economic benefit" from reductions in electricity charges through the use of our products.

In fiscal 2006, Environmental conservation cost consisted of 13.4 billion yen for capital investments (up 8.5% from fiscal 2005), and 58.2 billion yen for expenses including depreciation cost and payrolls, (an increase of 5.7% from fiscal 2005). The major reason for the increased investment is that we implemented various solutions for the treatment of wastes, including the construction of waste disposal facilities and the reuse of consumables in production. An increase in personnel cost, necessary for the testing and management of specified chemical substances, was primarily responsible for the

rise in expenditure. In our assessment of environmental conservation efficiency, we selected 30 main products in the group that have the greatest environmental impact, and estimated the benefit from the savings of electricity to be consumed by these products over a period of 10 years. The results suggested 1.3 million tons of CO<sub>2</sub> emissions from the use of such products will be curbed (a reduction in electricity consumption of 3,080 million kWh). Corporate economic benefit was marked by a gain of 11.4 billion yen from sales of valuable materials (up 28% from fiscal 2005), totaling 24.6 billion yen, an increase of 22%.

Of all our environmental conservation cost (or expenses), we regard the cost associated with pollution control, environmental remediation measures, and R&D as being indispensable environmental conservation cost (30.3 billion yen), and set these aside from all our "other cost" (28 billion yen). Other cost includes those essential for the realization of our Green Plan 2010 (GP2010), and we are committed to pursuing cost effectiveness, particularly in the areas of global environmental conservation and resources circulation.

## Environmental conservation cost

Scope of environmental accounting

Accounting period from April 2005 to March 2006

Companies covered: Matsushita Electric Industrial Co., Ltd. and its affiliated companies across the globe, and PanaHome Corporation in Japan

(million yen)

Categories		Investments	Expenses*	Major areas addressed
Business area cost	Pollution prevention cost	1,618	8,817	Renovation of wastewater disposal facilities, installation of deodorizing furnaces, and measures to remove asbestos
	Global environmental conservation cost	5,044	5,254	Introduction of cogeneration systems, repair of air conditioning equipment, and switchover to energy-saving fluorescent lamps
	Resource circulation cost	2,587	8,213	Introduction of systems for utilizing factory wastewater, appropriate disposal of waste, and collection of phosphoric acid
	Subtotal	9,249	22,284	
Upstream and downstream cost		1,251	5,183	Measures to comply with the RoHS Directive (including investment in measuring equipment) and the introduction of systems for optimizing physical distribution
Administration cost		68	9,240	Introduction of management system for chemical substances in products, re-auditing, and vegetation and its management
R&D cost		2,606	18,880	Research on general energy conservation-related projects and the development of alternative technologies for chemical substances of concern to Matsushita
Social activity cost		0	61	Contribution and support for environmental activities conducted by conservation organizations and local communities neighboring Matsushita locations
Environmental remediation cost		242	2,561	Measures to remedy soil pollution by PCB, groundwater pollution, and repair of suction wells
Total		13,416	58,208	

\* Expenses include the cost of capital investment depreciation. Where the entire amount of investments and expenses cannot be regarded as environmental conservation cost alone, the difference or appropriate portions (divided proportionally) are calculated. R&D cost is limited to investments and expenses for environment-oriented technology development, and do not include cost for product development cost utilizing such technology.

### Breakdown of costs for global environmental conservation and resource circulation

(million yen)

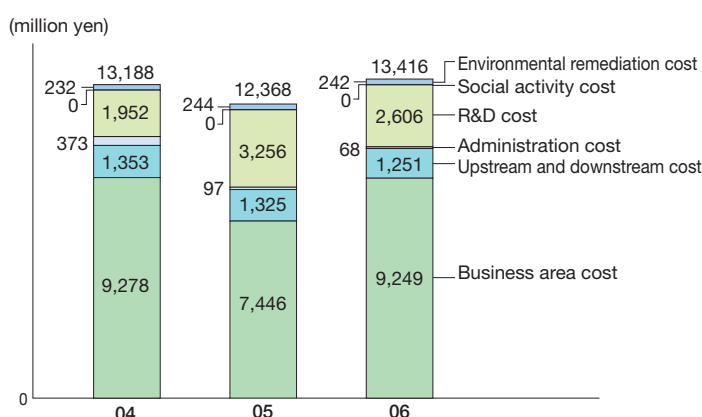
Categories		Major areas addressed	Investments	Expenses
Cost for global environmental conservation	Global warming measures	Heat-shield painting of factory roofs and switchover to high-efficiency lighting fixtures	4,854	5,170
	Ozone layer protection measures	Introduction of ICP analyzers and collection and disposal of fluorocarbons	190	84
	Subtotal		5,044	5,254
Cost for resource circulation	Waste disposal measures	Modification of molds, collection of waste acids and alkalis and their transport and disposal	1,978	7,662
	Effective utilization of water measures	Switchover to recycling-based water and well-water piping, and introduction of water conservation system	609	551
	Subtotal		2,587	8,213

### Breakdown of environmental conservation cost by region

(million yen)

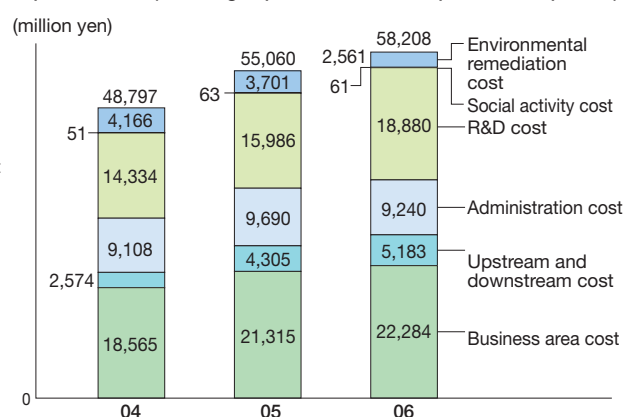
Regions	Investments	Expenses
Japan	10,254	52,462
Other countries	3,163	5,746
Total	13,416	58,208

### Investment trends



\* MEW and PanaHome were not included in fiscal 2004.

### Expense trends (including depreciation cost and personnel expenses)



## Environmental conservation benefit

### Environmental benefit (in physical terms)

Categories		Amount of reduction*1		Reference indicators: Environmental impact	
		Fiscal 2006	Fiscal 2005	Fiscal 2006	Fiscal 2005
Environmental conservation benefit from business activities	CO <sub>2</sub> emissions*1	220 kilotons	240 kilotons	4,170 kilotons	4,220 kilotons
	GHG emissions (excluding CO <sub>2</sub> )*2	-14 kilotons	64 kilotons	380 kilotons	360 kilotons
	NOx emissions	-0.0 kilotons	0.2 kilotons	2 kilotons	2 kilotons
	SOx emissions	0.1 kilotons	-0.1 kilotons	0.6 kilotons	0.7 kilotons
	Release and transfer of managed chemical substances	0.9 kilotons	1.1 kilotons	2.5 kilotons	3.4 kilotons
	Final waste disposal	5.1 kilotons	7.4 kilotons	41 kilotons	46 kilotons
	Water consumption (groundwater)	4.2 million m <sup>3</sup> (0.0 million m <sup>3</sup> )	6.2 million m <sup>3</sup> (0.4 million m <sup>3</sup> )	66 million m <sup>3</sup> (33 million m <sup>3</sup> )	77 million m <sup>3</sup> (33 million m <sup>3</sup> )
Environmental conservation benefit from product use	CO <sub>2</sub> emissions*3 (in Japan)	1,300 kilotons	—	20,830 kilotons	—
	Packing materials used (in Japan)	-1 kilotons	-3 kilotons	130 kilotons	130 kilotons
Environmental conservation benefit in product distribution	CO <sub>2</sub> emissions*1	11 kilotons	7 kilotons	1,130 kilotons	1,080 kilotons

### Environmental conservation benefit in financial terms\*4

Fiscal 2006 (million yen)
144
-9
0
5
—
—
0*5
852
—
7
Total 999

\*1 The amount of CO<sub>2</sub> emission reduction during business activities and product distribution refers to the difference between the amount emitted after reduction measures were implemented and the amount that would have been emitted had the measures not been implemented. Other figures represent the differences in environmental impact between the current fiscal year and the previous fiscal year.

\*2 GWP tons - CO<sub>2</sub>

\*3 (Lifecycle CO<sub>2</sub> emissions from the use of fiscal 2005 models - lifecycle CO<sub>2</sub> emissions from the use of fiscal 2006 models) x the number of units sold in fiscal 2006 in Japan. Estimated amount of emissions from 30 major products (P. 8). The period of use is estimated to be 10 years. 0.421 kg of CO<sub>2</sub> / kWh is used as a coefficient for CO<sub>2</sub> emissions from electricity purchased.

\*4 The coefficient used to convert physical terms into financial terms is based on the cost necessary for curbing 1 ton of CO<sub>2</sub> environmental impact in Japan.

CO<sub>2</sub> = 655 yen/ton: a carbon tax estimated by the Ministry of Environment, Japan in 2004.

NOx = 66 yen/kg, SOx = 50 yen/kg, Groundwater = 36 yen/ton: Estimated from the cost to curb environmental impact.

Chemical substances, waste, and packing materials are not covered.

\*5 Only groundwater that does not incur any supply cost is covered.

### In-house economic benefit (amount)

(million yen)

		Fiscal 2006	Fiscal 2005
Revenue	Revenue* on sales of recyclable waste from business units	10,170	8,081
	Revenue on sales of recyclable waste from used products	1,230	802
	Subtotal	11,400	8,883
Expense reduction	Energy cost reduction at business units	7,670	7,090
	Waste disposal cost reduction	3,827	1,789
	Reductions in water, sewage, packing materials, and distribution cost	1,698	2,448
	Subtotal	13,195	11,327
Total		24,595	20,211

\* Presumed benefit such as the avoidance of potential risks and enhanced corporate image are not included in these figures.

### Customer economic benefit

Reductions in electricity bills charged for product use (in Japan)		
Electricity reduction*1	3,080 million kWh (CO <sub>2</sub> emissions reduced by 1,300,000 tons)	
Electricity bills reduction*2	67.8 billion yen	

\*1 Reductions in power consumption of 30 main products (P. 8) for fiscal 2006 Japanese market over 10 years were estimated using the following formula:  
(Lifecycle power consumption by models sold on the Japanese market in fiscal 2005 - lifecycle power consumption by models sold on the Japanese market in fiscal 2006) x the number of units sold on the Japanese market in fiscal 2006.

\*2 Financial conversion coefficient of electricity cost is 22 yen/kWh.  
Source: "Revised Reference Electricity Rates," published by the Home Electric Appliances Fair Trade Conference.

Our goal is to help build a sustainable society by accelerating the spread of products with higher environmental performance. We aim to increase the ratio of Green Products across our entire product range and continue to achieve ever-higher targets.

## Targets for fiscal 2006

- Expansion of environmentally-conscious products
    - Increase the Green Product Development Rate to 70% or more.
  - Increase GHG efficiency to 30%  
(Equivalent to an increase of 1.3 times)
  - Increase resource efficiency to 50%  
(Equivalent to an increase of 1.5 times)
  - Restrict the use of polyvinyl chloride (PVC) resin starting from April 2006
- <Green Product criteria>  
To satisfy at least one of the following requirements:
- Prevention of global warming  
Increase GHG efficiency by 1.3 times
  - Efficient use of resources  
Increase resource efficiency by 1.5 times
  - Chemical substances  
Non-use PVC resin

## Results in fiscal 2006

- Expansion of environmentally-conscious products
  - Green Product Development Rate: 94%
  - Products certified as Green Products: 877 models
- GHG efficiency: Increased to 30% for 656 models
- Resource efficiency: Increased to 50% for 528 models
- In all products targeted (31,400 models), specified chemical substances\* have been substituted.

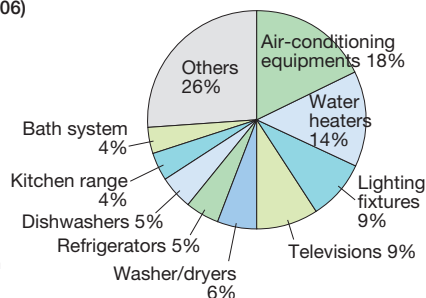
\* Lead, cadmium, hexavalent chromium, mercury, two specified brominated flame retardants (PBB, PBDE)

### ● Major economic benefits

Benefits from reductions in CO<sub>2</sub> emissions from the use of 30 major products (P. 8) over 10 years

- Electricity reduction: 3,080 million kWh
- CO<sub>2</sub> reduction: 1,300,000 tons
- Electricity bills reduction: 67.8 billion yen

### ■ Breakdown of life cycle GHG emissions from our products per household (fiscal 2006)



Breakdown of GHG emissions calculated and evaluated based on a model lifecycle (P. 9) established in connection with GHG Factor for One Household

## Environmentally-conscious Products

concept

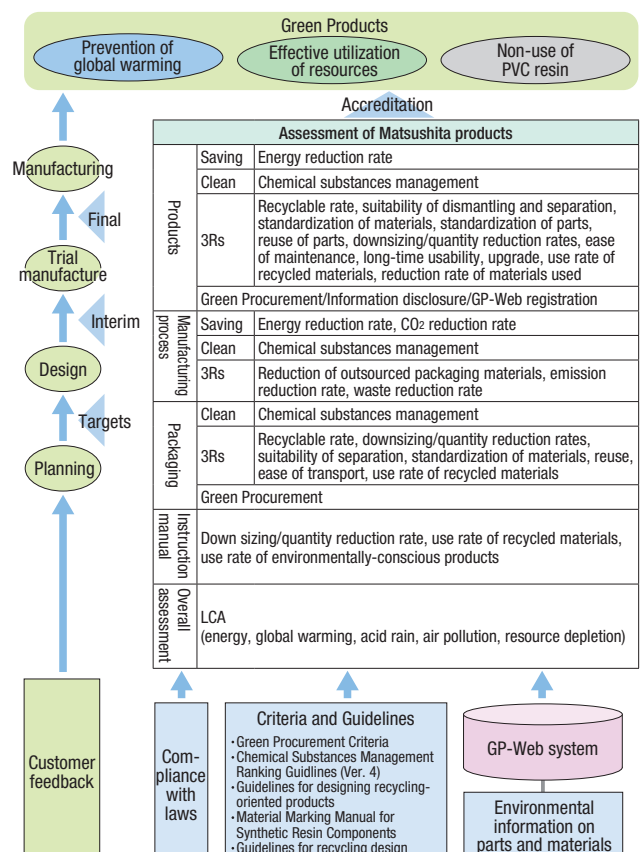
### Aiming at the diffusion of Green Products

Since 1991, we have been operating the "Matsushita Product Assessment" system designed to pre-evaluate the environmental impact of our products where it really matters: the product planning and design stages. Under this system, we have streamlined life cycle assessment (LCA) for the products we are designing\*1. We apply accreditation criteria established from three perspectives—prevention of global warming, effective utilization of resources, and non-use of specified chemical substances. We certify products with improved environmental performance, and products and services designed to help resolve environmental problems as Green Products (GPs). Further, we have been accrediting those products with top environmental performance in the industry as Superior GPs and trend-setting products toward achieving a sustainable society as Super GPs. The GP accreditation criteria have been upgraded every year. Working to raise the GHG efficiency\*2 and resource efficiency,\*3 and non-use of specified chemical substances, we are comprehensively promoting the product development with high environmental efficiency.

\*1 A method of quantitatively assessing the environmental impact of products at each lifecycle stage.

\*2, \*3 Refer to "Green Product Accreditation Criteria" (P.18).

### ■ Green Product assessment system





## Visualizing environmental efficiency under our three GP accreditation levels

We have established numerical GP delivery targets for the current fiscal year, defining the GP Development Rate as the proportion of GP sales as a percentage of the total sales of products developed and sold in that year. The GP Development Rate for fiscal 2006 reached 94% as against our target of 70%. In our new Green Plan 2010, we aim to achieve a GP Development Rate of more than 90% for fiscal 2011, while simultaneously tightening accreditation criteria for the prevention of global warming (P. 19).

In fiscal 2006, we had 877 GPs. Of these, 656 models, or 75%, were certified in the category for GHG efficiency. However, certifications in the area of specified chemical substances declined significantly, because we made the non-use of such chemicals mandatory for fiscal 2006. A total of 99 certifications in fiscal 2006 were concerned with the non-use of PVC resin.

### ● Super GPs

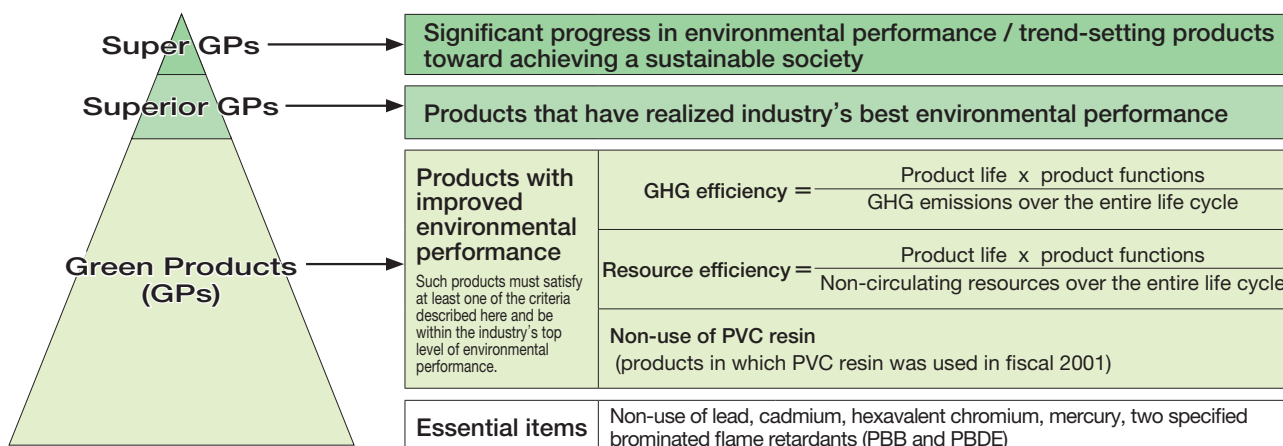
We introduced the Super GP accreditation program in fiscal 2003 and certified “Hydrofluorocarbon (HFC)-free Refrigerator”, and standby-energy conserving “Intelligent Power Devices (IPD)” in the same fiscal year. There were no accreditations in fiscal 2004 or 2005. In fiscal 2006, however, we accredited the “Tilted-drum Washer/dryer (NA-VR1000)” (P. 23).



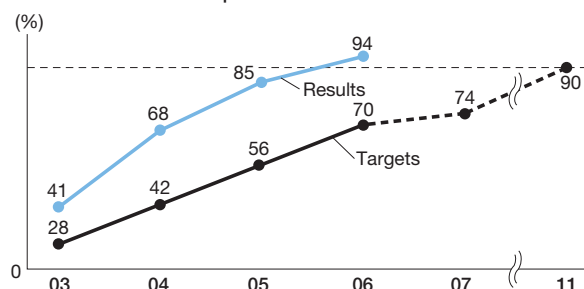
### ● Superior GPs

We introduced the Superior GP accreditation program in 2005 and certified 19 items with high environmental performance in the same fiscal year. A further 37 items were also added to the accreditation list in fiscal 2006. We hope to create more Superior GPs by accelerating this process (P. 23-24).

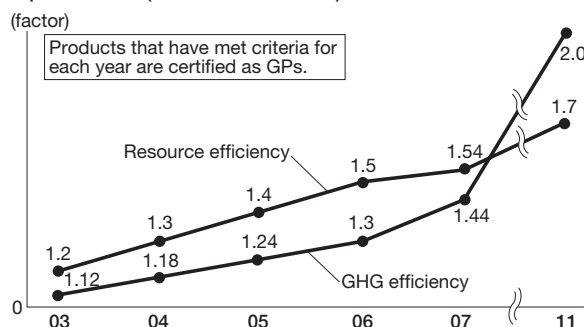
### ■ Green Product Accreditation Criteria (fiscal 2006)



### ■ Green Product Development Rate



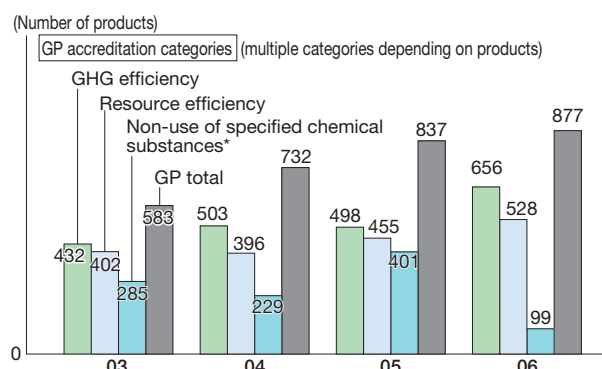
### ■ Reference criteria for improvement rates of environmental performance (relative to fiscal 2001)



### ■ Green Product Development Rates in major business areas

Major business areas	Major products	GP Development Rates
AVC network (video and audio equipment)	Televisions, digital cameras, DVD recorders, etc.	96%
AVC network (information and communication equipment)	Mobile phones, personal computers, compound machines, car navigators, etc.	93%
Appliances	Refrigerators, washing machines, air-conditioning equipment, etc.	88%
Devices	Semiconductors, motors, batteries, etc.	97%

### ■ Breakdown of Green Products



\* Non-use of PVC resin only for fiscal 2006



## Energy-conservation in Products

Concept and approach

### Prevention of global warming

We are using the rate of improvement in GHG efficiency\* since fiscal 2001 as our preferred efficiency indicator, because this takes into account both the enhancement of the convenience and the reduction in GHG emissions. We choose this definition, because we are striving to develop technologies for energy conservation, while simultaneously improving product functions.

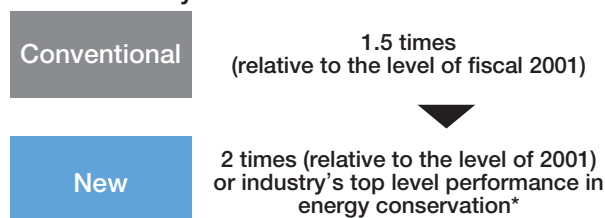
Our estimates based on a comparison of power consumption for 30 main products sold in fiscal 2005 and fiscal 2006 over 10 years (P. 8) show that we will have reduced power by 3.1 billion kWh and electricity bill by 68 billion yen over that time span (P. 16).

GHG efficiency for some of the main products has already exceeded the improvement rate (1.5 times) set by the GP accreditation criteria for fiscal 2011. Therefore, we have raised the fiscal 2011 target improvement rate from 1.5 times to 2 times. Our new GP accreditation criteria are therefore set at achieving either 2 times the 2001 GHG efficiency or achieving the industry's top energy conservation performance.

$$* \text{ GHG efficiency} = \frac{\text{Product life} \times \text{product functions}}{\text{GHG emissions over the entire life cycle}}$$

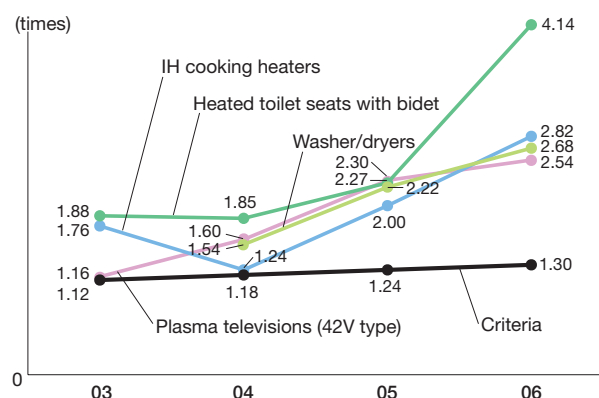
#### ■ New accreditation criteria for Green Products (for fiscal 2011)

##### GHG efficiency



\* Within the top 10 % (or equivalent) in the energy efficient products list, issued by the Energy Conservation Center, Japan

#### ■ Improvement rate of GHG efficiency for major new products



#### ■ Product groups with highly improved GHG efficiency (relative to GHG efficiency for fiscal 2001)

Reference target figure for fiscal 2006 improvement rate: 1.3 times

Products	2005 Models	Improvement rates
Heated toilet seat with bidet	DL-GW70	4.14 times
IH cooking heater	KZ-VSW32B	2.82 times
Washer/dryer	NA-VR1000	2.68 times
Plasma television (42V type)	THE-42PX500	2.54 times

#### ■ Changes in annual power consumption

Products	2005 Models	Comparison of annual power consumption with 2000 models
LCD television (32V type)	TH-32LX500	77%
CRT television (32V type)	TH-32D65	72%
Refrigerator	NR-F450T	69%
Plasma television (42V type)	TH-42PX500	63%
Washer/dryer	NA-VR1000	58%
Personal fax machine	KX-PW505D	53%

#### ● Example of a product achieving high improvement rate of GHG efficiency

##### Toilets with heated seat and built-in bidet DL-GW70

Toilets with heated seat and built-in bidet consume a lot of power to heat the water for the bidet and to keep the seat warm. There are two types of such toilets – the “instant type,” which is designed for heating tap water only when the unit is used, and the “storage type,” which retains heated water. The instant type is more energy efficient because there is no energy consumed in storing the heated water. Model DL-GW70 incorporates the energy-efficient instant type that operates on a system to heat the toilet seat for a short period of time after it senses a person arriving to use the toilet. We were successful in the development of this method using a lamp heater that heats instantly, and a toilet seat with high heat conduction that heats evenly up to a comfortable temperature. These functions helped to realize a low 94 kWh\* of annual power consumption (175 kWh previously).

\* Annual power consumption amounts to 74kWh, when measured by the method specified in the Energy Conservation Law. Here we show annual power consumption based on our own calculation method that takes into account the actual usage conditions.



Heated toilet seat with bidet DL-GW70

# Resource Conservation in Products

Concept and approach

## Effective utilization of resources

We are using the rate of improvement in resource efficiency\*1 since fiscal 2001 as our preferred efficiency indicator, because this takes into account both the enhancement of the convenience and the reduction in resource consumption. We choose this definition, because we are striving to develop technologies for resource conservation, while simultaneously improving product functions.

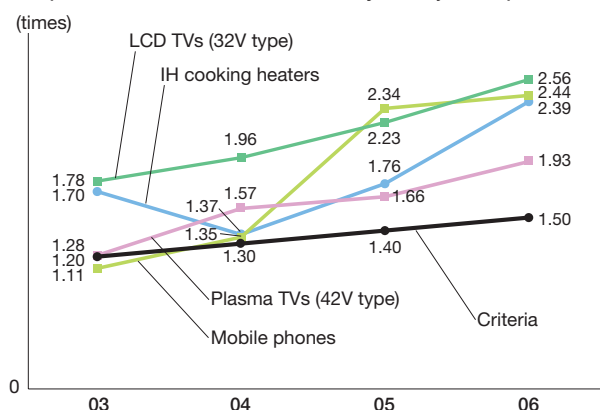
Basically, we can see the trend in improvements when we compare the reduced product weights of the 30 main products sold in Japan (P. 8) in fiscal 2006 with the equivalent product weights in 2005. On this basis, a resource consumption conservation of 3,960 tons was achieved in fiscal 2006. In fiscal 2006, the total resources associated with sales of the 30 main products were only 392,000 tons. We are aiming to raise resource efficiency by cutting generally by reducing materials consumed through product downsizing and weight reduction, decreasing the ratio of non-circulating resources over the entire life cycle\*2 through improved product design, and increasing the use of recycled and recyclable resources. To do this, it is essential that we design more recycling-oriented products. In April 2005, we launched a group-wide "3R Eco Project."\*3 The purpose is to raise product designers' awareness of difficulties in recycling by actually dismantling products themselves. Over the course of one year, we tested approximately 100 product models and accumulated technology and know-how for recycling on each model.

\*1 Resource efficiency =  $\frac{\text{product lifecycle} \times \text{product functions}}{\text{Non-circulating resources over the entire life cycle}}$

\*2 Resources newly extracted from the earth + resources disposed of = 2 x mass of resources input over the entire life cycle - mass of recycled resources - mass of recyclable resources

\*3 3Rs: Reduce generation of waste, Reuse materials, and Recycle materials into new products

### Improvement rate of resource efficiency for major new products



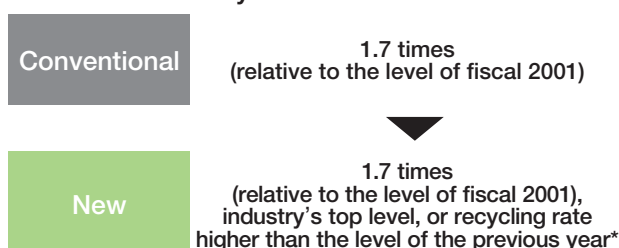
### Product groups with highly improved resource efficiency (relative to the fiscal 2001 level)

Target improvement rate for fiscal 2006: 1.5 times

Products	2005 Models	Improvement rates
LCD TVs (32V type)	TH-32LX500	2.56 times
Mobile phones	P901iS	2.44 times
IH cooking heaters	KZ-VSW32B	2.39 times
Plasma TVs (42V type)	THE-42PX50	1.93 times

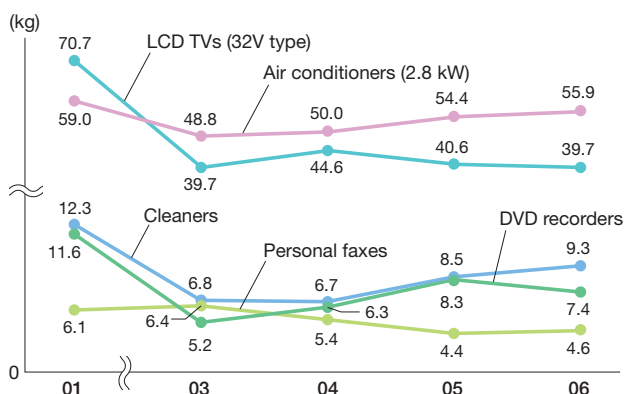
### New accreditation criteria for Green Products (fiscal 2011)

#### Resource efficiency



\* Legally defined recycling rate + 25% for the following four appliances specified by the relevant Japanese laws: refrigerators/ freezers, air-conditioners, TVs, and washing machines

### Non-recycling resources of major products



### Example of a product with improved resource efficiency

#### Mobile phone P901iS

In addition to functional upgrading, we wanted to make mobile phones smaller and more lightweight. These requirements may appear to be technically opposing, but we have successfully developed a mobile phone (115 g) that is much lighter than those of other manufacturers (the lightest of which is 123 g). In this instance, a new organic electroluminescence was used for Model P901iS as a sub-display instead of the heavier, conventional backlight. This model also has upgraded security functions to protect against the illegal use of IC cards with biometric identification (face reader) and personal identification number.



Mobile phone P901iS

## Reducing Chemical Substances

Concept

### Basic policy for managing chemical substances in products

We are manufacturing products based on the “principle of prevention,” designed to minimize the use of chemical substances that are most likely to affect the environment across their life cycles. In 1999, we published our own Chemical Substances Management Ranking Guidelines (for products) to prevent the diffusion of chemical substances from waste into the natural environment. In accordance with our guiding principles, strict management of chemical substances has been in force group-wide. For example, in 1998, we launched the first portable MD player in the world using lead-free solder in 1998. Further, in March 2003, we totally abolished the use of lead-containing solder throughout the group. Based on this experience, we eliminated specified chemical substances from our products around the world as described later. We have also been restricting the use of PVC resin since April 2006.

#### Chemical Substances Management Ranking Guidelines Ver. 4 (for products)

Ranks	Substance groups	Definitions
Prohibited substances	Level 1	13 <ul style="list-style-type: none"> <li>Substances whose use in products has been prohibited by laws and regulations</li> <li>Substances whose use in products will be prohibited by laws and regulations within one year from the revision of this guideline</li> <li>Substances whose use in products has been prohibited by the Matsushita group</li> </ul>
	Level 2	1 <ul style="list-style-type: none"> <li>Substances whose use in products will be prohibited by treaties or laws as of the specified deadlines</li> <li>Substances whose use in products has been voluntarily restricted by the Matsushita group</li> </ul>
Managed substances	11	<ul style="list-style-type: none"> <li>Substances whose actual use status must be further researched and whose impact on health and safety as well as appropriate treatment must be considered</li> <li>Substances whose use or non-use and the amount of use must be further researched</li> </ul>

#### List of prohibited substance groups

Level 1		
Polychlorinated biphenyls (PCBs)	Cadmium and its compounds	
Asbestos	Lead and its compounds	
Specified organic tin compounds	Hexavalent chromium compounds	
Short-chained chlorinated paraffin (C10-13)	Mercury and its compounds	
Specified brominated flame retardants (PBB and PDE)	Specified amine compounds	
Azo dyes and pigments forming specified amines	Ozone-depleting substances (excluding HCFC)	
Polychloronaphthalene (chlorine number is three or more)	Formaldehyde	
Level 2		
Polyvinyl chloride (PVC) and its compounds, vinyl chloride copolymer		

#### List of managed substances

Antimony and its compounds (including alloys)	Organic tin compounds
Arsenic and its compounds (including alloys)	Brominated flame retardants
Beryllium and its compounds (including alloys)	(excluding PBBs and PBDEs)
Bismuth and its compounds (including alloys)	Ozone-depleting substances (HCFCs)
Nickel and its compounds (excluding alloys)	Radio active substances
Selenium and its compounds (including alloys)	Phthalate esters

URL [panasonic.net/eco/suppliers/](http://panasonic.net/eco/suppliers/)

Approach 1

### Promoting non-use of specified chemical substances globally

In July 2006, the RoHS Directive\* came into force in the European Union (EU), banning the sale of all electrical and electronic equipments that contain six specified chemical substances (lead, mercury, cadmium, hexavalent chromium, and two specified brominated flame retardants). Moves toward similar bans are now spreading across the world.

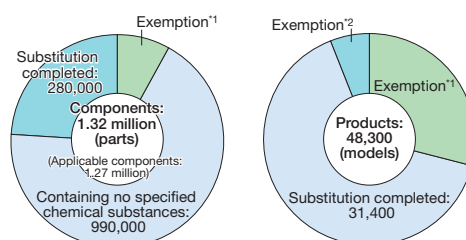
In June 2003, we revised our Green Plan 2010 and started a group-wide project to eliminate the use of these specified chemical substances by April 2005 across our entire product range, and for every global market, regardless of whether or not there were any local restrictions in place. On our own initiative, we analyzed the chemical composition of 1.32 million components in our products and confirmed that approximately 280,000 out of the 1.27 million applicable components contained the specified chemical substances. We successfully substituted the specified chemicals contained in 240,000 components with alternative substances by the end of March 2005 as scheduled. For some 40,000 components it took longer than we anticipated to approve alternatives, for reasons of quality evaluation and certification to the relevant standards. However, we did successfully make the necessary substitutions by the end of October 2005.

Even after the completion of this switchover, continued vigilance and maintenance of staff-awareness as to the importance of the project remain essential across all our manufacturing sites, in order to prevent any acceptance, use or distribution of such specified chemical substances. Additionally, for monitoring purposes, we have developed an original technique for the simple analysis of hexavalent chromium and a system with analytical accuracy control-system detection.

Further, we have also introduced a monitoring system across all areas of our operation to prevent contamination with the specified chemical substances throughout all production processes, from product design to shipping inspections.

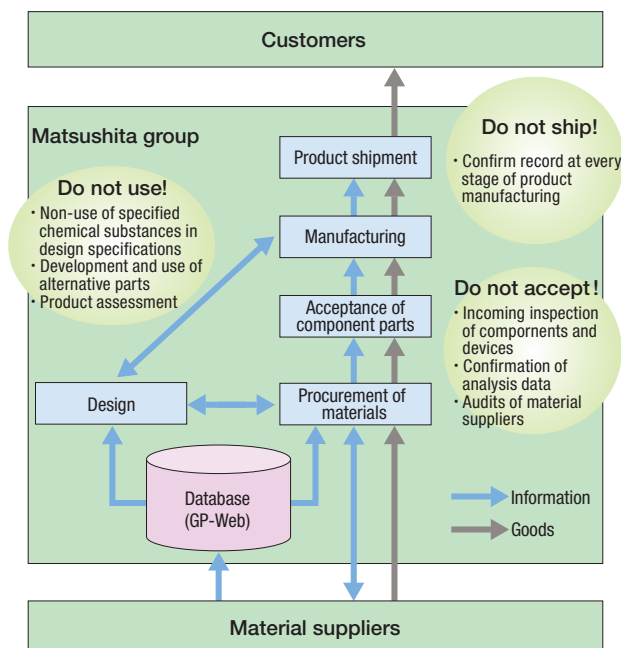
\* RoHS Directive: Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment

#### Efforts for non-use of specified chemical substances in products (as of the end of October 2005)



\*1 Components and materials with no feasible alternatives or suppliers, for example those commonly used in other industries, or those with components and materials specified by customers.

\*2 Models for which Matsushita has applied for exemption from the RoHS Directive.



Approach 2

## Working towards the non-use of specified Polyvinyl Chloride (PVC) resin

There are two types of PVC resin which are in general use—rigid PVC resin, which does not contain a plasticizer additive to make it soft, and soft PVC resin, which contains such an additive. There is growing concern about the harmful effects of one specific plasticizer (phthalate ester). Therefore, Panasonic remains committed to identifying alternatives to PVC resin containing phthalate ester. Currently we are evaluating alternatives for this resin with the cooperation of our suppliers. Although we used approximately 15,000 tons of the PVC resin in fiscal 2006, our target for fiscal 2007 is to reduce PVC resin usage this by approximately 10%. We are also working on a system to recycle scrap rigid PVC resin guttering (not containing the specific plasticizer) from our factories and construction sites.

### Examples of typical PVC resin substitutions

Products in which PVC resins were used	Substituted parts
Plasma TVs, LCD TVs, multi-function machines, dryers, lighting fixtures, notebook computers, LCD projectors, and others	Internal wiring
Digital business phones	Curl cords
Public wireless LAN systems, massage chairs, credit card processing terminals, and others	Power supply cords
Wiring floors	Panels
System kitchens	Packing for doors and drawers
Folding doors for fabricated baths	Door frames

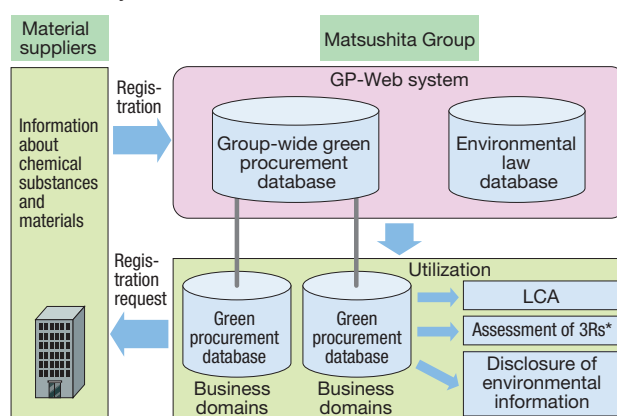
## Green Procurement

We procure materials from about 9,500 suppliers worldwide. In March 1999 we released our first Green Procurement Standards (Version 4 was issued in April 2006) and the Chemical Substance Management Rank Guidelines, aiming at promoting the manufacture of environmentally-conscious products in partnership with our suppliers. We have asked our suppliers to respect our environmental policies and principles, to establish, maintain and improve their environmental management systems by acquiring ISO 14001 certification and to improve the environmental performance of the materials we purchase from them. Furthermore, we created our own database, the “GP-Web” system, to centrally control the extensive data that we gathered with suppliers on the chemical content of the parts and components purchased. This database has been shared with our suppliers around the world since fiscal 2005. We remain committed to providing the training and support needed by our suppliers worldwide for their improvement and growth, and to the continued auditing of their activities.

### Green Procurement Standards

Four accreditation standards for suppliers
(1) Submission of non-use warranty certificates for the specified chemical substances based on the rank guidelines (2) Presentation of Content Survey Sheets for managed substances (quantity) and input into GP-Web (3) Creation of Chemical Substances Management System and implementation of environmental quality assurance system audits (4) Creation of Environmental Management System (EMS) (Acquisition of ISO14001 certification, environmental principles and policies, environmental management plans, product assessment, environmental impact assessment, education, information disclosure, rationalization of distribution)
Eight materials selection standards
(1) Compliance with laws and regulations concerning recycled resources and energy efficiency (2) Nonuse of “prohibited substances” (3) Survey of chemical substance content (4) Reduction in environmental impact of chemical substances, polluted air, water, soil, etc. (5) Use of recycled resources and component parts, and energy and resources conservation through downsizing (6) Implementation of recycling-oriented design (7) Disclosure of environmental information about materials (8) Above requirements (1) - (7) also apply to packaging materials

### GP-Web system



\* Reduce, Reuse, and Recycle resources



# Super GP 2005 and Superior GP 2005

## Energy conservation Resources conservation Chemical substances

Commodity item (Environmental item of industry's top level performance)

- Model number
- Release date
- Category in aforementioned commodity item
- Practical values for industry's top level environmental performances as of release date (performance specifications of competitive products)
- Environmental technology, product features, and others

## Home Appliances

### Drum-type washer/dryers

- NA-VR1000
- November 28, 2005
- Drum-type washer/dryers
- Capacity: 8 kg of laundry for washing / 6 kg of laundry for washing and drying  
Water consumption: 69L / 65L (70L / 125L)  
Power consumption: 86 Wh / 1,840 Wh (96 Wh / 2,490 Wh)
- World's first drum-type washer/dryers with a heat pump, enabling a significant reduction in drying power and cooling water

Energy conservation

Resources conservation



### Super GP-accredited Product

#### Energy conservation

Power consumption: 1,840 Wh (4,000 Wh for 2004 model). Compared with the conventional method of using a heater for drying, the energy-efficient heat pump drying system enables a significant reduction in power consumption.

#### Water conservation

Water consumption for washing and drying: 65 L (150 L for 2004 model). Compared with the conventional water-cooled, dehumidification drying method, water consumption for washing and drying has been greatly reduced because no water is used for dehumidification.

#### Improvement in basic performance:

Low-temperature dehumidification and drying minimize clothing damage.

### IH Cooking heaters

- KZ-VSW32B
- September 20, 2005
- Works with copper and aluminum pans as well as steel ones.
- Water-heating efficiency: Enameled pot 90.5% (86.8%)  
Aluminum pot 76.4% (61.4%)

Energy conservation



### Heat-pump water heaters

- HE-46K2QRS
- July 2, 2005
- Rated heating capacity: 6 kW class
- Rated COP: 4.55 (4.50)

Energy conservation



### Heated toilet seats with bidet

- DL-GW70/GW50/GW40/GW20
  - September 1, 2005
  - Heated toilet seat with bidet
  - Annual power consumption: 94 kWh\*(175 kWh)
- \* Based on our own calculations done by considering conditions of use  
74 kWh when measured by the test method stipulated by the Energy Conservation Law

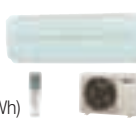
Energy conservation



### Air conditioners

- CS-X226A/226XB/22RFX
- November 21, 2005
- Cooling capacity: 2.2kW class
- Achievement rate of energy conservation standards: 125% (122%)  
Heating and cooling average COP: 6.62(6.46)  
Power consumption for service period: 683 kWh (705kWh)  
Standby power consumption: 0.1W (0.8W)

Energy conservation



### Cans and bottles vending machines

- NS-6R30HP
- February 1, 2006
- Heating and cooling machines (with a depth of 400 mm or greater)
- Achievement ratio of energy conservation standards: 199% (149%)

Energy conservation



### Dehumidifiers

- F-YXB60
- April 1, 2006
- Dehumidifiers
- Power consumption: 395 W (452W)

Energy conservation



## AVC Networks

## Audio-video Equipment

### Digital high-vision plasma TVs

- THE-37PX500
- May 1, 2005
- 37 type plasma TVs
- Power consumption: 295 W (307 W)  
Standby power consumption: 0.1 W (0.15 W)  
Annual power consumption: 250 kWh (290 kWh)
- More energy consumption and better picture quality with new panel and using new PEAKS processor

Energy conservation



### SD stereo systems

- SC-SX400/SX800
- November 19, 2005
- 30 - 60W mini-component
- Standby power consumption: 0.1 W (0.3 W)

Energy conservation



### Professional camera recorders

- AG-HVX200
- December 26, 2005
- Professional camera recorders
- Life cycle resources  
(Product mass + maintenance parts + tape mass): 4.2 kg (5.7 kg)

Resources conservation



## AVC Networks

## Information and Communication Equipment

### Digital color imaging systems

- DP-C322/C262 series
- June 24, 2005
- Digital color imaging systems
- Monthly power consumption:\* 54.3 kWh (106.7 kWh)
- Original Induction Heating (IH) Fuser system realizes the world's fastest warm-up time of 15 seconds from power-on.  
Standby power consumption has been reduced.  
\* Based on our own calculations considering actual usage conditions

Energy conservation



### Digital business phones

- VB-F050
- January 30, 2006
- Digital business phones
- Standby power consumption: 22.8 W (26.6 W)  
(616 system configuration = 6 external lines and 16 dedicated phones)

Energy conservation



### Card payment terminals

- ZEC-14/15 series
- February 2006
- Card payment terminals
- Mass: 860 g (1,300 g)

Resources conservation

### Mobile phones

- P901iS
- June 13, 2005
- 901iS series
- Mass: 115 g (123 g)

Resources conservation



### Personal fax machines

- KX-PW505DL/DW
- September 1, 2005
- Cordless, plain paper fax machines
- Mass of base unit: 2.9 kg (3.1 kg)

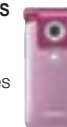
Resources conservation



### GSM mobile phones

- EB-VS2
- July 26, 2005
- GSM mobile phones
- Mass: 98 g (103 g)

Resources conservation



### Notebook personal computers

- CF-W4 series
- May 21, 2005
- Personal computer with built-in optical drive
- Product mass: 1,199 g (1,650 g)  
Operates on batteries for 8 hours (7.5 hours).

Energy conservation



Resources conservation

### Multi branching optical repeaters

- AD-4607MUSAA
- September 22, 2005
- Fiber optic distributed antenna systems
- Power consumption of remote unit: 4.52 W (8.13 W)

Energy conservation





## Devices

### Fluorescent lamps

#### Resources conservation

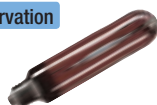
- 1 FCL30ECW/28H, and others
  - 2 June 1, 2005
  - 3 Fluorescent lamps
  - 4 Lumen maintenance factor: \* 80% (70%)
  - 5 Lumen maintenance factor was improved by 10% and product life increased 1.5 times due to "premier coating technology" for forming protective films.
- \* Luminance of fluorescent lamp at the end of its life (after 9,000 hours) relative to its initial light output.



### Metal halide lamps

#### Energy conservation

- 1 MT1150C-LW-SPD
- 2 April 1, 2005
- 3 White metal halide lamps
- 4 Lamp efficiency: 125 lm/W (115 lm/W)



### Super multi-drives

#### Resources conservation

- 1 UJ-823E series
- 2 April 2005
- 3 Super multi-drives
- 4 Mass: 59 g (157 g)



### Fan motors

#### Resources conservation

- 1 ARW50A8P30AC
- 2 October 1, 2005
- 3 Fan motors for indoor room air conditioners
- 4 Mass: 620 g (830 g)



### Image sensors

#### Resources conservation

- 1 MN39830
- 2 June 1, 2005
- 3 1/2.5 type CCD
- 4 Pixels: 6 million (5 million)



### Motors for printers

#### Resources conservation

- 1 DNNO4K01W12A
- 2 June 1, 2005
- 3 Motors for printers
- 4 Mass: 150 g (250 g)



### System LSIs

#### Resources conservation

- 1 MN2DS0015
- 2 November 1, 2005
- 3 System LSIs for DVD recorders
- 4 Number of integrated circuits (ICs) for system configuration: 1 (2)



### Linear LEDs etc.

#### Energy conservation

- 1 LNROL4702
- 2 August 1, 2005
- 3 Backlight illumination
- 4 Luminance: 1,500 mcd (1,400 mcd)



## Matsushita Electric Works, Ltd.

### Ceiling lights

#### Energy conservation

- 1 HFAZ7803
- 2 June 1, 2005
- 3 Ceiling for 8 - 10 mat rooms (Directly installed on the ceiling) Supplied with shade.
- 4 Energy consumption efficiency (Required rate of energy conservation standards) 105 lm/W (129.6%) (104.6 lm/W (129.3%))
- 5 Provide highly efficient and bright illumination by "TWIN-PALOOK" fluorescent light and controlled illumination with brightness-free inverter (dimming from 100% to 10%). An additional function is incorporated to wake the occupant up by allowing the light to get brighter gradually.



### Tankless toilets

#### Resources conservation

- 1 CH453TWS/722AWS/723AWS
- 2 January 21, 2005
- 3 Flush toilets
- 4 Water conservation (full flush): 6 L (8 L)  
Water conservation (small flush): 4.5 L (5 L)



### Lighting fixtures for facilities

#### Energy conservation

#### Chemical substances

- 1 FSA4266A PF9 and others
- 2 January 1, 2005
- 3 Fluorescent lights to correct initial illumination
- 4 Illumination efficiency: 104.3 lm/W (104.2 lm/W)  
Compliance with RoHS Directive: in six chemical substances (None). Polyvinyl chloride: Not used (Used)



### Massage chairs

#### Energy conservation

- 1 EP3510/EP3515
- 2 August 1, 2005
- 3 Massage chairs
- 4 Annual power consumption: 38.97 kWh (94.76 kWh)



### Alkaline ionized purifiers

#### Energy conservation

- 1 TK7205
- 2 April 21, 2005
- 3 Alkaline ionized water apparatus
- 4 Standby power consumption: 0.4 W (0.7 W)



### Electrodeless discharge lamps

#### Resources conservation

- 1 YEV42421 and others
- 2 April 2004
- 3 Discharge lamp system
- 4 Product mass after 60,000 hours of use: 1,780 g (3,400 g)  
Circuit components mass + lamp mass)



### Halogen-free glass composite laminations

#### Resources conservation

- 1 R-1586S
- 2 February, 2006
- 3 Glass composite laminations
- 4 CO2 emissions in production processes: 1.8 kg/unit (5.3 kg/unit)



### Wiring ducts

#### Energy conservation

#### Chemical substances

- 1 DH17009W/DH17018W/DH17027W
- 2 April 21, 2005
- 3 Lighting ducts (Fixed type I, type II)
- 4 Polyvinyl chloride (PVC) not used: Made of ABS (made of PVC)  
Mass (per unit length): 0.554 kg/m (0.586 kg/m)



### Wiring floors

#### Resources conservation

- 1 NE11820/NE11840
- 2 April 1, 2005
- 3 Wiring floors
- 4 Mass: 12 kg/m² (30 kg/m²)  
Recyclability: Single material of recycled PET bottles (Steel sheets + concrete + resin (difficult to separate))



### Programmable indicators

#### Energy conservation

- 1 GT11 series
- 2 October 1, 2004
- 3 Type 4 indicator
- 4 Power consumption: 2.4 W (4.8 W)



## Others

### Office recycling services

#### Resources conservation

- 2 January 2005
- 4 The first in the industry
- 5 This service offers washing office carpets and air conditioner filters with high-pressure water. Chemicals in sprays for removing dirt can be reduced. Recycling carpets also contributes to a reduction in waste.



## Green Purchasing

Concept

### Purchasing environmentally-conscious products, while concurrently promoting our Green Products

The Japanese Law on Promoting Green Purchasing, which took effect in 2001, stipulates that national governmental bodies must implement Green Purchasing, while private businesses and consumers are also being encouraged to conduct Green Purchasing. Matsushita is actively encouraging staff to purchase more environmentally responsible office supplies and equipment wherever possible.

Meanwhile, in Japan we are also promoting our Green Products by offering information on products complying with the Law on Promoting Green Purchasing and those that have obtained environmental labels on our website (P. 43).

Having comprehensively reviewed our activities over the last five years, we intend to expand the scope of Green Purchasing and formulate in-house guidelines on Green Purchasing in fiscal 2007.

Activity 1

### Encouraging Green Purchasing by establishing effective in-house systems

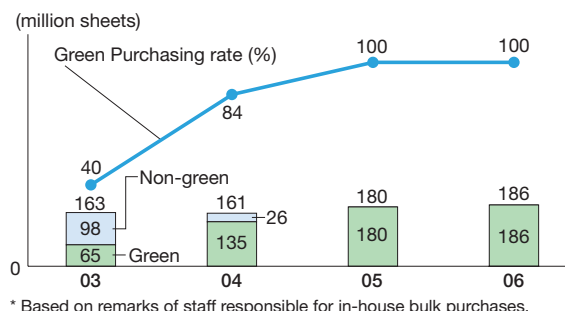
We first began purchasing recycled paper in fiscal 1992. In December 2001 we enacted the "Rules for Green Purchasing Promotion," so as to further promote our Green Purchasing policy throughout our business sites in Japan.

Today, we have Green Purchasing criteria in place for office stationery and company vehicles. Our purchasing database lists office stationery that meets the criteria, ensuring the staff can select environmentally-conscious items. The database also records items purchased by individual business sites, thus helping promote Green Purchasing efforts throughout the company. In fiscal 2006, the Green Purchasing rate of office stationery was 81%. We have kept a Green Purchasing rate of 100% for copier paper since December 2003. In addition, we purchase environmentally-conscious office equipment in large numbers, and our cafeterias buy eco-rice, which does not require washing.

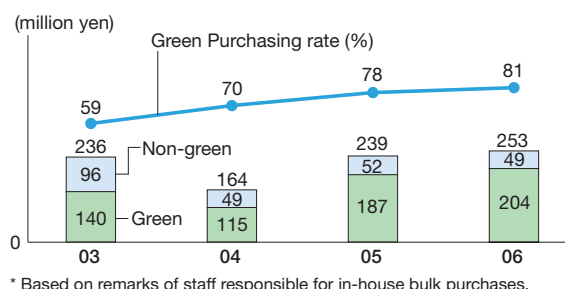
In 1996 we joined the Green Purchasing Network (GPN),\* and participated in the preparation of its guidelines. Moreover, as a member of the organizing committee for the International Green Purchasing Network (IGPN), established in April 2005, we actively promote international Green Purchasing activities.

\* A Japanese network that is promoting environmentally-conscious products and services

#### Green Purchasing results of copier paper (Japan)



#### Green Purchasing results of office stationery (Japan)



Activity 2

### Our products complying with the Law on Promoting Green Purchasing

Our website overviews those products within our range complying with the Japanese Law on Promoting Green Purchasing. In addition, they are listed in the Database of Items Complying with Law on Promoting Green Purchasing, operated by the GPN, and on the GPN's own database, which offers environmental information on various aspects of products.

#### Products that comply with the Japanese Law on Promoting Green Purchasing (end of March 2006)

Products	Number of models	Products	Number of models
Air conditioners	147	Electronic blackboards	16
Lamps	102	Car navigation systems	15
Lighting equipment	78	Gas cooking heaters	14
Refrigerators/freezers	43	Electric hot water supply equipment	7
Recordable media	29	Scanners	5
Printers/fax machines	23	OA paper	4
Sanitary equipment	18	Kitchen garbage processors	3
Copiers	18	Onboard ETC transponders	3
Batteries	17		

\* As a result of the review of the criteria in the Law on Promoting Green Purchasing in April 2005, TVs, video tape recorders, and PCs are no longer included in the above list.

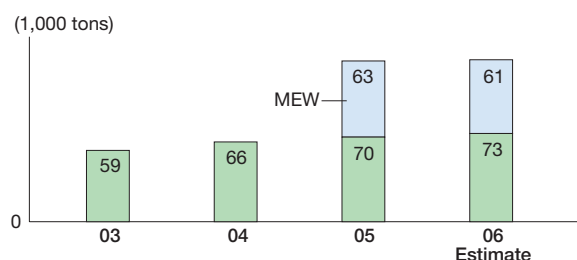
# Packaging Materials

Concept

## Reducing packaging and improving their performance

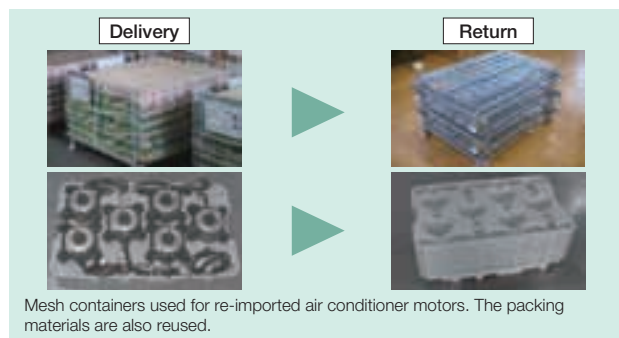
Matsushita has been committed to reducing the use of packaging materials through reuse and recycling of corrugated fireboard and other materials. As a result, in fiscal 2006 our use of packaging materials decreased by about 27% from the level of fiscal 1996 (excluding MEW and PanaHome). Some product lines, however, require more cushioning than before due to the development of larger size and more sophisticated models. In addition, re-imports of finished products to Japan are increasing, resulting in an increase in use of packaging materials since fiscal 2004. In response, we are focusing our efforts on promoting the reuse of packaging materials, as well as in developing environmentally-conscious packaging in addition to efforts for reducing.

### ■ Use of packaging materials (for marketing in Japan)



### ● Reuse

Encouraging the reuse of the same packaging many times is one of the best ways of reducing environmental impact. In 2004, instead of using one-trip corrugated cardboard boxes (on wooden pallets), we began using multi-trip mesh containers in transporting motors for air conditioners. As a result, we have reduced annual consumption of corrugated cardboard and wooden pallets by 480 tons.



### ● Forest Certification paper packaging for lamps

Fluorescent lamps require high quality packaging materials since the products are retailed in their packaging.

To ensure the high-quality printing necessary in the market, we have to use virgin pulp paper rather than recycled paper. To reduce the environmental impact of the packaging, however, with cooperation of a paper manufacturer we have switched to using ultra thin paper incorporating virgin pulp that meets Forest Certification\* criteria. After successful initial trials of this paper in lamp packaging in February 2005, its application was extended to all our straight fluorescent lamps and for some light bulb products in October 2005. As a result, in fiscal 2006 annual paper consumption decreased from 300 tons to 230 tons. We could also reduce packaging materials cost by 5 %.

\* The Forest Certification system was set up to promote paper sourced only from adequately-managed forests by certifying such forest management. The Forest Stewardship Council (FSC) has established global FSC Forest Certifications, including both "Forest Management (FM) Certification" and "Chain of Custody (CoC) Certification." The latter certifies product management systems associated with the production, processing, and distribution phases of the paper life cycle.



Packages of Pa-look Premier lamps

### ● Biomass plastics made from corn

For our battery blister packs, we have used biomass plastics derived from polylactic acid, which is made from corn. Biomass plastics are more environmentally acceptable for reasons of their superior biodegradability. What is more, where they are disposed of via combustion processes, they emit 32% less CO<sub>2</sub>\*1 than the equivalent polyethylene terephthalate (PET) resin. During 2005 our biomass plastic was awarded the Biomass Mark certification.\*2

\*1 In-house survey

\*2 Japan Organic Recycling Association accredits products that are either completely or partially made from biomass materials (i.e. organic matter, derived from living organisms, available on a renewable basis and excluding fossil fuels).



Battery blister packs with Biomass Mark

Our basic principle of Clean Factories (CF) is minimizing both input to and discharge from our factories, so as to achieve our dual aims of reducing environmental impacts and simultaneously improving economic performance. All Matsushita Group companies around the world are making concerted efforts to achieve various common goals, including prevention of global warming, management of chemical substances, waste reduction, and water conservation. In addition, individual operations have undertaken specific initiatives in accordance with requirements unique to their businesses and the appropriate local laws and regulations.

## Targets for fiscal 2006

- Environmentally-conscious factories
  - CF Accreditation Rate: at least 50%
- Prevention of global warming
  - CO<sub>2</sub> emission per basic unit: 5% reduction from the level of fiscal 2001
- Chemical substances
  - \* Reducing the use of Reduction-ranked substances and the release/transfer of Adequate Management-ranked substances
  - (Japan) 56% reduction from fiscal 1999
  - (Asia/Oceania) 45% reduction from fiscal 2001
  - (Others) 33% reduction from fiscal 2003
- Total waste arisings (including revenue-generating waste)
  - Total waste arisings per basic unit: 10% reduction from fiscal 2001
- Water consumption
  - Consumption per basic unit: 5% reduction from fiscal 2001
  - Promoting effective use of water resources

## Results in fiscal 2006

- Environmentally-conscious factories
  - CF Accreditation Rate  
81% for Japan (38% on a global basis)  
In fiscal 2006 our accreditation system was limited to Japan.
- Prevention of global warming
  - CO<sub>2</sub> emission per basic unit: 19% reduction
- Chemical substances
  - \* Reducing the use of Reduction-ranked substances and the release/transfer of Adequate Management-ranked substances
  - (Japan) 81% reduction in use, 60% reduction in release/transfer
  - (Asia/Oceania) 5% reduction in use, 35% reduction in release/transfer
  - (Others) 90% reduction in use, 86% reduction in release/transfer
- Total waste arisings (including revenue-generating waste)
  - Total waste arisings per unit of sales: 3% increase
- Water consumption
  - Consumption per unit of sales: 7% reduction

- Cost
  - Global warming preventive measures: 5.17 billion yen
  - Waste reduction: 7.76 billion yen
  - Effective utilization of water: 0.55 billion yen
- Benefit
  - Energy conservation benefit: 7.67 billion yen
  - Reduced cost of waste treatment: 3.83 billion yen
  - Reduced water supply/sewage cost:\* 0.50 billion yen

\* Included in "Reductions in water, sewage, packaging materials, and distribution cost" in environmental accounting

# Environmentally-conscious Factories

Concept

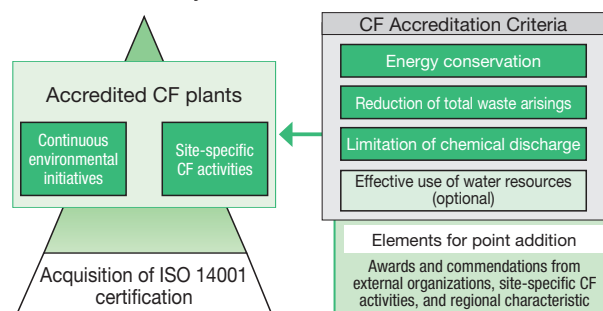
## Improving environmental performance through the CF Accreditation System

To reduce the environmental impact of our manufacturing activities, we have in place our Three-year CF Plans for individual factories, which we revise every year. The CF Plans stipulate targets associated with energy conservation, reduction of total waste arisings (made up of factory generated waste and revenue-generating waste), limitation of chemical discharge, and effective use of water. Based on these plans, individual factories prepare specific initiatives to be undertaken and develop associated investment plans.

For monitoring purposes, we collect monthly environmental performance data from each individual factory by using our own environmental information collecting system. Additionally, we feed back aggregated data to each factory to help it further improve its CF plan and initiatives.

To improve the environmental performances of all our factories by augmenting their efforts, we have established our CF Accreditation System. The idea of this system was proposed by our working group for improving environmental performance, which comprises representatives from each business domain company. Under this system, which is based on the ISO 14001 Environmental Management System, we evaluate efforts of individual plants to reduce environmental impact, as well as record any site-specific CF initiatives. Our global target is that at least 90% of all Matsushita factories obtain CF Accreditation by fiscal 2011.

### CF Accreditation System





## Quantitative evaluation of continuous efforts and site-specific CF activities

Under the CF Accreditation System, we evaluate each individual factory's efforts in terms of energy conservation, waste generation reduction, and chemical discharge limitation. In addition, any individual initiatives undertaken to comply with specific regional demands (such as the need for effective use of water resources) are evaluated as site-specific CF activities, such as greening of factory premises and employment of renewable energy sources. We also record awards and commendations received from external organizations. The indicators Three-year CF Plan and Performance Evaluation for Environmental Sustainability Management (P.55) are applied for this system so as to simultaneously promote those targets. Individual factories are evaluated by the CF Accreditation Council. This comprises of representatives from all Matsushita Group companies. Based on the evaluation of the Council, the Director for environmental affairs certifies those factories that qualify as Clean Factories. Accreditation is valid only for one year, encouraging factories to make continuous efforts to maintain their accreditation.

### ●Accreditation in fiscal 2006

The CF Accreditation System was first introduced in fiscal 2006, and during this year its scope has been limited to Japan, accrediting 81% of Japanese factories (equivalent to 38% of global total) as CFs. Many factory-specific CF activities were reported, including the greening of factory premises and participation in local environmental campaigns.

#### ■Evaluation items and indicators for CF Accreditation

	Items	Indicators	Definition
Duty	Energy conservation	Energy conservation rate	$\frac{\text{Amount of energy consumption reduced in the current fiscal year's measures (converted to CO}_2\text{)}}{\text{Amount of energy consumption in the previous fiscal year (converted to CO}_2\text{)}}$
	Reduction of total waste arisings	Total waste arisings reduction rate	$\frac{\text{Reduction in total waste arisings (including revenue-generating waste) in current fiscal year}}{\text{Total waste arisings (including revenue-generating waste) in previous fiscal year}}$
		Recycling rate	$\frac{\text{Recycled amount}}{\text{recycled amount} + \text{final disposal amount}}$
	Limitation of chemical discharge	Reduction rate of use of Reduction-ranked substances	$1 - \frac{\text{Used amount of Reduction-ranked substances in current fiscal year}}{\text{Used amount of Reduction-ranked substances in standard year}}$
		Reduction rate of release transfer of Adequate Management-ranked substances	$1 - \frac{\text{Released/transferred amount of Adequate Management-ranked substances in current fiscal year}}{\text{Released/transferred amount of Adequate Management-ranked substances in standard year}}$
Voluntary	Effective use of water	Reduction rate of water consumption	$\frac{\text{Reduced water consumption in current fiscal year}}{\text{Water consumption in previous fiscal year}}$

## Factory Energy Conservation

### Reducing CO<sub>2</sub> emissions through our Three-year Energy Conservation Plan

Greenhouse gases (GHGs) typically emitted from our operations comprise Hydrofluorocarbons (HFCs), together with Perfluorocarbons (PFCs) and Sulfur Hexafluoride (SF<sub>6</sub>) and CO<sub>2</sub>. Of these gases, CO<sub>2</sub> accounts for 91% (P. 29). Accordingly, we have set a target for fiscal 2011 to reduce CO<sub>2</sub> emissions per basic unit\*<sup>1</sup> by 10% from fiscal 2001 levels, on a global basis. Additionally in Japan, we simultaneously seek to achieve the target\*<sup>2</sup> set for fiscal 2011 by the four electrical and electronics-related associations\*<sup>3</sup> to reduce CO<sub>2</sub> emissions per unit of actual production\*<sup>4</sup> by 25% from the level of fiscal 1991. All our manufacturing sites worldwide must formulate and submit their own Three-Year Energy Conservation Plans, which integrate their planned energy conservation initiatives and associated investment programs. Each manufacturing site must annually review and upgrade these Three-year Plans, which are interlinked with their mid to long-term plans. At a corporate level, we have set specific energy conservation rate targets which are dependent on the associated manufacturing sector: at least 3.5% for product assembly segment and at least 7% for device segment.

In fiscal 2006, we achieved a reduction of 19% in our global CO<sub>2</sub> emissions per basic unit against fiscal 2001 levels. In Japan, we reduced CO<sub>2</sub> emissions per unit of actual production by 20% against fiscal 1991 levels. In fiscal 2006 our factories in the product assembly segment and the device segment achieved average energy conservation rates of 3.5% and 6.2%, respectively. This translates to an emissions reduction of 220,000 tons on a global basis. At the same time, absolute CO<sub>2</sub> emissions amounted to 4.17 million tons, 50,000 tons lower than fiscal 2005. From the level of fiscal 2001, however, the absolute CO<sub>2</sub> emissions increased by 0.4 million tons due primarily to expanded manufacturing in China, where coal is the primary energy source, and Asia. Another important factor is the increasing demand for digital home appliances; the manufacturing of the semiconductors and plasma display panels necessary for such appliances involves significant power consumption.

\*1 Basic unit = CO<sub>2</sub> emissions/(consolidated sales/Bank of Japan's corporate goods price index (electrical equipment)).

\*2 Voluntary Action Plans for Global Warming Prevention Measures by the four electrical and electronic-related associations.

\*3 Four electrical and electronics-related associations = Japan Electrical Manufacturers' Association, Japan Electronics & Information Technology Industries Association, Communications and Information Network Association of Japan, and Japan Business Machine and Information System Industries Association.

\*4 Actual production = nominal production/Bank of Japan's corporate goods price index (electrical equipment).

## Activity 1

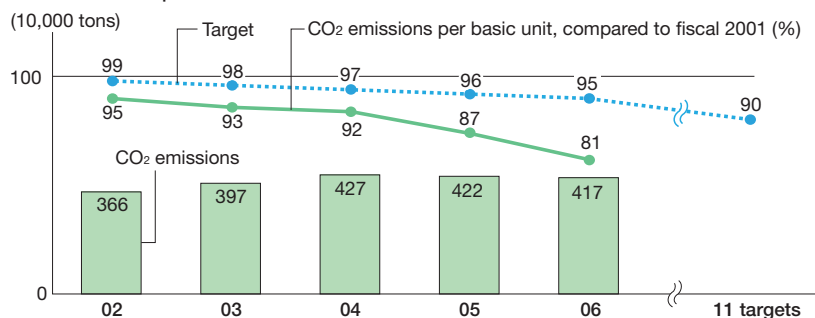
### Accelerating the reduction of CO<sub>2</sub> emissions on a global basis

In order to promote energy conservation in key manufacturing areas such as China and Asia, we hold frequent knowledge-transfer seminars between the Japanese business domain company engineers and local staff. For instance, in the product-assembly segment, Matsushita Home Appliances Company engineers train local staff in China, Southeast Asia and North America on assessment technologies. In the device segment meantime, Panasonic Electronic Devices Co., Ltd. and Matsushita Environmental & Air-conditioning Engineering Co., Ltd. also dispatch domain engineers. Especially, in China, where CO<sub>2</sub> emissions are rapidly increasing, we conducted energy loss calculations at all our factories to facilitate the introduction of proper energy management systems in the Three-year Plans from fiscal 2005. In fiscal 2006, we held three practical seminars on energy consumption assessment at factories that recorded particularly high CO<sub>2</sub> emissions. A total of 132 local engineers attended.

#### ●Promoting factory energy conservation as CDM projects

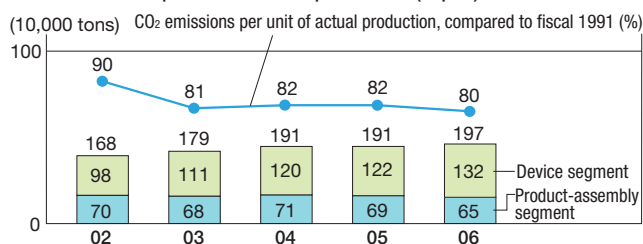
To contribute to the prevention of global warming and sustainable development of developing countries, we are introducing energy conservation initiatives at our 11 Malaysian factories. To register these initiatives as CDM\* projects, in fiscal 2006 we applied for approval to both the Japanese and Malaysian governments, as well as to the United Nations, and underwent the validation audit. In February 2006 we received approval from the Japanese government.

#### ■CO<sub>2</sub> emissions per basic unit



Note: Basis for calculating Matsushita's CO<sub>2</sub> emissions  
 \* The GHG protocol's CO<sub>2</sub> emissions factors for each country are used for electricity purchased outside Japan.  
 \* The factors related to fuels are based on the Guidelines for Calculating Greenhouse Gas Emissions from Businesses (Draft 1.6) by the Ministry of the Environment, Japan.

#### ■CO<sub>2</sub> emissions per unit of actual production (Japan)



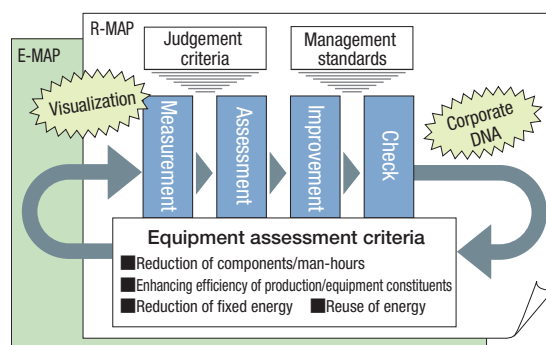
\* The factors used for purchased electricity are the average of all types of power at the using end, reported by the Federation of Electric Power Companies of Japan.  
 \* CO<sub>2</sub> emissions factors for individual fiscal years are: 0.410 kg CO<sub>2</sub>/kWh (fiscal 1991), 0.407 kg CO<sub>2</sub>/kWh (fiscal 2003), 0.436 kg CO<sub>2</sub>/kWh (fiscal 2004), and 0.421 kg CO<sub>2</sub>/kWh (fiscal 2005). The value for fiscal 2005 is used for estimating the level of fiscal 2006.

## Activity 2

### Visualizing energy losses

In order to control energy consumption, we have incorporated energy management techniques, as stipulated in the Japanese Energy Conservation Law, into our pre-established Environmental Management Systems. Our focus is on assessment by measurement, a method which lends itself well to actually visualizing the level of energy consumption at each business unit. By comparing their actual energy consumption level with our judgement criteria, each business unit can clearly identify energy losses and take appropriate remedial measures. The improved levels after taking such measures are used in developing management standards and new equipment assessment criteria.

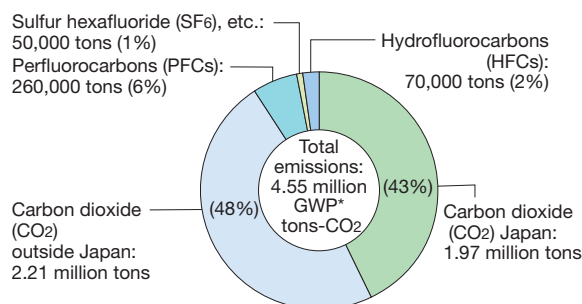
#### ■Energy assessment and improvement/adoption mechanism



E-MAP (Energy Map): Complete lists of energy consuming equipment  
 R-MAP (Road Map): Energy-conservation measures until 2010

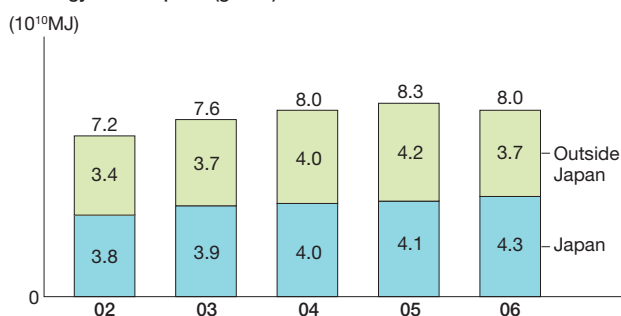
CDM: Clean Development Mechanism, a method authorized by the Kyoto Protocol, whereby industrialized nations undertake initiatives to reduce GHG emissions in developing countries, aiming at helping to achieve sustainable progress in developing countries and acquiring emission credits towards the industrialized nation's CO<sub>2</sub> reduction targets.

#### ■Composition of GHG emissions (tons-CO<sub>2</sub>)

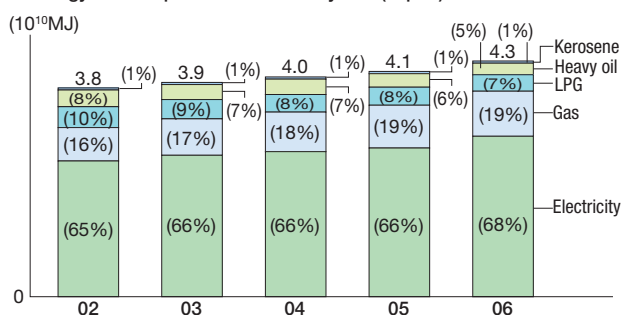


\* GWP: Global Warming Potential, conversion of each GHG's greenhouse effect to CO<sub>2</sub>

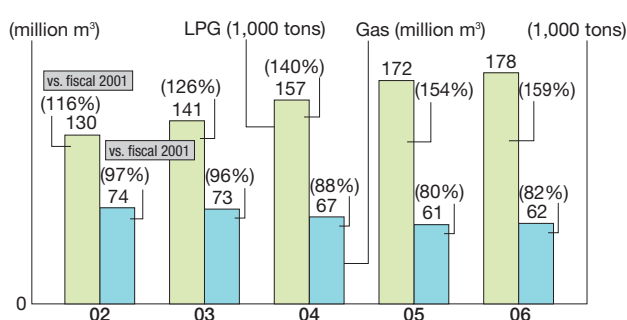
## Energy consumption (global)



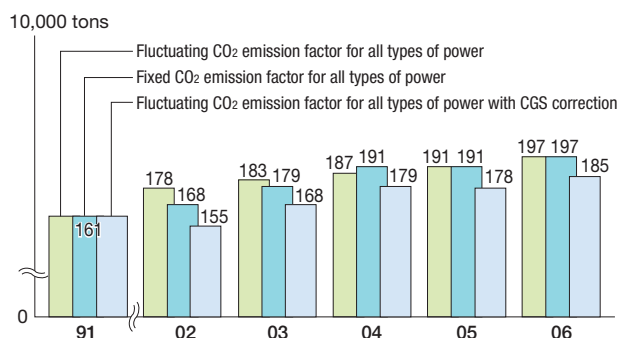
## Energy consumption breakdown by fuel (Japan)



## Gas/LPG consumption (Japan)



## CO<sub>2</sub> emissions calculated by using electricity factors and co-generation (CGS) correction

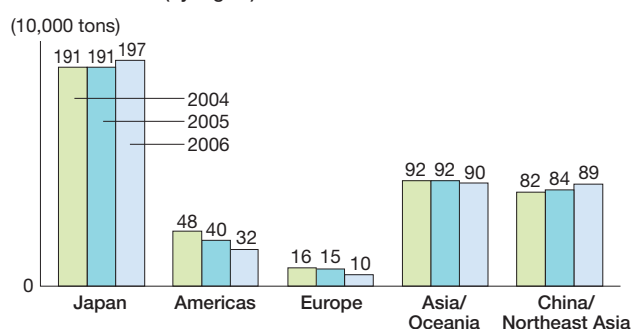


To calculate CO<sub>2</sub> emissions, CO<sub>2</sub> emissions factor for electricity<sup>\*1</sup> (electricity factor) is generally used. In principle we use the latest value of this factor, announced by the Federation of Electric Power Companies of Japan. Since this value fluctuates annually, we sometimes use the fixed value, which is effective in objective evaluation of our efforts to reduce CO<sub>2</sub> emissions. To promote CGS, which is effective in reducing CO<sub>2</sub> emissions, we also use CGS corrections.<sup>\*2</sup>

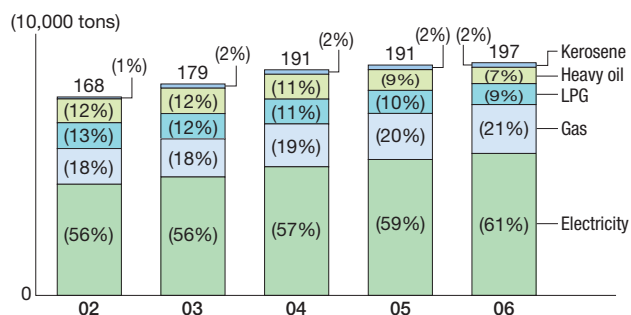
<sup>\*1</sup> Average CO<sub>2</sub> emission factor for all types of power, including nuclear, thermal, hydro, and renewable.

<sup>\*2</sup> CO<sub>2</sub> emission factor correction value (for CGS power) = CO<sub>2</sub> emission factor of thermal power - average CO<sub>2</sub> emission factor for all types of power (on the assumption that in-house CGS power replaces thermal power).

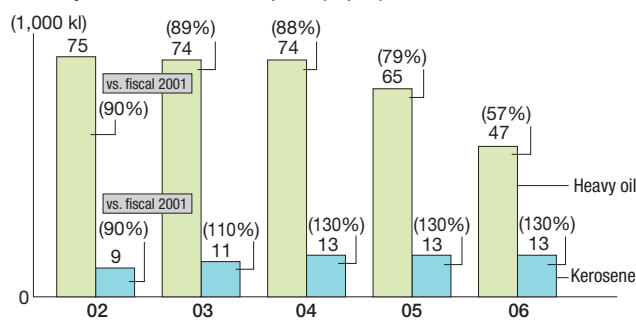
## CO<sub>2</sub> emissions (by region)



## CO<sub>2</sub> emissions breakdown by fuel (Japan)



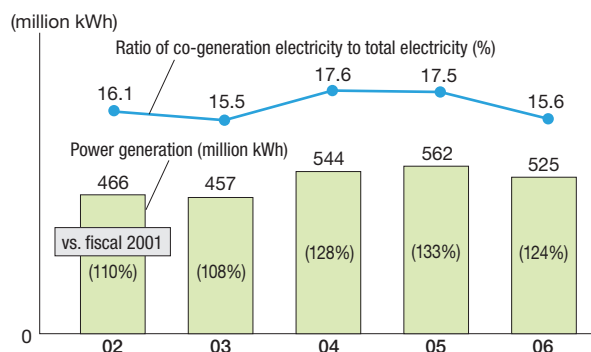
## Heavy oil/kerosene consumption (Japan)



## Renewable energy consumption (Japan)

Fiscal 2006	69,000 kWh
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## Power generation by co-generation system (CGS)



We have introduced co-generation systems, effective in conserving energy and reducing CO<sub>2</sub> emissions, primarily for clean rooms within semiconductor and electronic component factories, where exhaust heat can be effectively reused.

## Chemical Substances Management at Factories

Concept

### Management of chemical substances

To reduce the risks of environmental pollution involved in the use of chemical substances, Matsushita prepared the Chemical Substances Management Rank Guidelines Version 2.1 (for Factories), in compliance with relevant laws, regulations, and hazard assessments.\* These Guidelines classify chemical substances into three categories: those requiring Prohibition, Reduction, and Adequate Management.

Until fiscal 2006, we had implemented the “33/50 Reduction Plan,” aimed at reducing the use and release/transfer of chemical substances listed in the Guidelines.

\* Hazard assessment system based on carcinogenicity assessments by international, U.S.A., and Japanese organizations.

#### Chemical Substances Management Rank Guidelines Version 2.1 (for Factories)

Ranks	Definitions	Substance groups
Prohibition	Prohibit use	36 (332)
Reduction	Reduce the amount used	112 (491)
Adequate Management	Reduce the amount released/ transferred*	361 (600)
Total: 509 substance groups (1,423 substances)		

\* “Released” includes amount released into the air and public waterways.  
“Transferred” includes amount transferred as waste and discharged into sewage.

Activity

### 33/50 Reduction Plan

In fiscal 1999 we launched the 33/50 Reduction Plan in Japan with the aim of reducing both the use of Reduction-ranked substances and the release/transfer of Adequate Management-ranked substances by 33% in three years, and by 50% in six years. After seven years of such activity, we terminated the 33/50 Reduction Plan, since we achieved our targets in all regions except for Asia/Oceania.

In Japan, we successfully abolished the use of Prohibition-ranked chemical substances by switching to alternative substances, while at the same time promoting the recycling of waste from manufacturing lines.

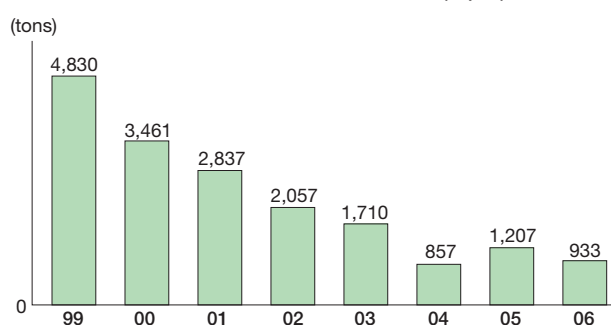
In Asia/Oceania, we were unable to achieve the targets, although in fiscal 2006 significant reductions on the previous year were recorded, due to improved recycling rates and increased use of alternative substances.

#### Targets and results of the “33/50 Reduction Plan”

Regions	Base fiscal year	Fiscal 2006		
		Targets		Results
Japan	1999	Used amount of Reduction-ranked substances	56% reduction	81% reduction
		Released/transferred amount of Adequate Management-ranked substances	56% reduction	60% reduction
Asia /Oceania	2001	Used amount of Reduction-ranked substances	45% reduction	5% reduction
		Released/transferred amount of Adequate Management-ranked substances	45% reduction	35% reduction
Other regions	2003	Used amount of Reduction-ranked substances	33% reduction	90% reduction
		Released/transferred amount of Adequate Management-ranked substances	33% reduction	86% reduction

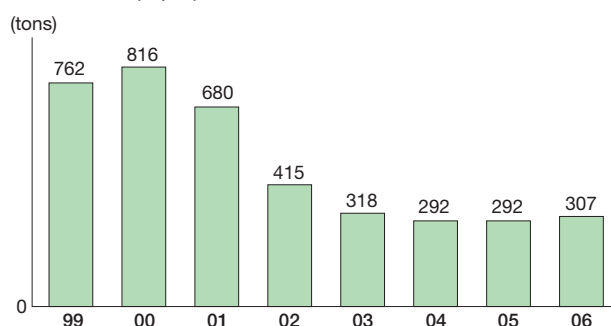
\* Excluding MEW and PanaHome

#### Used amount of Reduction-ranked substances (Japan)



\* Excluding MEW and PanaHome

#### Released/transferred amount of Adequate Management-ranked substances (Japan)



\* Excluding MEW and PanaHome

Future activities

### Expand management scope while concurrently concentrating efforts on reduction of our Key Target Reduction Substances

In fiscal 2001 Matsushita began to manage chemical substances in compliance with our Chemical Substances Management Rank Guidelines Version 1, which were based on the survey of 327 substance groups by the four Japanese electrical and electronics-related associations. In fiscal 2002 we expanded this list to include substance groups specified by the Japanese Pollutant Release and Transfer Register (PRTR) Law and several other substance groups based on hazard assessments. The result was Guidelines Version 2.1, covering 509 chemical substance groups. In fiscal 2005, we further upgraded



the Guidelines to Version 3 (546 substance groups) by taking into consideration the Occupational Health and Safety Law in Japan and various laws and regulations on chemical substances, in addition to the PRTR Law, and hazard assessments. In Version 3, we have also reclassified substances into three revised categories: "Prohibition," whose use is prohibited, "Reduction," whose released/transferred amount should be reduced, and "Management," whose used and released/transferred amount should be managed.

Of those substances, 368 have been selected as our Key Target Reduction Substances that have a particularly significant impact on the environment. In fiscal 2007 we began concentrating our efforts on reducing these 368 substances, setting a target to reduce their release/transfer on a global basis by 10% below fiscal 2006 levels by fiscal 2011.

#### Chemical Substances Management Rank Guidelines Version 3 (for Factories)

Rank	Definition	Substance group
Prohibition	Prohibit use	60 (569)
Reduction	Reduce the amount released/transferred	193 (794)
Management	Manage the amount used, released/transferred, and review the ranks regularly	293 (2,123)
Total: 546 substance groups (3,486 substances)		

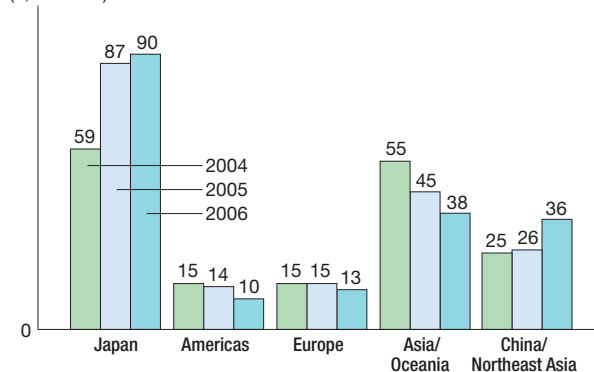
[panasonic.net/eco/suppliers/](http://panasonic.net/eco/suppliers/)

#### Key Target Reduction Substances (368 substances)

- [1] The 10 groups of substances recording the highest levels of release/transfer in the Pollutant Release and Transfer Register survey (Japan, fiscal 2003)
- [2] The 10 groups of substances recording the highest levels of release/transfer in the Matsushita Group chemical substance survey (fiscal 2005)
- [3] The 5 groups of substances specified by the Law Concerning the Promotion of the Measures to Cope with Global Warming
- [4] The 20 VOCs recording the highest levels of release in the survey by the electrical and electronics industry

#### Used amount by region

(1,000 tons)



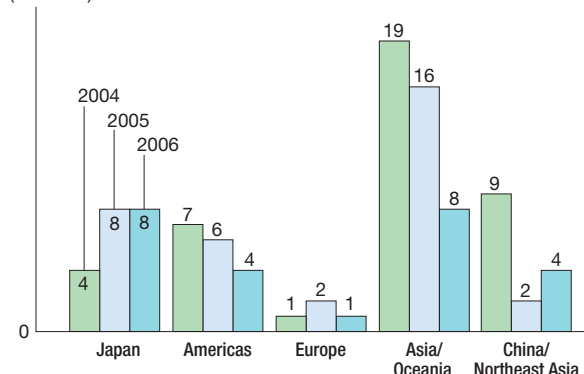
\* All substance groups specified by the Rank Guidelines Version 2.1

\* Outside Japan: data for fiscal 2004 and 2005 excludes MEW and PanaHome

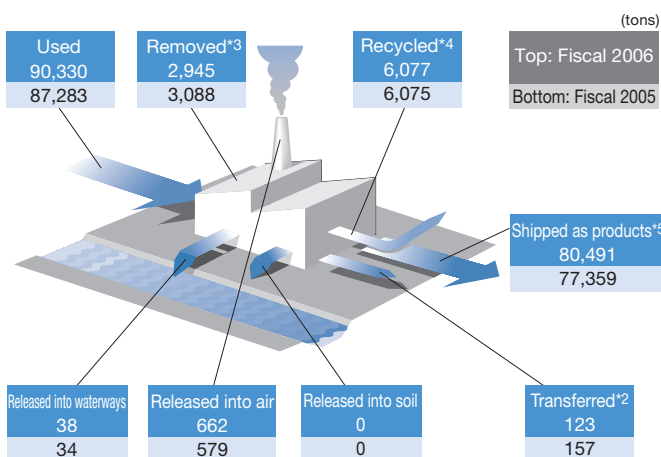
\* Japan: data for fiscal 2004 excludes MEW and PanaHome

#### Released/transferred amount by region

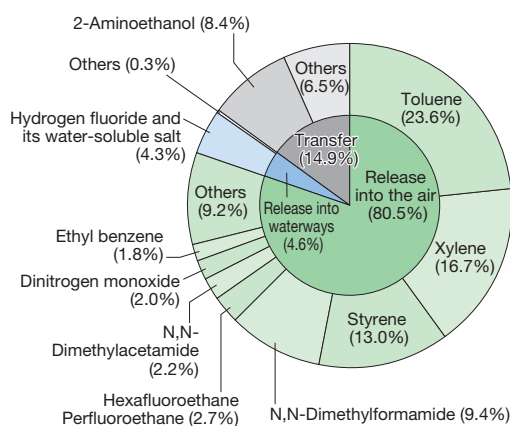
(100 tons)



#### Material balance of chemical substances\*1 (Japan)



#### Breakdown of release and transfer (Japan)



\*1 "Substances" include those listed in the Matsushita Group Chemical Substances Management Rank Guidelines (Version 2) covering all substances listed in the Japanese PRTR Law.

\*2 "Transferred" includes the amount of substances transferred as waste, as well as wastewater discharges into the sewage system.

\*3 "Removed" refers to the amount of substances turned into other substances through neutralization, decomposition, or other chemical treatment.

\*4 "Recycled" includes paid recycling, as well as free (under the Waste Management Law) and any obligatory return recycling under contract. (Transferred amounts differ from those reported under the PRTR Law.)

\*5 "Shipped as products" refers to the amount of substances that have been changed to other substances as a result of chemical reactions, and those that are contained in or accompanying products shipped out of factories.

## Reducing Waste from Factories

Concept

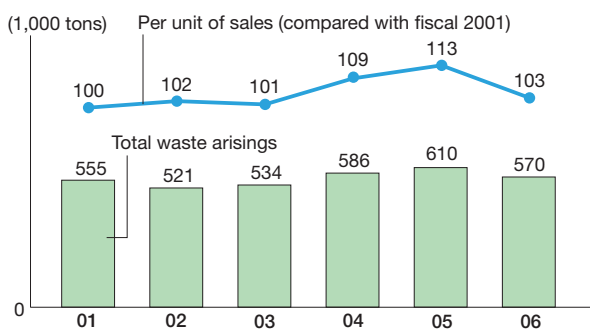
### Promoting zero waste emissions

To achieve our target of reducing waste emissions per basic unit by 20% by fiscal 2011 below the level of fiscal 2001, all our business sites are promoting effective use of resources. Our ultimate goal is to achieve zero waste emissions\* (i. e. minimizing the mass of final disposal towards zero). So as to eliminate the influence of price fluctuations on the target level, from fiscal 2007 onwards, we will take into account the price index in our consolidated sales figures to be used in calculating the target level. The CF Accreditation System, initiated in fiscal 2006, also specifies annual waste reduction targets for individual business sites.

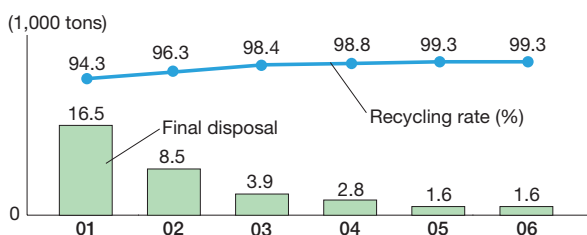
\* A recycling rate of at least 99 % since fiscal 2006 (at least 98 % up to fiscal 2005)

$$\text{Recycling rate} = \frac{\text{Mass of recycled resource}}{\text{Mass of recycled resource} + \text{mass of final disposal}}$$

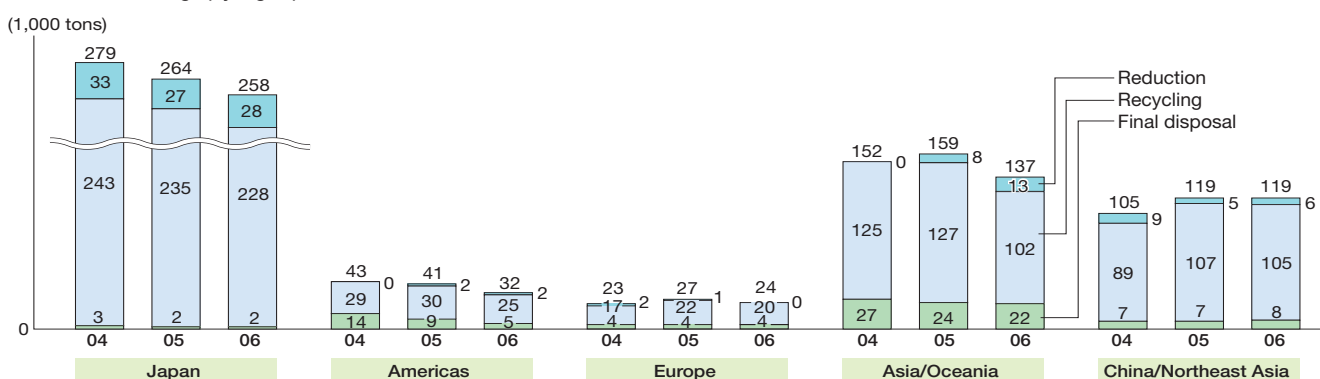
#### ■ Total waste arisings (made up of revenue-generating waste and factory generated waste) and total waste arisings per unit of sales



#### ■ Mass of total waste arisings for final disposal and recycling rate (Japan)



#### ■ Total waste arisings (by region)

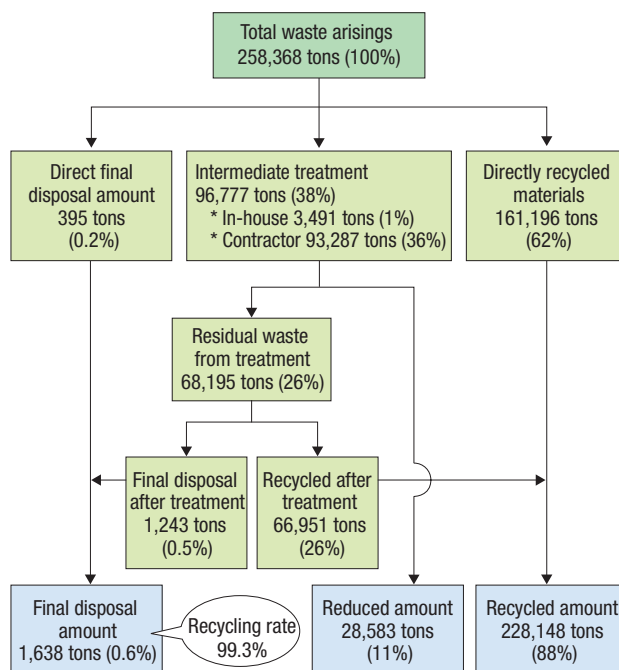


### Setting targets to minimize waste

Our target for fiscal 2006 was to reduce total waste arisings (made up of revenue-generating waste and factory generated waste) per unit of sales by 10% below the fiscal 2001 level. The result, however, was an increase of total waste arisings per unit of sales by 3%. This was because although the absolute total waste arisings continued to decrease in Japan, they increased in Asia/Oceania and China/Northeast Asia, due to growing production levels in these regions. It should be noted that against fiscal 2005 levels, we did achieve a 2% reduction in Japan in fiscal 2006, and a 7% reduction on a global basis. This was due to reduced production of CRTs and the development of waste acid and alkali treatment technologies.

In fiscal 2006 our recycling rate reached 99.3% in Japan, surpassing the target level in four consecutive years. On a global basis, however, our recycling rate remained at 92%. Accordingly, we plan to introduce the expertise we have accumulated in Japan to other regions of the world.

#### ■ Treatment of total waste arisings (Japan)

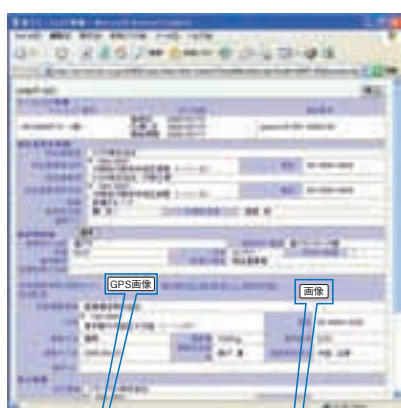


\* Excluding MEW and PanaHome

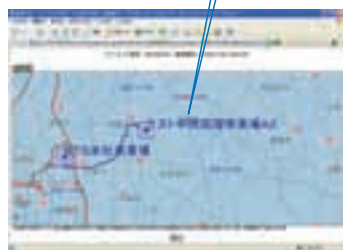
## Using Matsushita's "ET Manifest" for effective waste management

The introduction of our ET Manifest system is one of the various initiatives taken by Matsushita to improve the handling of waste generated from our manufacturing sites. Using a global positioning system (GPS), the ET Manifest system enables real-time monitoring of waste transportation and also provides visual information on delivery progress. During fiscal 2007 we plan to extend use of our ET Manifest system to all 92 manufacturing sites of Matsushita Electric Industrial Co., Ltd. in Japan.

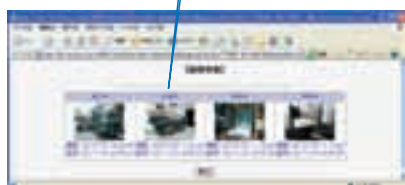
### ■ ET Manifest system in operation



Manifest screen



Monitoring with GPS screens



Images of actual waste treatment

- Using GPS and image data, this system allows monitoring of industrial waste treatment at all stages: waste disposal → collection/transportation → intermediate treatment → collection/transportation → final disposal.
- Final disposal will be automatically registered in the database of the authorities concerned.

## ● Breakdown of total waste arisings (Japan)

### ■ Mass of total waste arisings (tons)

Items	Fiscal 2004	Fiscal 2005	Fiscal 2006
Metals	68,368	69,777	66,689
Acids	64,346	57,197	56,771
Plastics	32,734	36,188	35,514
Sludge	38,239	25,995	22,899
Paper	22,105	22,709	24,682
Wood	14,933	15,654	16,106
Alkalis	13,950	12,133	10,627
Glass/ceramics	10,360	10,645	11,551
Oil	8,707	9,446	8,986
Others	5,018	4,374	4,542
Total	278,760	264,117	258,368

### ■ Mass of recycled resource (tons)

Items	Fiscal 2004	Fiscal 2005	Fiscal 2006
Metals	68,799	68,582	64,578
Acids	60,014	51,414	52,317
Plastics	24,957	28,699	27,097
Sludge	30,482	22,850	20,517
Paper	20,028	21,097	21,816
Wood	11,332	12,441	10,855
Alkalis	7,928	5,847	6,332
Glass/ceramics	8,151	9,221	5,782
Oil	7,412	8,162	6,812
Others	4,276	7,178	12,042
Total	243,379	235,490	228,148

### ■ Final disposal (tons)

Items	Fiscal 2004	Fiscal 2005	Fiscal 2006
Metals	83	69	46
Acids	20	15	2
Plastics	1,421	395	258
Sludge	532	163	107
Paper	383	123	88
Wood	28	21	36
Alkalis	2	4	4
Glass/ceramics	170	711	785
Oil	84	40	60
Others	114	101	252
Total	2,837	1,643	1,638

## ● Amount of in-house circulating resources

	(tons)
Amount of in-house recycling*1	2,781
Amount of recycling after in-house intermediate treatment*1	3,665
Amount of in-house heat recovery*2	0

\*1 Amount of internally reused resources

\*2 Amount of internally heat-recovered resources

## Effective Use of Water Resources

Concept/activity

### Reducing water consumption on a global basis

Our target for fiscal 2011 is to reduce water consumption per basic unit by 10% from the level of fiscal 2001. In fiscal 2006 we achieved a reduction in water consumption per unit of sales of 7% from fiscal 2001, surpassing the target level (5%) for that year. In addition, we reduced the absolute quantity of water consumption by 6%. In fiscal 2007, as in the case of waste reduction targets, we will take into account the price index in our consolidated sales figures when calculating the target level, in order to eliminate the impact of price fluctuations.

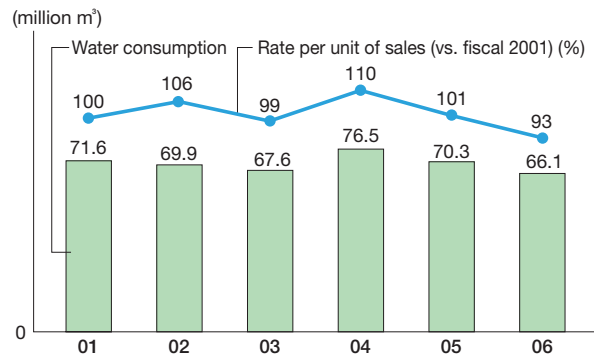
Under the CF Accreditation System (P.27) commenced in fiscal 2006, we categorize the reduction of water consumption as an initiative that each business site takes on a voluntary basis. This is because accessibility to water resources differs from region to region. Each business site is therefore encouraged to set its own targets for reducing water consumption.

#### Water consumption by region

(unit:10,000 m<sup>3</sup>)

Region	Breakdown	Fiscal 2004	Fiscal 2005	Fiscal 2006
Japan	Municipal water/industrial water	1,269	1,235	1,118
	Rivers/lakes	27	18	21
	Groundwater	3,523	3,115	3,106
	Total	4,818	4,368	4,245
Americas	Municipal water/industrial water	369	311	166
	Rivers/lakes	1	0	0
	Groundwater	17	14	16
	Total	387	325	183
Europe	Municipal water/industrial water	42	34	26
	Rivers/lakes	0	0	0
	Groundwater	87	84	74
	Total	129	118	100
Asia/Oceania	Municipal water/industrial water	1,194	1,119	1,012
	Rivers/lakes	0	0	0
	Groundwater	90	90	74
	Total	1,284	1,209	1,085
China/Northeast Asia	Municipal water/industrial water	1,009	991	974
	Rivers/lakes	0	0	0
	Groundwater	20	20	20
	Total	1,029	1,011	994
Total	Municipal water/industrial water	3,883	3,689	3,296
	Rivers/lakes	27	18	21
	Groundwater	3,736	3,323	3,290
	Total	7,646	7,030	6,607

#### Water consumption and rate per unit of sales



#### Water circulation system in Beijing

To ensure effective use of water resources, in December 2005 Beijing Matsushita Color CRT Co., Ltd. (BMCC) introduced a cutting-edge facility to recover wastewater and recycle it as pure water. The facility is now expected to annually recycle approximately 34% of all wastewater. In fiscal 2007 BMCC plans to introduce an additional such water-recycling facility.



Filtering impurities using a special membrane



Opening ceremony for the new facility to recover and recycle wastewater (December 2005)

#### Use of treated wastewater in Yokohama

Victor Company of Japan, Ltd. (JVC) introduced a water recycling system in its new building, "Techno Wing," completed in Yokohama in April 2005. The recycling system treats wastewater which can then be used for flushing toilets. The new building, which is also equipped with water tap sensors, recorded 28%\* less water consumption than the previous building.

\* Pro rata the same floor area and with the same number of people using the facility.



In addition to water recycling, the Techno Wing building has introduced various types of energy conservation equipment, such as automatic light control systems and LED signboards.



# Conservation of Factory Environment

Concept/activity

## Daily activities based on our environmental management systems

Legal compliance is an essential requirement for all our activities. With this in mind, Matsushita is thoroughly promoting strict compliance with relevant environmental regulations at our plants through regular measurement of gas emissions, water discharge, noise, and odor levels. In addition, individual factories have set voluntary standards that are even more stringent than the level required by laws/regulations. If ever we fail to meet legal criteria, we immediately report this to the relevant authorities and take corrective and preventative measures.

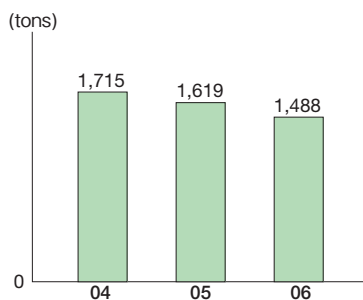
### Cases in which pollutant levels exceeded legal criteria (fiscal 2006)

Region	Air	Water quality	Noise	Odor	Total
Japan	1	5	0	0	6
Outside Japan	0	4	0	0	4
Total	1	9	0	0	10

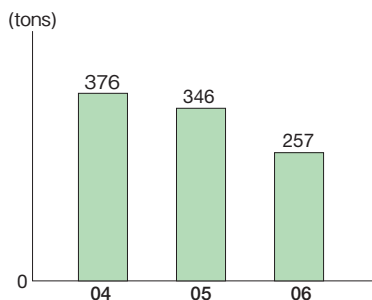
### Impact on the air and public waterways (Japan)

\* Aggregated data of business sites in countries that have regulations in place

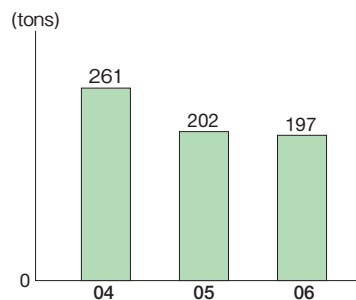
NOx emissions (air)



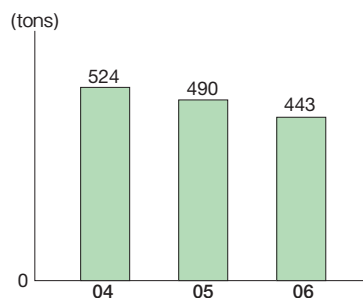
SOx emissions (air)



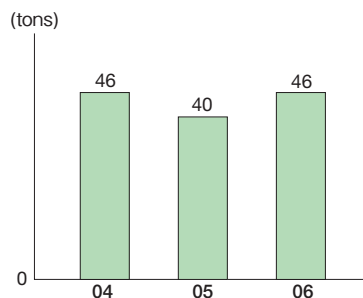
COD pollution (public waterways)



Nitrogen pollution (public waterways)



Phosphorus pollution (public waterways)



### Impact on the air and public waterways (by region)

\* Aggregated data of business sites in countries that have regulations in place

Regions	NOx emissions	SOx emissions	COD pollution	Nitrogen pollution	Phosphorus pollution
Japan	1,488	257	197	443	46
Americas	5	2	4	0	0
Europe	10	0	8	0	0
Asia/Oceania	394	256	191	20	0
China/Northeast Asia	130	99	412	10	1
Total	2,027	614	812	473	47

## In-house measurement to ensure thorough environmental management

Since 1969 the Environmental Measurement Team of our Lighting Company has been committed to the measurement and analysis of factory emissions and discharges. Unlike third-party organizations, which typically analyze only supplied samples, the team voluntarily takes various samples from manufacturing lines to prevent excessive emission/discharge of pollutants. In 2003 the team was awarded a certificate by the governor of Osaka, reinforcing its analysis credentials. Recently, the team also began measurement of specific chemical substances contained in materials and components (P.21).



Wastewater sampling

# Making Every Factory a Clean Factory

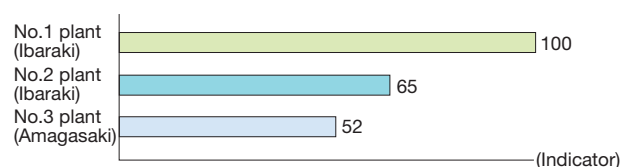
## Energy

### ●CO<sub>2</sub> emissions per unit PDP reduced by approximately 48%

At a new PDP plant in Amagasaki in Japan, CO<sub>2</sub> emissions per unit of PDP manufacturing are approximately 48% lower than those of our first Ibaraki Plant. This radical reduction has been enabled by increasing the number of panels cut from a single sheet of glass, as well as by minimizing the space for heat treatment.

In addition, the exterior walls of the building are covered with a photocatalytic coating, which has the capacity to remove the NO<sub>x</sub> equivalent of 1,800 poplar trees. The plant is also equipped with a rainwater recycling system and Matsushita's original wind/solar hybrid power "Kaze-Kamome" (P. 41).

### ■CO<sub>2</sub> emissions per unit of PDP manufacturing



Amagasaki plant

### ●An energy-conservation rate of 9.4 % achieved by careful checking of all unnecessary in-house lighting of the factory

At Panasonic Home Appliances (Hangzhou) (Export Processing Zone) Co., Ltd., 250 W mercury lamps installed inside the warehouse were replaced with energy-conserving 40 W lamps. Additionally, the required levels of in-house lighting were lowered (i.e., illumination for corridors and window-sides was reset at lower levels), while light levels at each site were checked with an illuminometer. As a result, a total of 300 fluorescent lights have been removed from places with excess illumination. Furthermore, air compressors have been replaced with ones that consume 10% less energy than conventional types. All these efforts helped us achieve energy-conservation rates (P. 28) of 16.9% for fiscal 2005 and 9.4% for fiscal 2006 (both the target and the actual energy-conservation rate for fiscal 2006 at assembling plants were 3.5%). Such efforts will be disseminated across other plants wherever possible.

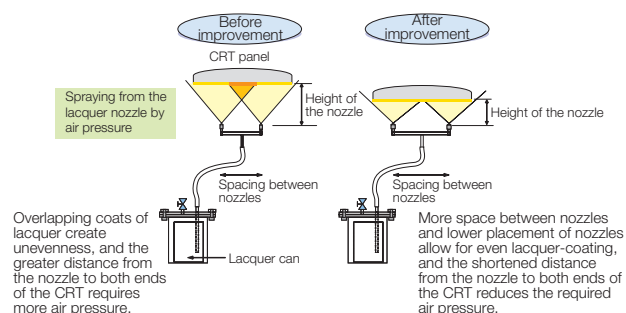


Measurement of in-house lighting

## Chemical Substances

### ●Reductions in lacquer and toluene usage through optimization of spraying methods

MT Picture Display (Thailand) Co., Ltd. manufactures cathode ray tubes (CRTs). To smooth out any unevenness created by the particles during aluminum evaporation of the inner coat of CRT panels, a film is formed by depositing lacquer on the inner surface of the panels. In the course of this coating process, waste toluene, which is required for liquefying the lacquer and lacquer solvents, is generated. By decreasing required spray pressures through optimization of the placement and height of the spray nozzles used for deposition, the coating time has been shortened by 25%. As a result, the amount of lacquer sprayed in fiscal 2006 was reduced to 43.1 tons from 58.3 tons of fiscal 2005, which is a 26% reduction. At the same time, toluene usage was cut by 26%.



### ●Reductions in formaldehyde emissions and energy-conservation by replacing phenol

At PanaHome Corporation, phenol resin is conventionally used as a heat insulator for floor panels. During the coating process when phenol is heated to form foam, formaldehyde is emitted, and this requires monitoring. We have achieved improvements in the specifications of both the products and the manufacturing process. We have now partially replaced phenol resin with styrene, which does not require a phenol coating. As a result, formaldehyde emissions in fiscal 2006 were reduced to 384 tons down from 486 tons in fiscal 2005. This improvement has a further benefit of stabilizing material costs, as any steep rise in oil prices has only a small effect on styrene. In the future, PanaHome Corporation's heat insulators for floor panels will be entirely switched over to styrene. Furthermore, while the power usage of phenol-related facilities conventionally represents 20% of the power consumed by the entire plant, heating to form foam is unnecessary with styrene, thus we expect a saving of approximately 4 million yen in annual electric power charges.



Styrene-foam heat insulator in manufacturing

## Waste

### ●Packaging waste reduction through measures such as stackable shipping-trays

At Panasonic Shikoku Electronics Corporation of America (PSECA), CRT televisions are assembled. Plastic trays for shipping vacuum picture tubes from a contracted manufacturer to PSECA were not previously stackable, because there were two different forms of trays, one for the base and the other for the cover. This resulted in lower transportation efficiency in returning them to the contracted manufacturer. Because of this the trays were simply discarded. PSECA redesigned the trays so the base and the cover are identical. This creates a compact stack of trays ready to be loaded into a cargo container, which enables PSECA to return them for reuse to the manufacturer. This effort translates into a saving of approximately 13.2 tons (29,116 lbs) of plastic materials in six months. In addition, reuse of corrugated cartons used for storing and moving injection molded plastic components over a five-year period led to a reduction of



Reusable CRT plastic tray

94 tons (208,000 lbs) in the annual consumption of corrugated cartons. Through these efforts, we achieved a recycling rate of 93% in fiscal 2006 (the recycling rate of all businesses in the U.S.A. was 83%).

### ●Recycling rates of over 99% for 5 consecutive years

At Panasonic Mobile Communications Co., Ltd., Yokohama, which is a manufacturer of infrastructure-related equipment for mobile communications, all employees participate in a campaign to classify waste into 54 categories. Employees weigh and record all waste in the workplace. Employees' appreciation of emission reductions is heightened, as they weigh the waste by themselves, thus increasing awareness of the waste that they are producing. Employees are also engaged in reusing furniture and containers for the products. In addition, at the "Earthworm Farm," leaf mulch is made out of weeds and fallen leaves from the trees that grow there. The mulch is used at the "Forest of Coexistence" with the environment (P. 52) created on the premises.

These activities have contributed to continuous achievement of waste-recycling rates of over 99% since fiscal 2002. In fiscal 2006, we received the Chairman's Award for Contribution to Promoting the 3Rs (Reduce, Reuse, and Recycle) from the 3R Promotion Council, and the Yokohama Environmental Action Award for the Office with the Best Waste-Segregation Practice,\* from the Yokohama municipality.

\* The award is presented to 5 offices selected from among all 2,600 offices located in Yokohama city.



Categories of waste registered at the waste-weighing station



The Earthworm Farm

## Water

### ●Contributing to energy conservation through installation of a wastewater recycling system

Panasonic Ecosystems (Guangdong) Co., Ltd. installed a recycling system for filtering wastewater at its new plant in Guangdong Province in China, which was completed in July 2005. With this system, filtered wastewater can be used for watering greenery and adjusting chemicals for sewage treatment. The filtered water also contributes to energy conservation, as it is sprinkled on the building during summertime to lower the surface temperature of the building. In fiscal 2006, 12,800 cubic meters of water, accounting for 10% of total effluent, was recycled. In fiscal 2007, recycled wastewater will be used for other purposes, such as flushing toilets and spray-water-cooling air conditioning. We will spread utilization of recycled wastewater across local communities by providing it without charge to the surrounding areas for watering greenery.



Recycled wastewater is sprinkled on the roof of the plant to lower the surface temperature of the building.



Recycled water is utilized for greening.

## General

### ●Comprehensive environmental actions results in recognition as a "Company Friendly to the State Environment" in China

Panasonic Wanbao Compressor (Guangdong) Co., Ltd. (PWCG) was awarded the honor of being a "National Environment-Friendly Enterprise" from the State Environment Protection Administration of China in October 2005. The award signifies the recognition that PWCG is an industry leader in China in terms of overall energy efficiency, water use efficiency, pollutant emissions, and waste recycling. PWCG also received the honor of a "Company with Clean Manufacturing in Guangdong Province" in February 2005, in recognition of its reductions in emissions of lead, NOx, and SOx, and reductions in steel usage, realized by scrap iron recycling. Having received that award, they continue efforts to improve every aspect of environment, management, and products, such as introduction of manufacturing technologies and facilities with environmental efficiency levels that lead the industry, commencement of shipping products that meet the EU's RoHS Directive in September 2005; and the development and commercialization of chlorofluorocarbon substitutes.

In addition, employees are engaged in social contribution activities, such as planting trees. These diverse efforts have culminated in recognition through the awards received.



Audit by the State Environmental Protection Administration

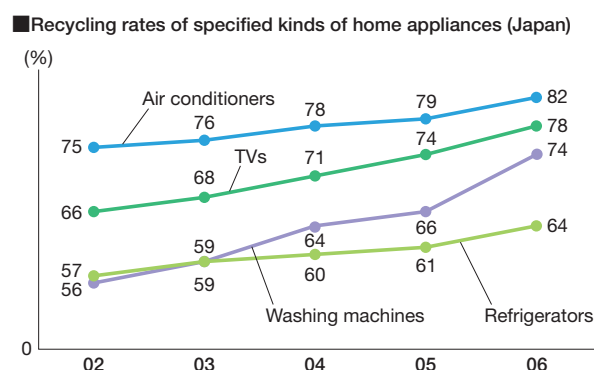
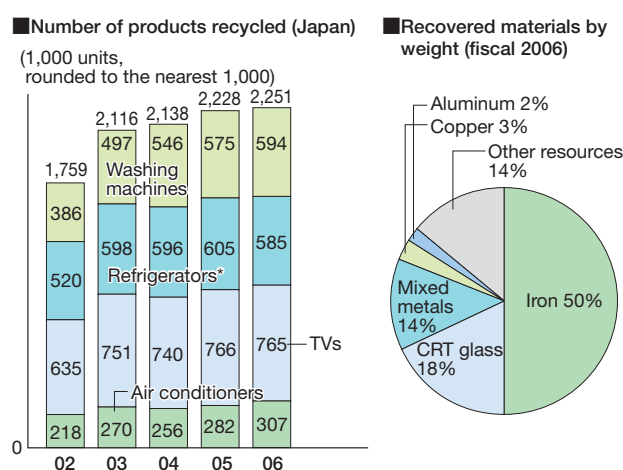
With the objective of effectively utilizing natural resources and preventing chemical substances from polluting the environment, a growing number of laws concerning recycling have been enacted and come into effect in the international community. In Japan, the Law for Recycling of Specified Kinds of Home Appliances and the Law for the Promotion of Effective Utilization of Resources were enacted; in the EU, the WEEE Directive took effect; and in the U.S.A., laws of the same sort were legislated in several states, and bills are under deliberation in others. In China, too, such bills are also being discussed. Against this backdrop, where systems for recycling are being established globally, Matsushita, a consumer electronics manufacturer, commits itself to recycling waste electronic products and designing products that take recycling fully into account.

## Targets for fiscal 2006

- Establish a system to expand product categories for recycling
- Increase recycling rates

## Results in fiscal 2006

- Commenced recycling of home appliances in Germany
- Increased recycling rates of four categories of home appliances by 10% compared with the fiscal 2002



## Recycling Waste Electronic Products

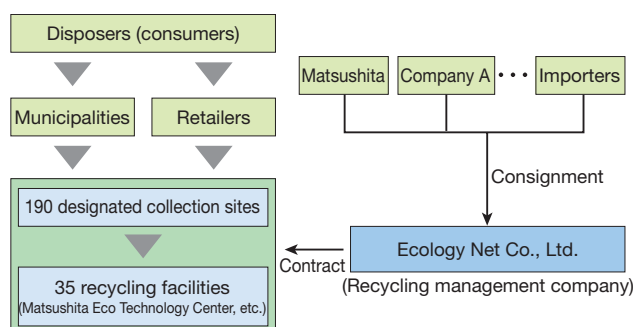
Activity 1

### Promoting efficient recycling of home appliances through effective use of existing infrastructures

In 2001, the Japanese government enacted the Law for Recycling of Specified Kinds of Home Appliances. The law targets four appliances of air conditioners, TVs, refrigerators/freezers, and washing machines, since these products account for approximately 80% by weight of waste electronic equipment in Japan. We have built an efficient geographically dispersed network through the effective use of existing recycling facilities nationwide. Ecology Net Co., Ltd., jointly established by Matsushita and other leading company, totally manages and operates the recycling scheme, including 190 designated collection sites and 35 recycling facilities, on behalf of manufacturers which concluded contracts. In fiscal 2006 Matsushita Eco Technology Center Co., Ltd. (METEC) recycled 700,000 units. In addition, METEC develops recycling technologies and products that are easy to recycle. We also promote educational activities, for example holding seminars targeting some 11,000 retailers with our original educational tools to raise awareness of legal compliance.

URL [panasonic.co.jp/eco/metec/en/](http://panasonic.co.jp/eco/metec/en/)

#### ■ Matsushita's home appliance recycling system in Japan



#### ● Recycling of specified kinds of home appliances

As a result of our recycling activities in fiscal 2006 (April 1, 2005, to March 31, 2006) based on the Law for Recycling of Specified Kinds of Home Appliances, 2,251 thousands of our products belonging to four types of specified home appliances were recycled at our recycling facilities nationwide, a total increase of 1% over fiscal 2005. The weight of recycled products was 66,000 tons, an increase of 8% over the previous fiscal year. Furthermore, realization of efficient manual-dismantling has contributed to increased amounts of recovered plastics. The recycling rate rose by 3 % to 8% over the previous fiscal year.



■ Summary of the recycling and collection of specified kinds of home appliances (overall total) (decimals truncated)

	Air conditioners	TVs	Refrigerators/freezers	Washing machines
Units collected*1 (thousand units)	308	765	585	600
Units for recycling*1+2 (thousand units)	307	765	585	594
Weight for recycling*2 (tons)	13,706	22,403	35,382	19,124
Weight recycled (tons)	11,355	17,492	22,822	14,185
Recycling rate (%)	82	78	64	74

\*1 Units collected at designated collection sites and units for recycling do not include units for which the treating manufacturers or other details were not identified due to improper descriptions in management slips or other reasons.

\*2 Units for recycling and the weight of such units refer to the total units and weight of the specified kinds of home appliances that received the required processing for recycling, etc., in fiscal 2006.

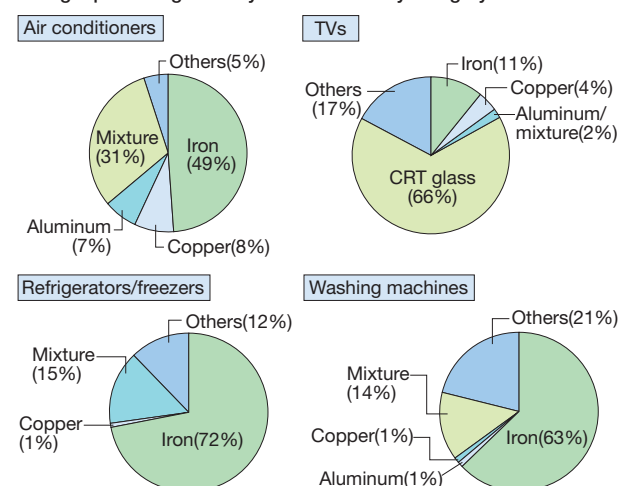
■ Summary based on Item 1, Article 47 of Japan's Enforcement Regulations (overall total)

Total weight of relevant parts and materials, made into status suitable for charged or free-of-charge transfers, to be used as parts or materials for new products. (tons, decimals truncated)

	Air conditioners	TVs	Refrigerators/freezers	Washing machines
Iron	5,520	1,910	16,368	8,953
Copper	875	740	208	159
Aluminum	817	53	24	138
Mixture of nonferrous, iron, etc.	3,521	317	3,476	2,026
CRT glass	—	11,571	—	—
Other revenue-generating waste*	619	2,899	2,745	2,907
Total weight	11,353	17,492	22,821	14,184

\* Other revenue-generating waste refers to printed circuit boards and other plastics.

■ Weight percentage of recycled materials by category



■ Weights of collected, shipped, and destroyed refrigerant fluorocarbons (kg, decimals truncated)

	Air conditioners	Refrigerators/freezers
Weight of collected refrigerant fluorocarbons	171,590	65,149
Weight of refrigerant fluorocarbons shipped to consigned destroying companies	171,014	64,376
Weight of disposed refrigerant fluorocarbons	170,016	63,349

■ Weights of fluorocarbons liquefied and collected from heat insulation, shipped, and destroyed (kg, decimals truncated)

	Refrigerators/freezers
Weight of fluorocarbons liquefied and collected from heat insulation	137,196
Weight of fluorocarbons liquefied and collected from heat insulation then shipped to consigned destroying companies	134,845
Weight of fluorocarbons liquefied and collected from heat insulation, then destroyed	132,076

\* The difference between the weights collected and shipped is the weight of units remaining in inventory.

\* The weights shipped and destroyed include the weights of some units from fiscal 2005.

\* The difference between the weights shipped and destroyed is a result of the time lag in receiving destruction reports.

Activity 2

## Recycling of our personal computers

Since fiscal 2002, we have been recycling our personal computers (PCs) in Japan through dedicated transportation and recycling companies. The recycling program was initially limited to business-use PCs, but was extended to home-use PCs in October 2003. Approximately 69 tons of PCs were processed in fiscal 2006 (an increase of 21% over the previous fiscal year), with a recycling rate of 63%. At the same time, we make efforts to contribute to the resource circulation by reuse of components.

■ PC recycling results (Japan, fiscal 2006)

Category	Business-use (units)	Home-use (units)	Recycling rate (%)
Desktop PCs	1,245	205	75
Notebook PCs	2,937	424	32
CRT displays	1,148	800	68
LCDs	1,089	73	56
Total	6,419	1,502	63

Activity 3

## Sharing our original expertise in Europe

In Europe, the EU's Directive on Waste Electrical and Electronic Equipment (WEEE) came into effect in August 2005. The Directive stipulates that manufacturers are responsible for collecting and recycling over 90 types of electrical and electronic equipment. Accordingly, Matsushita established ENE Ecology Net Europe GmbH (ENE) in April 2005, with the view that our expertise accumulated in Japan would be useful in Germany as well.

ENE, together with engineers from Japan, has confirmed the recycling technologies of major recyclers in European countries. Given the commencement of collection and recycling of waste electronic products in Germany on March 24, 2006, we intend to strengthen our partnerships with local recyclers to further improve recycling technologies and systems.



In response to the Directive on Waste Electrical and Electronic Equipment (WEEE), ENE Ecology Net Europe GmbH collects various kinds of waste electronic products, and analyzes them to determine the optimal recycling process.

# Environment and Energy Business

Matsushita manufactures many types of electrical and electronic equipment and runs various types of factories to produce them. Therefore, reducing environmental impact during the manufacturing process is important for us, and the technologies involved may lead to new business opportunities. Matsushita Ecology Systems Co. Ltd., in charge of our environmental businesses, promotes engineering services and environmental conservation businesses for corporate customers. The company is also working on energy recycling, including fuel cells, as a newly expanding environment and energy business.

## ●Household Fuel Cell Cogeneration System

In February 2005, Matsushita delivered the world's first commercial type of Household Fuel Cell Cogeneration System to the new official residence of Japan's prime minister. Since then, we have continued supplying the system, and as of the end of March 2006, approximately 100 units are now in operation.

Fuel cells synthesize water from hydrogen and oxygen and use the electricity generated in the chemical reaction as a household energy source. In cogeneration systems, the heat, generated simultaneously with electricity, is also utilized. Since the fuel cell offers high energy efficiency, the system can reduce CO<sub>2</sub> emissions by 45% and primary energy consumption by 32% from the average level of conventional energy sources for households (based on research by Matsushita).

In fiscal 2006, we have begun marketing houses equipped with fuel cells. If all Japanese households were to employ the fuel cell system, the GHG reduction effect would be equivalent to the forestation of a land area 30 times that of the Tokyo Metropolis.\* We intend to promote full-fledged deployment of the system from fiscal 2009.

\* Based on annual CO<sub>2</sub> emissions from a household (estimated by Matsushita) and the National Census of fiscal 2006 (by the Ministry of Internal Affairs and Communications, Japan).



A house with Household Fuel Cell Cogeneration System sold by PanaHome in August 2005 in Keikey New City Shonan Otsu-no-Oka, Kanagawa Prefecture, Japan

## ●Wind/Solar Hybrid Tower "Kaze-Kamome"

The Kaze-Kamome (Wind Seagull), which Matsushita launched in 2001, is a standalone hybrid outdoor lighting system. Electricity generated from wind turbines and solar panels on the tower runs the lights at night. The system maintains a steady brightness as long as the wind velocity remains at a minimum of 2.5 meters per second regardless of wind direction. Many governmental agencies have purchased the Kaze-Kamome system, because it provides the additional benefit of being able to supply emergency lighting in the event of a power failure. Moreover, it can be used for crime prevention in parks and other public spaces, when equipped with network cameras.

Currently, 624 Kaze-Kamome units are in operation worldwide (as of the end of March 2006).

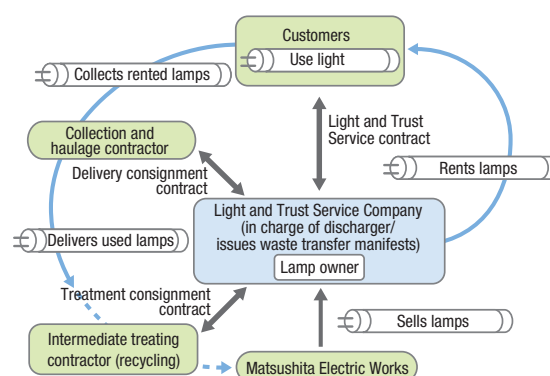


Kaze-Kamome installed in the Eco & Ud HOUSE

## ●Light and Trust Service

Today, most of the used fluorescent lamps discarded from factories and offices after their service life are simply crushed and land-filled. In 2002, Matsushita commenced Light and Trust Service. It supplies "function of light" from fluorescent lamps, rather than selling them. In this business, a service company established by Matsushita collects used fluorescent lamps to ensure appropriate treatment of the mercury and other chemical substances contained in the lamps. As of March 2006, 425 companies and 3,600 business sites utilize the this service. Matsushita thus promotes appropriate treatment of fluorescent lamps in Japan.

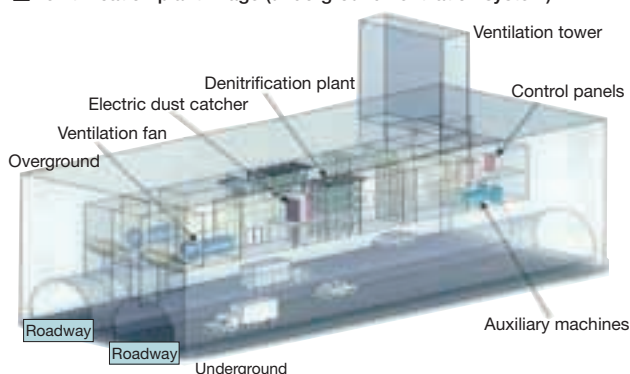
### ■Light and Trust Service



### ●Air purification through denitrification

In large cities where traffic jams create serious problems, many projects are under way to construct underground highways. From such underground structures, however, transport emission need to be discharged above ground through ventilation systems. Since exhaust gases contain NO<sub>x</sub> and other harmful substances, it is imperative that appropriate measures be taken to protect the health of drivers and local residents. In the past, removing NO<sub>x</sub> (denitrification) from highways was difficult because of fluctuating levels of NO<sub>x</sub> concentrations and atmospheric temperature. Matsushita has developed a denitrification system to remove NO<sub>2</sub> emissions which are particularly harmful to human health. We have already exchanged contracts to supply the system to the underground section of the Central Loop Shinjuku Line of the Tokyo Metropolitan Highway (scheduled for completion in March 2007). This will be the first denitrification system in Japan to be installed in a tunnel.

#### ■Denitrification plant image (underground ventilation system)



### ●Sewage treatment in rural communities

Since fiscal 1987, Matsushita has been working on sewage treatment in rural communities. Sewerage systems in agricultural village areas are generally not as advanced as in urban areas, so we have been pursuing a small-scale dispersal type sewage treatment facility, called JARUS, more suited to smaller agricultural communities. By fiscal 2006, we had delivered 82 units in line with governmental campaigns to promote small-scale sewage systems.

The largest challenge in sewage treatment is the large amount of sludge generated during the sewage treatment process. To resolve this problem in JARUS, Matsushita developed a sludge reduction plant called "EcoSludge." Ultrasonic waves are transmitted to break down the sludge within the storage tank into nutrition for microbes, and microbes break it down into CO<sub>2</sub> and H<sub>2</sub>O. This plant reduces the amount of sludge generation to 30% or less.



Sludge reduction plant: EcoSludge

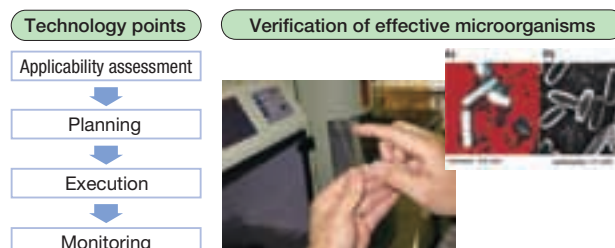
### ●Soil and groundwater remediation through biotechnology

Matsushita provides an advanced bio-remediation service that makes use of the microbes living in the soil in a method of remediating soil/groundwater contaminated by chlorinated volatile organic compounds (VOCs: tetrachloroethylene, trichloroethylene and chlorinated hydrocarbons). In this service we put "Amteclean," a nutrient salt made from palm oil, into the soil/groundwater. It activates the VOC decomposition functions of the microbes living there. Although this new method requires a longer period than excavating contaminated soil and replacing it with clean soil, it has less effect on ecosystems and is more affordable.

It is essential that the decomposing bacteria are present in the soil/groundwater for its remediation. Although conventional methods have been unable to identify the optimum type and amount of decomposing bacteria, Microarray Technology\*, developed in 2005, allows us to determine the presence of suitable decomposing bacteria and identify 22 bacteria types in a single test.

\* Developed in collaboration with Gifu University and the National Institute of Advanced Industrial Science and Technology.

#### ■Treatment process through Microarray Technology



### ●Environment conservation using electric bicycles

Our electric bicycle, called the "business ECO bike," is equipped with our original electric motor unit, torque sensor, and high-performance lithium-ion battery. With these advanced components, the ECO Bike has enhanced its performance to the point where it is now replacing motorcycles for specialized uses such as mail and newspaper deliveries, and police patrols. Replacing 90 cc motorcycles with this bicycle helps curtail annual CO<sub>2</sub> emissions by 542 kg per unit. To date, we have also supplied the bicycles to private railway companies as rental cycles for commuting and sightseeing. As a new means of transport, our electric bicycle helps reduce the environmental impact in urban areas. Moreover, the electric bicycle features easy pedal operation. Since riders do not need a license, this also helps provide job opportunities to greater numbers of people.



Electric bicycle "business ECO bike"



To prevent global warming and air pollution, Matsushita Group not only manufactures environment-conscious products but is also promoting Green Distribution – a more environmentally-conscious way of distributing our products. Furthermore, we think that if more customers use our products with greater care and for a longer period of time, we will be able to reduce the environmental impact to an even greater extent.

## Targets for fiscal 2006

- Promote a shift to more environmentally-conscious transport options such as rail
  - Rail freight delivery target: 20,000 containers
- Resource-conserving sales activities by utilizing the Internet

## Results in fiscal 2006

- Achieved a shift to more environmentally-conscious transport options;
  - Rail freight delivery achieved: 17,595 containers

## Green Marketing

Activity 1

### N's Eco Project

As part of our wide-scale environmentally-conscious marketing campaign, in Japan we have been working on a campaign under our "National" brand, called N's Eco Project, since 2003. We are also providing useful awareness-raising environmental information on our website, which many stakeholders find very helpful.

#### Actual deployment results of N's Eco Project

Period	Campaign	Results*
First-half fiscal 2004	A new tree for each new child	Approx. 510,000 ton reduction in CO <sub>2</sub> emissions = equivalent to approx. 36 million cedar trees <sup>*1</sup>
Second-half fiscal 2004	Trees and schools - a great combination	
First-half fiscal 2005	Let's plant a commemorative tree	Approx. 510,000 ton reduction in CO <sub>2</sub> emissions = equivalent to approx. 36 million cedar trees <sup>*1</sup>
Second-half fiscal 2005	N's Eco Project - turn the world green	
First-half fiscal 2006	Let's draw Eco Pictures and plant more greenery!	Approx. 740,000 ton reduction in CO <sub>2</sub> emissions = equivalent to approx. 52 million cedar trees <sup>*1</sup>
Second-half fiscal 2006		

\* Possible annual reduction in CO<sub>2</sub> emissions by our major energy and water conserving products compared with our products of 7 to 10 years ago. (The electricity CO<sub>2</sub> emission factor is 0.357 kg - CO<sub>2</sub>/kWh.)  
Amount of CO<sub>2</sub> absorbed by 50-year-old cedar trees in Gifu (forest plantation): calculated at 14 kg/tree per year.

Activity 2

#### Products satisfying the International Energy Star Standard (fiscal 2006)

Products	Number of models
Computers	336
Printers	12
Fax machines	11
Scanners	3
Multi-function machines	3

Number of products listed on Japan's International Energy Star Program



Scanner KV-S3105CN

#### List of registered Eco-Leaf Environment Labels (Type III) in Japan

Items	Number of models	
	Fiscal 2006 results	Total number of models*
Fax machines	9	10
Business fax machines	1	2
Electrostatic copiers	0	1
Optical disc drives	1	2
Interphones	5	6
Fixed phones	12	14
Network cameras	10	16
PBX systems	2	2
Electronic whiteboards	3	3
Total	43	56

\* Number of models released as of March 31, 2006

### Environmental appeal of products

Through our website and catalogues, together with environmental labels on our environmentally-conscious products, we are aiming to convey clear and easy-to-understand environmental information to help our customers make "smart choices" when considering which products to purchase.

ISO (International Organization for Standardization) defines three categories of environmental label or declaration for environmentally-conscious products: products accredited by each country's accreditation organization (Type I); products self-declared by the manufacturer as environmentally-conscious (Type II); and products displaying quantitative environmental impact data (Type III). Matsushita is working on all three types of environmental declaration categories.

#### Fax machines with Type II and III declaration, and Energy Star mark



#### Eco-marked imaging system





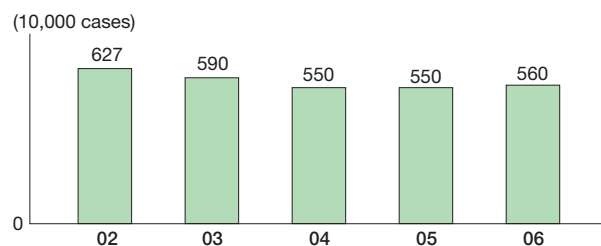
# Repairs and Servicing

Concept

## Our concept of repairs and servicing

The number of repair service requests at our service counters has been decreasing since fiscal 2001. We believe the reasons for this are attributable to our products' improved quality, functionality, and energy conservation capabilities. In reality, the reduced cost of new products gives consumers the impression that repair cost is comparatively expensive, and encourages more customers to make replacement purchases rather than considering the repair option. Nonetheless, with customers shifting to a more energy and resource-conscious way of thinking, with the establishment of a quicker repairs/service system, and with an increase in repair cases due to increase in the operating time of air conditioners, repair cases in fiscal 2006 actually increased by 100,000 in comparison to fiscal 2005.

■ Number of repair cases in Japan

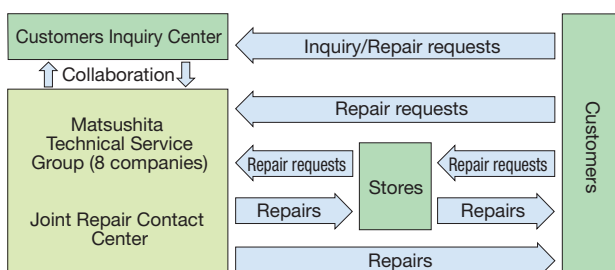


Activity 1

## Repair/services system

Generally in Japan, service requests from customers are directed at the stores that sold the product. At the center of this system are the approximately 20,000 community-based specialized stores scattered across Japan. Matsushita also receives repair requests from customers at its Customer Inquiry Center—open 365 days a year—and two Joint Repair Contact Centers in eastern and western Japan, established by Matsushita Technical Services, which itself is located in eight regions of Japan. Matsushita Technical Services offers express repair services at customers' homes in addition to high-level repairs provided through local specialized stores.

■ Repair/servicing request flowchart



Activity 2

## Providing quick repairs through repair operation management system

To have our customers use our products with care and for a longer time, it is essential that we offer quick and low cost repair service. We intend to expand the Repair Operation Management System developed by Kinki Matsushita Technical Services in 2003 (making full use of its IT capabilities), to all regions of Japan by fiscal 2007. This system enables the schedule for the repair service at customers' homes, the reservation confirmation and the procurement of necessary repair parts to be managed over the computer. The system also compiles a database of previous repair information, which makes it easier to detect the cause of malfunctions, and with lists of frequent problems, it also helps in quick repair parts procurement.

Activity 3

## Repair service technology enhancement and customer awareness-raising activities

Matsushita's Technology Division is working to design products with structures that enable easy replacement of parts in the event of a problem. On the other hand, repair service staff have direct contact with consumers, and in order to provide a customer-satisfying repair service that enables consumers to use our products for a longer period of time, it is important that repair service staff have access to the most up-to-date repair technology and product knowledge, so that they can transfer knowledge and good-practice to consumers.

Moreover, in order to have our customers use our electrical appliances correctly and most efficiently, we provide a wide range of information, through brochures and our website. We also hold lectures for customers to enhance their environmental awareness.

Future activities

## Reflecting customers' opinions in product manufacturing

In order to identify the precise cause in the event of a problem, there is a Self-Diagnosis Display Function in many of our products that have display functions. However, we are also trying to make products' functionality as simple as possible to understand, in order to simultaneously reduce the possibility of problems and pursue universal designs accessible to all people.

Opinions from customers on product functionality, quality, and usability, together with their opinions on repairs and servicing, are analyzed daily. They are shared among our related divisions, and reflected in our business operations.

## Green Distribution

Concept

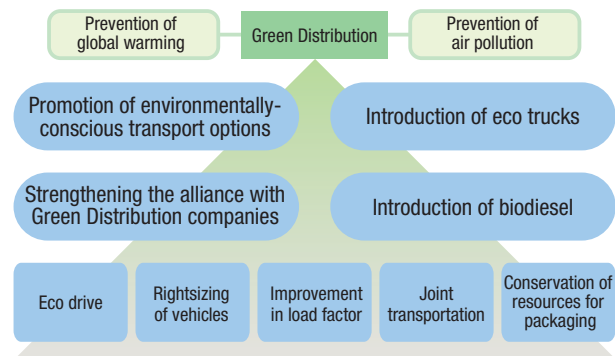
### Our aims in Green Distribution

Japan's revised Energy Conservation Law took effect in April 2006, tightening related environmental regulations. Companies are now required to keep track of energy consumption associated with distribution activities and to develop business rationalization plans.

With an eye to Green Distribution, we have been working on four priority projects—a shift to more environmentally-conscious transport options, the introduction of eco trucks, the strengthening of alliances with Green Distribution companies,\* and the introduction of biodiesel. In October 2005, responsibility for energy conservation in distribution was assigned to specific personnel in each in-house and affiliated company in Japan, so as to reinforce our system for promoting Green Distribution. We also set up a working group to formulate a group-wide policy and implement these priority projects. In March 2006, a policy for Green Distribution was introduced to reduce fiscal 2011 CO<sub>2</sub> emissions by 4% per basic unit below the levels of fiscal 2007. In March 2006, a policy for Green Distribution was introduced to reduce fiscal 2011 CO<sub>2</sub> emissions by 4% per basic unit from the levels of fiscal 2007.

\* Distribution companies certified under ISO 14001, Green Management, or Eco Action 21.

#### Major projects in Green Distribution



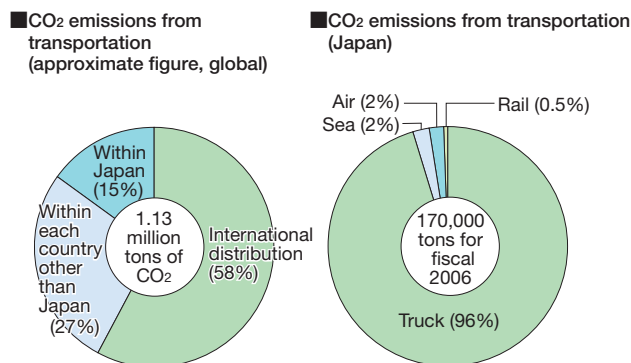
Hybrid trucks



Launch ceremony for biodiesel vehicles

#### Breakdown of CO<sub>2</sub> emissions from transportation

We measured 1.13 million tons of CO<sub>2</sub> emissions from global transportation in fiscal 2006. Of these, transportation outside Japan accounted for 58% and domestic transportation 15%. Transportation by trucks accounted for 96% of total CO<sub>2</sub> emissions in Japan.

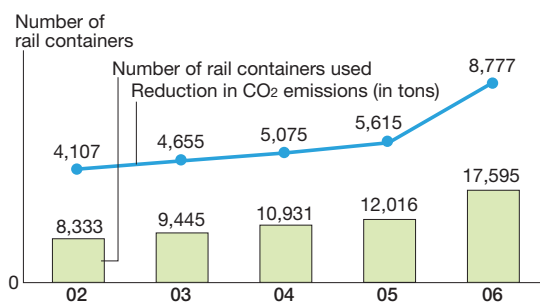


Activity 1

### Promotion of environmentally-conscious transport options

We are working on a shift in distribution from truck to rail, to reduce CO<sub>2</sub> emissions to approximately one-eighth. A total of 17,595 five-ton containers were used for transportation by rail in fiscal 2006, which was less than our target. Nonetheless, this figure still represents a 150% increase from the level of fiscal 2005, or a rise of more than 10 times from fiscal 1999, when we launched the initiative. We were able to cut CO<sub>2</sub> emissions by 8,777 tons through transportation by rail.

#### Reduction in CO<sub>2</sub> emissions by rail transportation (Japan)



31-feet long rail containers owned by Matsushita Group

### ●Eco Rail Mark accredited companies

Following Matsushita Battery Industrial Co., Ltd, the first recipients of the "Eco Rail Mark" in Japan, Panasonic Storage Battery Co., Ltd. and Matsushita Plasma Display Co., Ltd. were awarded the same accreditation. This eco mark is given to companies that transport more than 15%

of cargo by rail freight over a distance of 500 km or more. The eco mark thus represents those companies that are making positive utilization of rail transportation.



Eco Mark of Matsushita Battery Industrial Co., Ltd

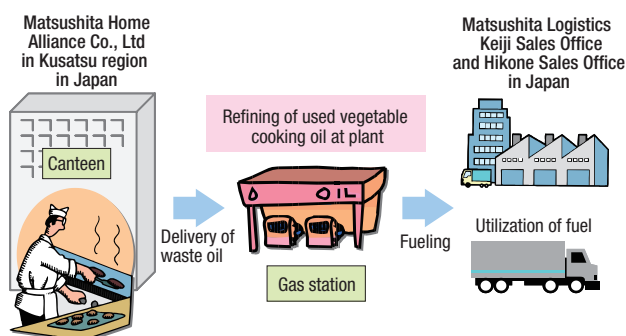
### Activity 2

### Promoting biodiesel usage

Biodiesel\* is gaining credibility as a fuel that does not increase the concentration of CO<sub>2</sub> in the atmosphere, and which can be used as a substitute for light oil, by refining used vegetable cooking oil and waste oil. Used vegetable cooking oil from a factory canteen in Shiga Prefecture in Japan was experimentally converted into biodiesel during trials between September 2005 and March 2006. We developed a project to utilize the biodiesel for fueling company hybrid trucks. About 7,000 liters of used cooking oil is annually discharged from the area. Using the bio fuel, we could conserve the amount of light oil that would otherwise be consumed by two trucks annually. We now plan to further promote the use of biodiesel by implementing this model project in other areas.

\* Fuels derived from biomass – recently living organisms or their metabolic byproducts.

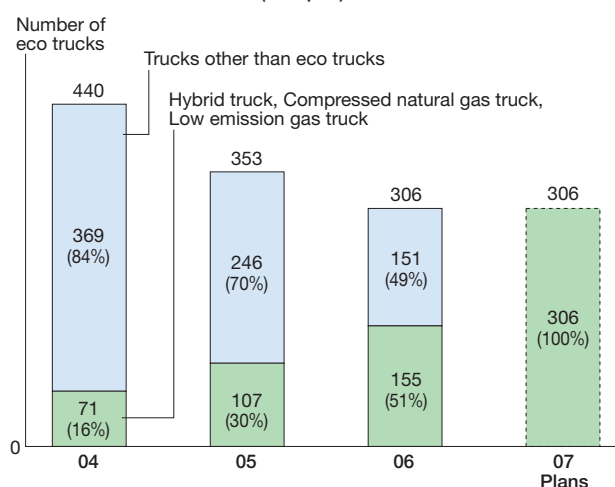
#### ■Project for used cooking oil to biodiesel conversion in factory canteen



### Promoting the introduction of eco trucks

Immediately after the launch of the world's first hybrid truck in November 2003, Matsushita Logistics Co., Ltd. began using these vehicles. The hybrid truck features a high level of fuel efficiency, enabling the reduction of CO<sub>2</sub> emissions by approximately 25% and atmospheric pollutants by more than 50% compared with conventional diesel trucks. The company aims to replace all its small delivery trucks with eco trucks by March 2007.

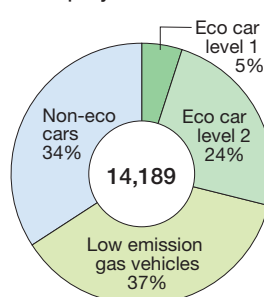
#### ■Introduction of eco trucks (in Japan)



#### ●Promoting the introduction of eco-cars

Based on our Environmental Policy for Company-Owned Cars, established in December 2002, we plan to switch all of our company vehicles in Japan (including those for sales and business), to eco cars by fiscal 2011. In January 2006, we launched our a Leap Ahead Eco Car Plan, to step up our eco car initiative, and raised the standard for company eco cars to the same level as for official government cars. At the same time, our target areas were expanded to cover sales and service companies.

#### ■Our eco car introduction for company owned vehicles



(Japan, excluding trucks)  
\* As of the end of March 2006

#### ■Our definition of eco cars

Level 1
<ul style="list-style-type: none"> <li>●Electric powered vehicles</li> <li>●Natural gas powered vehicles</li> <li>●Methanol gas powered vehicles</li> <li>●Hybrid vehicles</li> <li>●Fuel cell powered vehicles</li> <li>●Vehicles that achieve more than a 75% reduction against the standard gas emission levels for fiscal 2006 and a fuel efficiency of 5% higher than fiscal 2011 standard levels</li> </ul>
Level 2
<ul style="list-style-type: none"> <li>●Vehicles that achieve more than a 75% reduction against the fiscal 2006 standard gas emission levels and 2011 standard fuel efficiency levels</li> <li>●Vehicles that achieve more than 50% reduction against the standard gas emission levels for fiscal 2006 and fuel efficiency higher than fiscal 2011 levels</li> </ul>

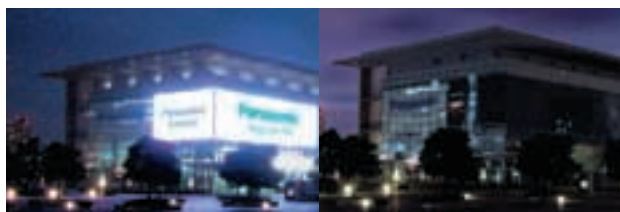
To build a sustainable society, it is essential to fully share environmental information between companies and stakeholders (persons who have an interest in companies). We are making efforts to inform people within and outside the company concerning our environmental activities in an understandable way, and to conduct interactive communication with people in various walks of life, and to use their feedback as a driving force within our environment sustainability management. Alongside our own environmental business activities, we support organizations engaged in environmental activities and various educational programs, so that all company employees can take a lead in living an environmentally-conscious life in their homes and communities.

## Targets for fiscal 2006

- Communication
  - Evolve from Environmental Report to Sustainability Report
  - Publish on-site reports
  - Promote dialogue with a wide range of stakeholders
- Green investment and contribution to local communities
  - Continuously implement forest preservation activities. Greening of factory premises and roof tops of buildings
  - Green investment promotion/Establishment of green fund
- Corporate citizens' activities
  - Expand LE (Love the Earth) family to more than 50% of total employees' households (Japan)
  - Expand LE Citizens' Campaign outside the company
- Partnerships
  - Strengthen partnerships and formation of networks with environmental NPOs
  - Actively participate in and contribution to environmental activities by international organizations, governments, local municipalities, etc.

## Results in fiscal 2006

- Environmental Sustainability report evolved to Sustainability Report  
On-site reports on 314 manufacturing sites were released  
Six dialogue sessions with stakeholders were held
- Our program, "Forests for Co-existence" (aimed at promoting nature reserves on company premises) was maintained
- 52% of employees' families participated in the LE family
- Four information exchange meetings held with other companies
- Participated in Ministry of the Environment's campaign "Network of one million people for CO<sub>2</sub> reduction"  
Neon signboards at 220 business sites in Japan were turned off for 254 days



Lights - out at Panasonic Center in Tokyo

## Disclosure of Environmental Information

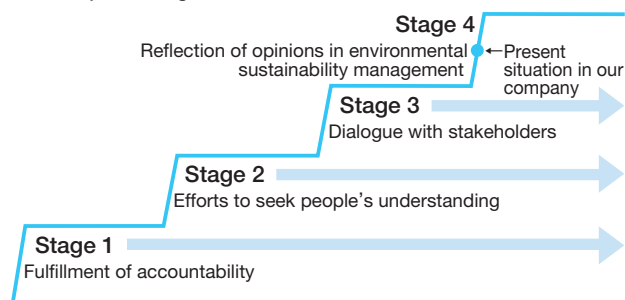
activity

### Stakeholder feedback for environmental sustainability management

In order to ensure full basic accountability in the environmental field, we began to release an environmental report in fiscal 1997. From fiscal 2005, we instead began to publish a Report for Sustainability, which focuses on the important issues of CSR, and an Environmental Data Book, which reports on details of our environmental activities (Stage 1). We have been aiming at easy-to-understand information disclosure by various means, to help as many people as possible to better understand our environmental impact and our efforts to remedy associated problems (Stage 2). Through various forms of dialogue with stakeholders in various types of business activities, we are deepening our mutual understanding (Stage 3). Feedback obtained from local communities (people's opinions, proposals, criticisms, etc.) is then reflected in our environmental sustainability management (Stage 4).

In fiscal 2006, we put more effort to feeding back the information we have received through such communication activities (in Stage 4) into our group companies.

#### Development stages of environmental communication



#### Environmental communication results (handled by the head office of Matsushita Electric Industrial Co., Ltd. in fiscal 2006)

Media/activities	Results	Media/activities	Results
Sustainability Report (in Japanese)	30,000 copies	TV commercials	4
Sustainability Report (in English)	10,000 copies	Newspaper ads	11
Sustainable Report (in Chinese)	4,000 copies	Exhibitions	12
Environmental Data Book (in Japanese)	10,000 copies	Lecture meetings	23
Environmental Data Book (in English)	5,000 copies	Books, papers, lecturers	15
Environmental Data Book (in Chinese)	5,000 copies	Interviews with reporters	15
Website (in Japanese)	Approx. 2.48 million page views	News release	6
Website (in English)	Approx. 200,000 page views	Responses to surveys / questionnaires	56
Stakeholder dialogue	6	E-mail inquiries	1,163



## ●Participation in the national program “Team -6%”

The Japanese government launched the national program “Team -6%” aimed at reducing greenhouse gas emissions by 6% below 1990 levels, through the collective efforts of the nation—the goal set under the Kyoto Protocol, but feared unlikely to be achieved. We were among the first to participate in this program as a team member, working positively in two target areas. In our daily business activities, we encouraged staff to restrict air-con thermostats to levels that would minimize energy-consumption and to practice “COOL BIZ”<sup>\*1</sup> and “WARM BIZ”<sup>\*2</sup> as well as our Lights-out campaign. In our product marketing area, we used the program logos on advertisements, product catalogs, and store displays at every possible opportunity.

In our Lights-out Campaign, which attracted attention as an unprecedented and unique activity, advertising neon signboards and electrically illuminated billboards at all of our 220 business sites in Japan were turned off after 8:00 p.m. for a total of 254 days from the start of July 2005 through the end of March 2006. This resulted in a reduction of 880,000 kWh of electricity and 384 tons of CO<sub>2</sub> emissions. We are continuing this campaign in fiscal 2007.

<sup>\*1</sup>, <sup>\*2</sup> Nicknames for summer and winter casual business wear advocated by the Environment Ministry, Japan. Appropriate clothing helps one work comfortably in an office with an air conditioner set at 28 °C in summer and 20 °C in winter.



Signboard installed at the entrance of all business sites in Japan.



Product catalog (logo at lower left)

## ●Eco Forum 2005

Eco & Ud HOUSE (P.11–12) is our new showcase to demonstrate our concept of Creating Value for a New Lifestyle. At its official opening on 29th and 30th November 2005, we held “Eco Forum 2005,” where we demonstrated how we are addressing environmental problems to 205 experts who toured the house, and received valuable feedback.



A dialogue on eco life was held twice and we received frank comments about our Eco & Ud HOUSE and our environmental sustainability management activities.

## ●Participation in major exhibitions

Exhibitions	Venues	Opening period
EXPO 2005 Aichi	Aichi	March - September 2005
INTEROP Tokyo	Tokyo	June 2005
Home Care & Rehabilitation Exhibition	Tokyo	September 2005
CEATEC JAPAN	Tokyo	October 2005
WPC EXPO	Tokyo	October 2005
Eco-Products International Fair	Bangkok (Thailand)	October 2005
Eco-Products Fair	Tokyo	December 2005
CES	Las Vegas (USA)	January 2006
ENEX	Tokyo/Osaka	February 2006

## ●On-site environmental communication results

	Japan	America	Europe	Asia/Oceania	China/Northeast Asia
Site tours (visitors)	48,717	1,370	172	3,169	1,438
Community contribution activities* (frequency)	400	178	14	31	261

\* Environmental events involving our participation and cooperation, including briefings to local residents on our environmental activities and meetings with them.

## ●Number of business establishments disclosing information in reports, on websites, or through other media (by region)

Japan	America	Europe	Asia/Oceania	China/Northeast Asia
144	25	19	65	61

## ●History of environmental report issuance

Year	Number of copies			Number of pages	Date of issuance
	Japanese	English	Chinese		
Environmental Report					
1997	17,000	8,000	—	24	February 1998
1998	10,000	10,000	—	28	March 1993
1999	18,000	5,000	—	40	September 1999
2000	22,000	5,000	—	56	September 2000
Environmental Sustainability Report					
2001	20,000	5,000	—	66	September 2001
2002	25,000	5,000	—	78	June 2002
2003	35,000	5,000	—	92	June 2003
The Panasonic Report for Sustainability					
2004	25,000	8,000	4,000	76	June 2004
2005	30,000	10,000	4,000	54	June 2005

## ●History of Environmental Data Book issuance

Year	Number of copies			Number of pages	Date of issuance
	Japanese	English	Chinese		
2005	10,000	5,000	5,000	66	August 2005

## ■Major awards in the environmental field (fiscal 2006)

Category	Country, Presenter, Award	Title	Recipient/Contents
Environmental sustainability management	Global Environmental Award, Fujisankei Communication Group, Japan	Grand prize	Matsushita Electric Works, Ltd.
	State Environmental Protection Administration of China	National Environment-Friendly Enterprise	Panasonic Wanbao Compressor (Guangzhou) Co., Ltd.
	Environmental Protection Magazine, U.S.A.	Incentive Award for Businesses Contributing to Environmental Protection	Panasonic Shikoku Electronics America Co., Ltd.
Products & services	Global 100 Eco-Tech Awards Association of the 2005 World Exposition, Japan	Global 100 Eco-Tech Awards	Matsushita Electric Industrial Co., Ltd., Semiconductor Company Energy Conservation IPD Series for Stand-by Switching Power Supply Matsushita Electric Industrial Co., Ltd., Matsushita Home Appliances Company, Refrigeration Research Laboratory Development of High-performance Vacuum Insulating Material (U-Vacua)
	Ozone Protection and Global Warming Prevention Award, Nikkan Kogyo Shimbun Ltd., Japan	Outstanding Achievement Award	Matsushita Electric Industrial Co., Ltd., Matsushita Home Appliances Company Development of High-efficiency CO <sub>2</sub> Heat Pump Hot-Water Supply System
	New Energy Award, New Energy Foundation, Japan	New Energy Foundation Chairman's Award	Matsushita Electric Industrial Co., Ltd. Development of Home Fuel Cell Co-generation System and its diffusion and promotion through marketing
	Eco Products Award, Council for Eco-Products Award Promotion, Japan	Ministry of the Environment's Award for Eco-Products Category	Matsushita Electric Industrial Co., Ltd. Fuel Cell Co-generation System/ Lifuel (Tokyo Gas Co., Ltd. and Ebara Corporation were jointly awarded.)
Prevention of global warming	Minister of the Environment's Commendation for Global Warming Prevention Activities, the Ministry of the Environment, Japan	Ministry of the Environment's Award for Measures, Activities and Implementation	Kagawa Matsushita Electric Works, Ltd. Construction and Implementation of Earth-friendly Transportation System such as Modal Shift to Rail
		Ministry of the Environment's Award for Environmental Education and Diffusion Categories	Matsushita Group's "Love the Earth Citizen's Campaign" Promotion Committee
Recycling for resource conservation	Awards for Achievement in Promoting Reduce, Reuse, Recycle Activities, 3R Promotion Council, Japan	3R Promotion Council Chairman's Award	Panasonic Mobile Communications Co., Ltd. Promotion of 3R Campaign by Full Members in the Yokohama area
			Matsushita Refrigeration Company, Refrigeration Devices Division, Kusatsu Plant, Insulation Devices Team Recycling of Materials Made of Glass Fiber and Waste of Vacuum Insulation Materials
			Kitakyushu Matsushita Electric Works, Ltd., Production Engineering Section Reduction of SK Counter Raw Material and Commercialization of Waste
Environmental communication	Sustainability Reporting Award, Toyo Keizai Inc., Japan	Outstanding Achievement Award	Matsushita Electric Group The Panasonic Report for Sustainability 2004
	Dentsu Advertising Awards, Dentsu Advertising Award Council, Japan	Dentsu Newspaper Advertising Award for Industry and Housing Categories	"250 Years Spent Overheating the Earth" advertisement
	Japan Magazine Advertising Award, Japan Magazine Advertising Association, Japan	Ministry of the Economy, Trade and Industry Prize	National home garbage disposer
	Contest for Good Advertising for Consumers, Japan Advertisers Association, Japan	Bronze Award for Newspaper Advertising in Category A	Packages 100% made of waste newspapers
		Silver Award for Newspaper Advertising in Category C	"250 Years Spent Overheating the Earth" advertisement
		Television Advertising and JAA Advertising Award	Recycling of Refrigerator for Mother and Daughter
	Nikkei Advertising Award, Nihon Keizai Shimbun Inc., Japan	Environmental Advertising Award Ministry of the Environment's Award	Household Fuel Cell Cogeneration System "250 Years Spent Overheating the Earth" advertisement
	Nikkei MJ Advertising Award, Nihon Keizai Shimbun Inc., Japan	Nikkei MJ Advertising Award	Matsushita Electric Industrial Co., Ltd.

## ■Major honors in the environmental field (fiscal 2006)

Listed in the Dow Jones Sustainability Index  
 Listed in the FTSE4Good Global 100 Index  
 Listed in the Ethibel Sustainability Index  
 Ranked first among 586 companies in the Nikkei Environmental Management Survey of the manufacturing sector  
 Graded AA by Tohatsu Evaluation and Certification Organization Co., Ltd. in the environmental ratings  
 Ranked fourth among 544 companies in the Nikkei BP Environmental Management Forum's Environmental Brand Survey



## Environmental Gallery fiscal 2006

To inform as many people as possible about our stance and work on environmental preservation, we have undertaken a significant amount of advertising in newspapers and on TV and radio. "Understandability" is an important factor in our environmental communications because there are many topics in the environmental field that can be difficult for non-experts to understand. Our priority has been to communicate clearly how we deal with each major environmental issue and to accurately present the facts. Here is a selection from our corporate advertising activities published in fiscal 2006.

## ■Newspaper advertisements

灯りをこまめに消していただく方がいます。松下グループも、今からネオンをこまめに消そうと願っています。

全国22都府県のネオンも、毎日夜を待たず消灯キャンペーンを実施。次の時代を明るく照らすために、今、できることから。

松下グループは、みなさんと共に「チーム・マイナス6%」に取り組んでいます。

## Lights-out

Starting from today, Matsushita Group would like you to know that we will be turning off our neon signboards as often as possible (run on July 21, 2005).

## Fuel cell

About a year has passed since the introduction of the world's first fuel cells into the market. "The circle of fuel cells" is expanding rapidly (appeared on January 1, 2006).

みんなで、冷房を28℃に！  
ナショナルは、エコマークでお知らせします。

あなたに代わってお掃除するから、ずっと省エネです。

お掃除ロボット機能。フィルターを自動で掃除。部屋を清潔に保ち、空気をキレイにします。

ナショナルエアコン

28℃ 冷房は28℃に設定しよう

松下グループは、みなさんと共に「チーム・マイナス6%」に取り組んでいます。

## Air conditioners

A smiley face appears on this air conditioner when it is set at 28°C. Matsushita is committed to the national program, "Team -6%" together with you.

電気も、お湯も、お家で作る。  
CO<sub>2</sub>を減らす燃料電池の輪をひろげていきます。

燃料電池は、環境にやさしいエネルギーです。お家で作る電気を、お湯も作ります。CO<sub>2</sub>を減らすことができます。

エコ・ウ・ハウス

家庭用燃料電池 コーポレーション

明日のくらし 体験ハウスへようこそ。

松下グループは、ECOとUDで「新たなくらし環境創造」に取り組んでいます。

エコ・ウ・ハウス

## Eco &amp; Ud HOUSE

Our Eco & Ud HOUSE was opened in Tokyo's Ariake district. You are welcome to visit the house to experience tomorrow's life, eco lifestyles, and universal design (appeared on February 6, 2006).

## ■TV programs sponsored by our company

## TV Tokyo's special program, "Symbiotic earth"

Over the course of one year, Yoshio Tsukio, an honorary professor at the University of Tokyo and a leading figure in IT and the environmental field, gives a profile of how industry is facing up to environmental problems that threaten humanity.

- Part 1 Horror of the 29th day (May 8)
- Part 2 Factor X (July 10)
- Part 3 Era of 5R (September 11)
- Part 4 Contrary industrial revolution (November 13)
- Part 5 Price of great nature (January 15)
- Part 6 Borderless environment (March 12)

環境問題の主役は、65億人。

「地球共生」シリーズ

地球共生シリーズ 第4回「環境はなぜ壊れていくのか」

本日午後4時放送

## ■Advertisements carried (Japan)

Newspaper advertisements		
Theme	Slogan	Month
Fuel cell	250 years spent overheating the Earth	June
Air conditioner	Energy conservation with built-in automatic filter cleaning system	June
Dishwasher/dryer	Water conservation by washing with mist	July
Air conditioner	Remote control with a smiley	July
Lights-out	Lights-out across the country	July
Energy conservation technology	Energy consumption is proportional to one's weight	September
Water conservation technology	Water conservation is electricity conservation	September
Fuel cell	Fuel cells are spreading to homes	January
Tilted drum washer/dryer	More fruitful eco life for 2006	January
Eco & Ud HOUSE	House to experience tomorrow's life	February
Fluorescent lamp	Happy family life	March
TV commercials		
Theme	Title	Air-play
Fuel cell	Earth's message	April-November
METEC	Block	April-November
METEC	Refrigerator for mother and daughter	April-November
METEC	Treasure chest	December~

## Social Contribution and Environmental Awareness

activity 1

### Love the Earth Citizens' Campaign led by Matsushita's employees and their families

In 1998, we started the Love the Earth Citizens' Campaign (LE Campaign) targeting our employees and their families. The idea behind this was a call for people in business to become environmentally-conscious citizens in their families and communities lives, which was endorsed by Matsushita's president of the time. Various efforts are now well under way in the Matsushita Group to enhance environmental awareness and innovate people's lifestyles. Details and information are continuously posted on our website.

#### ■ Aims of Love the Earth Citizens' Campaign



In LE activities, we are guided by the "Eight Action Programs for Eco Life."\* Based on these programs, we are promoting campaigns for the introduction of the household eco-account book, and the use of eco bags to reduce throw away plastic shopping bags as initiatives that can be practiced by employees and their families in their homes. The results of such efforts have been published, and with our LE activities already into their 8th year, our in-house efforts are gradually producing tangible results. In fiscal 2005, 52% of our employees' households in Japan took part in these activities. We plan to extend such campaigns to local communities.

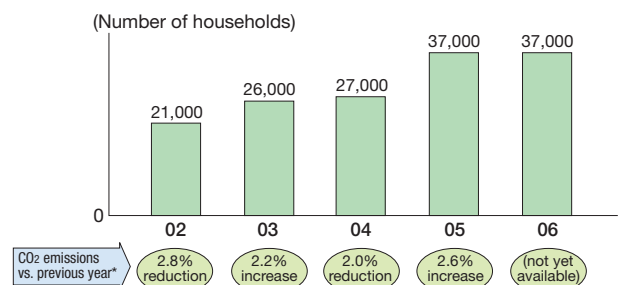
\* 1) Energy conservation; 2) Use of eco bags; 3) Cooking for eco life; 4) Green Purchasing; 5) Extended use of products; 6) Waste reduction/ Recycling; 7) Use of public transport/Eco driving; 8) Environmental volunteer work.

#### ● Household eco-account book initiative

This awareness-raising campaign is intended to record and reduce the amount of energy, such as electricity and gas, consumed in our homes. We distribute our original household eco-account books to our employees and provide an explanation of the relationship between life and environment, so to encourage a more active interest in environmental issues and a review their lifestyles, rather than simply recording data. We are promoting this project

in the hope that it will lead to an increase in employees' environmental awareness and the real practice of "eco living."

#### ■ Number of participating households and past achievements



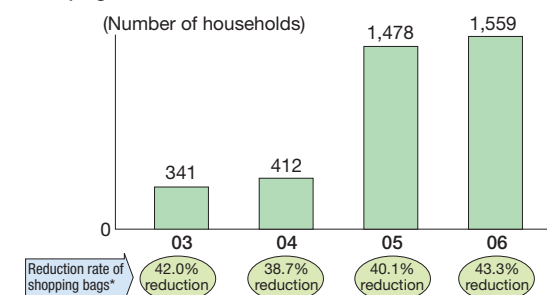
\* Total CO2 emissions from households that participated in the campaign for two consecutive years.

#### ● Plastic shopping bag reduction campaign

This campaign is aimed at reducing the number of plastic bags consumed at checkout counters by using reusable "eco bags" when shopping, so as to conserve resources and cut back on waste.

Since fiscal 2003, we have been recruiting monitors from households to survey the results of this campaign. Our finding is that the number of plastic bags can be reduced by 40% through increased awareness of resource conservation.

#### ■ Number of households participating in the shopping bag reduction campaign and results



\* Rate of shopping bag reduction observed by monitors over three months.

activity 2

### The Matsushita Green Volunteer Club - a Community-based group of environmental volunteers

In November 1993, the Matsushita Green Volunteer Club (MGV) was inaugurated, with the aim of having everyone take more interest in global environmental problems and participate in activities to protect and cultivate the environment around us. Under the slogan "Actions speak louder than words, so let's start with small actions," the MGV is pushing ahead with its activities, joined by our retired employees and community people. It is also expanding the scope of its operations by participating in events sponsored by citizens' groups in a number of areas.



## ■MGV's major activities (fiscal 2006)

Activities	Achievements
Forest preservation	Cut down undergrowth in forests, thinned, and planted trees, and took care of forests and bamboo groves
Cleanup	Cleaned up parks, beaches, and riverbeds, and planted new flowerbeds
Nature observation and making handicrafts	Provided venues for nature observation in each season and for contact with nature by making handicrafts from natural materials
Cherry blossom viewing	Provided opportunities to make fixed-point observations of registered cherry trees blooming patterns and seasonal changes



Opportunities to experience rice planting are offered every year in an artificial biosphere created to simulate an image of the hills and forests near an inhabited area.

## activity 3

### Greening facilities under the Forest of Coexistence program

The Forest of Coexistence program is a campaign to promote the greening of our business facilities and to raise the awareness of the importance of natural environmental preservation. Nearly 13,450 seedlings were planted in 18,000 m<sup>2</sup> of Forests of Coexistence at 13 business establishments across the country for the three years to March 2003. The green areas are also used as a place for people to rest and relax.

#### ■Model business establishments that participated in the fiscal 2006 greening campaign (Japan)

Panasonic AVC Networks Company (Moriguchi, Osaka)  
Matsushita Home Appliances Company (Yamatokoriyama, Nara)  
Lighting Company (Takatsuki, Osaka)  
National Building Materials Co., Ltd (Numata, Gunma)  
Toshiba Matsushita Display Technology Co., Ltd. (Kawakita, Ishikawa)



Panasonic Mobile Communications Co., Ltd. working with the Tsuzuki Ward Office of Yokohama City and people from the Saedo Neighborhood Association in activities sponsored by the municipal government and the local community.

## activity 4

### Providing support to NPOs tackling environmental and children's problems

We established the Panasonic Supporters' Matching Fund in 2001 and have since been supporting nonprofit organization (NPOs) that are making various efforts to address problems connected with children and the environment. Our support has been focused on strengthening their organizational bases so that they can put their inherent power to best use and carry out sustainable activities. We have so far supported a total of 57 organizations, 26 in the environmental sector and 31 in the area of child welfare.

In fiscal 2007, we enhanced the grant program and renamed it as the "Panasonic NPO Supporting Fund."

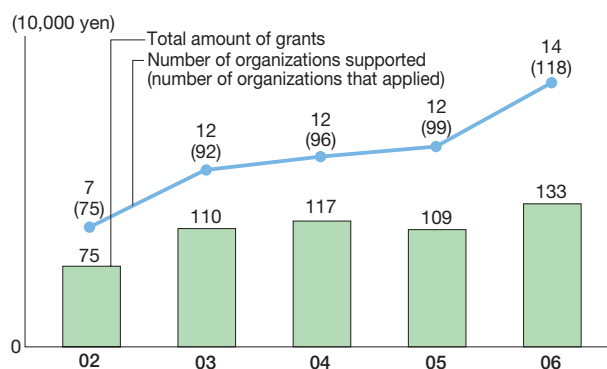
#### ●Fund recipients working in the environmental category in fiscal 2006

Fair Trade Label Japan  
Kunigami Tourism Association  
Okinawa Environmental Club  
EcoNet-Tango  
Environmental Network Bunkyo  
Association for the Study of Future of Energy Sources in Okayama  
Japan Council on the UN Decade of Education for Sustainable Development

#### ●Fund recipients in children's category in fiscal 2006

Chura Net  
Family House  
Kiral  
Development Counseling PopShop  
Theater Department Store  
Tokkabi Children's Association  
Carillon Children's Center

#### ■Results of Panasonic Supporters' Matching Fund



Participants reporting on the results of grant projects

# Corporate Citizenship Activities for Environmental Protection

## ●School Forestation Project

Matsushita has supported OISCA-International's School Forestation Project in Japan since 2002, aiming to help create an environment where children can learn among and directly experience nature within school grounds. The projects have been implemented at 7 elementary and junior high schools in the Tokyo metropolitan area and in other regions of Japan.



## ●“Foxfire in Japan” Movie Making Project

We support this project, which enables former participants of the “Foxfire in Japan — Listen and Write about Forests” to revisit the “masters of the forests” they interviewed while in high school and visually record their knowledge of the forests. In particular, we provide video cameras and personal computers as well as technological assistance, ranging from how to use a video camera to filming and editing, to this project organized by Japan's Forestry Agency and local nonprofit, Trees and Environment Network Association.



## ●Japan Wildlife Film Festival

Since 1999, we have provided video equipment to this film festival held annually in Toyama Prefecture in Japan by Nature Film Network, a nonprofit organization. In addition, we sponsor showings of the films at the National Science Museum and Ueno Zoo to encourage people to appreciate the importance of wildlife conservation and environmental protection.



## ●Nationwide School Biotope Competition

Since 2003, we have sponsored this biennial nationwide competition hosted by the Ecosystem Conservation Society-Japan, in which schools ranging from kindergartens to universities, compete by creating habitats for wildlife on school grounds. We also donate products which are awarded as prizes to the top five schools in the competition.



## ●Nature Club for Families

Since 2000, we have held this outdoor learning program for employees and their families as well as local residents. Employee volunteers also help run the program, which features observing wildlife in its natural setting and making crafts.



## ●Waste electronics products collection events

Panasonic Corporation of North America invited employees and the local public to bring their waste electronics products to a drop-off site at its facilities. Mobile phones were also collected and donated to Phones for Life, a nonprofit organization that provides phones for emergencies and disaster relief.



## ●ECOS Environmental Foundation

Panasonic Manufacturing Philippines Corporation provided DVD players and TVs for use in a traveling exhibition promoting the role of the ozone layer in protecting the global environment. Organized by the ECOS Environmental Foundation, the exhibition featured educational activities as well as an “Antarctica” room complete with real snow and live penguins.





### ●Tree planting in Guangzhou Development Zone



Executives and employees of Panasonic Wanbao Compressor (Guangzhou) Co., Ltd. participated in a tree-planting event in Guangzhou Science City. The company also donated 30,000 yuan (US\$38,000) to the Guangzhou Development Zone.



### ●Tree planting in Malaysia



Sdn. Bhd. planted trees on elementary school grounds, learning about the environment in the process and raising awareness among students about the importance of environmental protection.



### ●Tree planting in Manaus, Amazonas



To assist in reducing pollution and other environmental impact, Panasonic do Brasil Limitada donated 2,500 trees to the city of Manaus. Employees also participated in planting the trees along the streets and in the gardens of Eastern Manaus.



### ●Environmental Education Fund for local elementary school



Tangshan Matsushita Industrial Equipment Parts Co., Ltd. donated 50,000 yuan (US\$6,300) to Ronghuadao Elementary School to help purchase materials for environmental education. The school was officially designated as a national model school for its efforts in promoting environmental education.



### ●Opening *Sakura Hiroba* (Cherry Tree Parks)



In April 2006, Matsushita opened two cherry tree parks within facilities in Chiba and Osaka prefectures. As part of our efforts to fulfill our vision of "coexistence with the global environment," we decided to create these cherry tree parks and to open them to the general public. Through these parks we aim to enhance urban landscapes and contribute to local communities.

The parks were designed by Mr. Tadao Ando, a world renown architect who has been committed to various projects aimed at creating urban green spaces and the restoration of natural landscapes. We decided to commission Mr. Ando to create the parks as his self-imposed mission to "restore the unity between house and nature" conforms to our business vision.

In the parks, we planted cherry trees in grid patterns at intervals of 6.5 meters. During the cherry blossom season, we plan to open the parks longer than usual.

Furthermore, the parks can be used as emergency evacuation facilities. Various security means have been incorporated within the parks, including ponds and underground reservoirs that store water for emergency use.



Location: 1-5, Shibazono, Narashino City, Chiba Prefecture, Japan  
Land area: 31,525 m<sup>2</sup>

Features: 505 cherry trees and two ponds (1,100 m<sup>2</sup>/120 m<sup>2</sup>)

Hours: 10:00 – 17:00

Closed: Monday, year end and New Year holidays



Location: 1,006 Kadoma, Kadoma City, Osaka Prefecture, Japan

Land area: 16,198 m<sup>2</sup>

Features: 190 cherry trees and a pond (2,000 m<sup>2</sup>)

Hours: 10:00 – 17:00

Closed: Sunday, year end and New Year holidays

**Our Management Philosophy, our Environmental Vision, and our Green Plan 2010 all depend on group-wide application of environmental sustainability management. To ensure this, we place a priority on the consistent implementation of Plan-Do-Check-Action (PDCA) cycles. To achieve our common global environmental targets, we are integrating our environmental initiatives into other key business management activities, augmenting our efforts to develop human resources, and ensuring the thorough implementation of PDCA cycles.**

## Targets for fiscal 2006

- Organizational structure
  - Reinforce our global systems to promote environmental initiatives
  - Reinforce decision-making functions in particular regions
- Development of human resources
  - Prepare environmental education curricula for individual sections and employee levels
- Management evaluation systems
  - Establish a comprehensive environmental accounting system
  - Incorporate environmental performance (reduced environmental impact of products and business activities) within business performance evaluations

## Results in fiscal 2006

- Organizational structure
  - Dissolved the Corporate Environment Conference and integrated it into the mainstream Management Conference for top management
- Development of human resources
  - Prepared "Guidelines for Developing Staff with Environmental Affairs Responsibility" and curricula for staff education
- Management evaluation systems
  - Built a global environmental accounting system
  - Modified business performance evaluation systems to appropriately acknowledge efforts to reduce environmental impact

## ● Cost

- Environmental activities management cost: 9.24 billion yen

Industrial Co., Ltd. In fiscal 2006, however, we dissolved the Corporate Environmental Conference, in recognition that it had fulfilled its initial goal of promoting our business vision, "Coexistence with the global environment." Instead, since fiscal 2006, strategic environmental issues are now treated as mainstream business issues during the more general Management Conference.

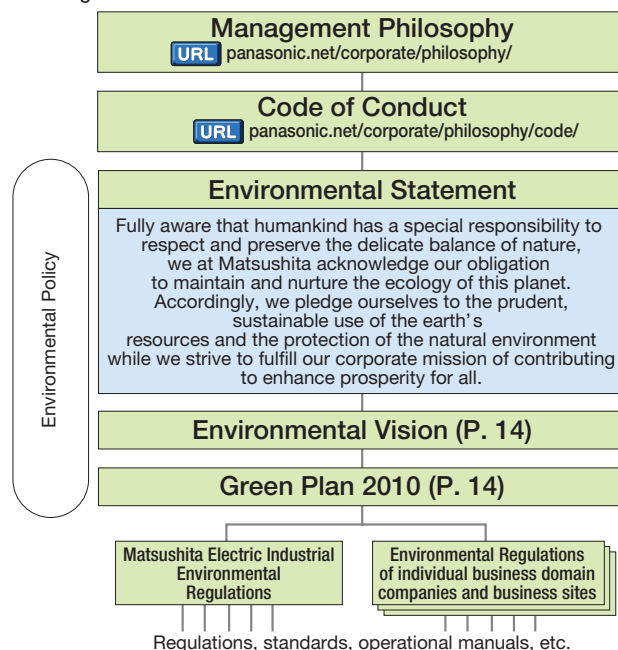
Meanwhile, since the dissolution of the Corporate Environmental Conference, we have further empowered the Environmental Working Committee by placing it directly under the director responsible for environmental affairs. It is this committee that is responsible for the development of our annual policies on environmental activity (in line with our Annual Corporate Management Policy) and communicating these to group companies, who in turn must take into account any individual company issues, while preparing appropriate action plans for their own businesses. Implementing these action plans ensures that business domain companies fulfill the targets stipulated in the Green Plan 2010. Meanwhile, these efforts on the part of business domain companies are supported by various committees on specific environmental issues (P. 56-57). In response to specific environmental regulations in particular countries, we have also established Regional Environmental Conferences, where discussions are held on problems unique to respective regions.

## Activity 1

## Business performance evaluation based on Green Plan 2010

In fiscal 2002 we established a new system to evaluate the Environmental Sustainability Management of individual business domain companies. Under this system, each

## ■ In-house documents regarding environmental sustainability management



## Environmental Governance

### Concept

## Environmental sustainability management in daily business activities

In 1997 we established the Corporate Environmental Conference as our highest-level decision-making body on environmental affairs. Its members comprised presidents of business domain companies, together with all directors/executive officers responsible for environmental affairs. Since then, conference meetings have been held twice a year, chaired by the president of Matsushita Electric



business domain company voluntarily evaluates its performance against achievement levels stipulated in the Green Plan 2010. Our primary evaluation tools include our Green Product and Clean Factory rates. Since priority initiatives differ depending on respective business lines, we roughly classify domain companies into (i) the product-assembly segment and (ii) the device segment, and set different target levels accordingly. On the basis of the voluntary performance evaluation by each business domain company, together with the results of external audits, we review the Environmental Sustainability Management of individual domains, and, if necessary, take remedial measures.

## Activity 2

## Environmental Management Systems

Matsushita is promoting Environmental Sustainability Management on two levels: on a group-wide inter-domain level (P.56), and on the level of individual business domain companies/business sites. Individual business domain companies and business sites operate environmental sustainability management systems for which they have gained ISO 14001 certification. As part of these systems, each business domain company/business site collects and analyzes environmental data on a monthly basis, including energy consumption and waste emission data. Internal and external audits are conducted at least once a year in conformance with ISO 14001 requirements.

## Obtaining ISO 14001 certification

In November 1995 Matsushita gained its first ISO certification for the Kadoma plant of Panasonic AVC Networks Company. By the end of fiscal 1999 we had obtained ISO certification for every one of our manufacturing sites worldwide.

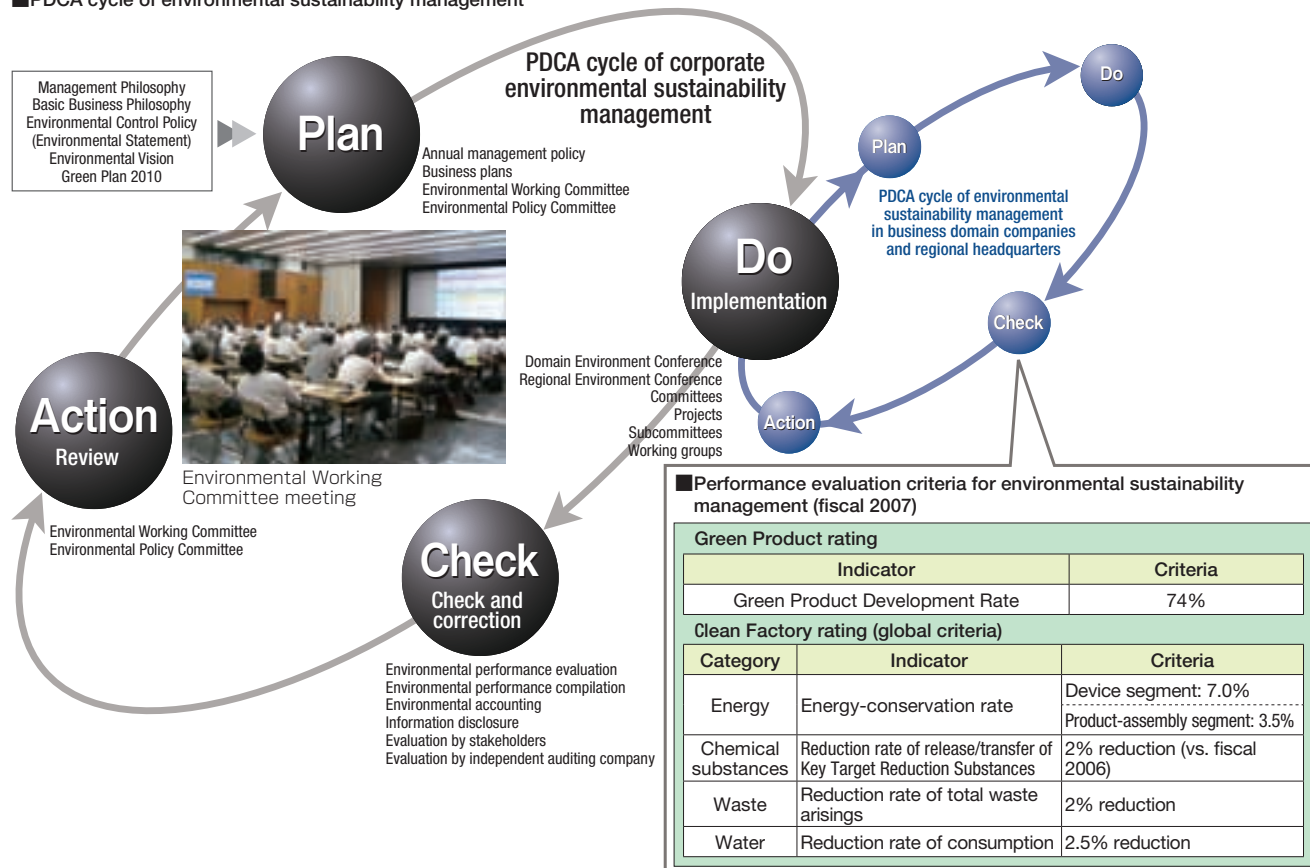
In fiscal 2006 the number of certified sites decreased by 15 from the level of fiscal 2005 because of the abolition and merger of various manufacturing sites, together with our drive towards multi-site certification. To date, we have been promoting the acquisition of multi-site certification in Japan; in the coming years we will also promote multi-site certification outside Japan, with the aim of improving management efficiency.

■ Acquisition of ISO 14001 certification (P. 63-66) (as of March 31, 2006)

Region	Number of certified sites*		Total
	Manufacturing	Non-manufacturing	
Japan	66	17	83
Americas	25	1	26
Europe	15	2	17
Asia/Oceania	52	10	62
China/Northeast Asia	61	1	62
Total	219	31	250

\* Including multi-site certification

### ■ PDCA cycle of environmental sustainability management



## Activity 4

## Future activities

### Systems to promote environmental sustainability management

It is the responsibility of our Corporate Environmental Affairs Division to develop environmental strategies based on the policies adopted at our Management Conferences, and by the Environmental Working Committee, to support group-wide environmental programs, and to ensure individual business domain companies implement them. To address specific problems through group-wide action, the Division also establishes various environmental committees, subcommittees and working groups (with their members comprising environmental staff from the major business domain companies).

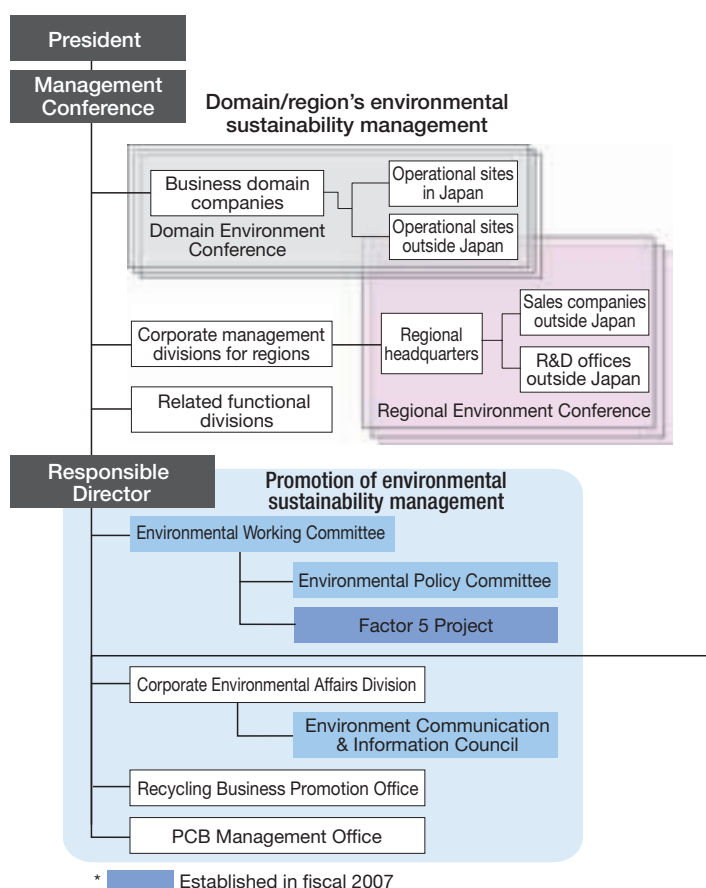
For instance in fiscal 2006, the Division established the Asbestos Countermeasures Committee. In fiscal 2007, to further promote initiatives in four strategic areas, the Division established four additional committees: the Factor 5 Project Committee; the Chemical Substances in Products Management Committee (designed to continue activities of the former Specified Chemical Substance Project); the Green Logistics Promotion Committee (for accelerating initiatives in the distribution sector in response to the revised Japanese Energy Conservation Law); and the Environmental Indicator Promotion Committee (for reinforcing efforts in environmental information disclosure).

### Developing environment specialists and defining their tasks

Since environmental activities are closely related to all business activities, it can sometimes be difficult to define and assign environment-related tasks within each business activity. However, because of the strategic importance we place on environmental sustainability management, we have defined the environment sustainability needs within each business function, appointing staff members dedicated to environmental affairs. To foster environmental champions, we have now prepared specific guidelines, which stipulate the ideal requirements for environmental staff members, define environmental tasks and associated skills, and specify necessary training programs. Based on these guidelines, we began training programs in fiscal 2007. As a result of these initiatives, the roles and tasks of environmental staff are now clearly defined.

In April 2006, ahead of other Japanese manufacturers, we introduced our in-house skills evaluation system company-wide. The evaluation system is designed to enhance corporate productivity, as well as the skills of individual staff members.

■ Environmental sustainability management promotion system (fiscal 2007)



# Environmental Education

Concept

## Capacity building of staff responsible for environmental affairs

To develop, produce, and market environmentally-conscious products, it is imperative that our employees recognize the environmental impacts of our business activities, as well as those of our products throughout their lifecycles. To foster each employee's environmental awareness, we have developed our wide-ranging environmental education system.

Activity

## Reforming the environmental education system

Our environmental education system comprises professional education for specialists and general education for all employees. For Japanese employees who are to be assigned to business sites outside Japan, we hold seminars, including environmental education programs, six times a year.

### ■ Environmental education system

		New employees	Employees	Management	
General		Introductory course	General environmental education (e-Learning/CD-ROM)		
			Seminars for employees to be dispatched outside Japan		
			Seminars for promoted employees	Seminars for promoted employees	
			Environmental Human Resource Development Committee		
Professional	Environment		Seminars for new environmental staff I	Seminars for new environmental staff II	Environmental sustainability management seminars
		Basic seminars on environmental regulations	Advanced seminars on environmental regulations		
		Seminars for environmental auditors			
		Seminars for in-house environmental auditors			
		Seminars on chemical substance management			
		Seminars on waste management			
		Seminars on factory energy conservation			
Procurement			Seminars on Green Procurement		
Technology Quality control			Techno School on specified chemical substances		
			3R design seminars		

### ● General education by e-Learning System

In fiscal 2004 we launched a systematic and efficient environmental education program using an e-Learning System in Japan. The program consists of both general education (five sections) and special education on initiatives taken by the Matsushita group (six sections). To complete the program, employees must pass the tests attached to the respective chapters. Increasing numbers of employees complete these programs annually, with the total number surpassing 20,000 in fiscal 2006. We have also produced CD-ROMs with the same content for use in collective education for employees of manufacturing sites.

### ■ Employees who have completed the general environmental education program using the e-Learning System

Fiscal year	Number of employees
2004	9,860
2005	13,072
2006	22,600

Future activities

## Improving environmental sustainability management through the development of human resources

Although in the past we have organized occasional Environmental Sustainability Management seminars, we recently reformed our educational system after clearly determining the skills and competencies necessary for staff members responsible for environmental affairs.

To promote specialist development systematically, we established the Environmental Human Resource Development Committee, with its members comprising environmental managers from the head office and major business domain companies. The Committee members must prepare guidelines for developing the staff responsible for environmental affairs. In addition, the Committee supervises educational programs and determine personnel policies to promote environmental sustainability management. In fiscal 2007 we will continue to work to improve the competency of environmental staff under this new system.



Seminar on factory energy conservation

There are many environmental risks associated with manufacturing activities, including risks of environmental accidents, pollution, and exceeded regulations. To improve our preparedness for such potential risks, we predict risks based on analyses of past data and social trends. We simulate possible emergency situations, and take thorough preventive measures under our environmental sustainability management system. In this chapter, we will introduce the initiatives we have taken for soil and groundwater management and PCB problems.

## Management of Soil and Groundwater

Concept

### Priority on the safety of local residents

During the latter half of the 1980s, soil and groundwater contaminated by a chlorinated organic solvent were detected in some of our manufacturing sites. Since then we have been committed to the survey and remediation of polluted sites, as well as to the prevention of any recurrence. In fiscal 1992 we prepared the “Manual for Preventing Contamination of Soil and Groundwater,” which we have since used as our basis for all surveys conducted and preventative actions undertaken. In fiscal 1996, for instance, we abolished all use of chlorinated organic solvents. In fiscal 2000 we compiled the “Guide for the Prevention and Management of Environmental Pollution” to thoroughly promote preventive measures. In response to the Japanese Law for Countermeasures against Soil Pollution, which took effect in 2003, we further reinforced our initiatives to survey and prevent contamination by volatile organic compounds (VOCs) and heavy metals, in accordance with our soil and groundwater risk management policy in fiscal 2003. Wherever pollution exceeding the legal standard has been detected, we have taken remedial measures using advanced technologies such as bio-remediation, which makes use of microbes. At the same time, we have discussed the remediation processes to local residents under the guidance of local authorities, as well as to the media.

### ■ Soil and groundwater risk management policy

Policy
To place all soil and groundwater risks under management supervision with the aim of securing safety and peace of mind of local residents (by the end of fiscal 2004 in Japan, and by the end of fiscal 2006 outside Japan)
Definition of “placing under management supervision”
<ol style="list-style-type: none"> <li>1. Completing surveys</li> <li>2. Initiating remedial measures</li> <li>3. Digging inspection wells</li> <li>4. Implementing leakage preventive measures</li> <li>5. Promoting thorough operational management</li> </ol>

### Results of soil and groundwater surveys and remedial measures

In fiscal 2004 we placed all soil and groundwater risks at 143 business sites in Japan under management supervision. In fiscal 2006 we also placed all the risks at 152 sites in 22 countries under management supervision.

In addition to surveying the use of VOCs and heavy metals, we conducted historical surveys through on-site inspections and meetings with related staff members, so as to determine the business sites where surface soil surveys should be conducted. In the sites where pollution levels exceeded the standard levels in the surface soil surveys, we analyzed bore samples to identify the boundaries of the contaminated areas and take appropriate remedial measures. As a result of these surveys conducted in Japan in fiscal 2003, we detected that pollution levels exceeded standard levels at 78 business sites. Remedial measures were taken at 78 sites, and we had completed 40 sites by the end of fiscal 2006. Outside Japan, we are promoting thorough legal compliance of individual countries. Where legal systems are not well established, we voluntarily adopt our own pollution standards.

### ■ Soil and groundwater pollution surveys and remedial measures

	Historical surveys conducted	Surface soil surveys conducted	Pollution exceeding the standard level detected	Remedial measures completed	Remedial measures underway
Japan	143	105	78	40	38
Outside Japan	152	57	9	0	9
Total	295	162	87	40	47

\* Excluding MEW and PanaHome.

### ■ Examples of soil and groundwater pollution remedial measures



#### Pumping/aeration facility

After pumping and aerating groundwater contaminated with VOCs, this facility remediates the water by absorbing VOCs using active carbon.



#### Remedial measures using iron powder

This facility decomposes VOCs in groundwater using an iron powder reduction process.



# Initiatives to Address PCB Pollution

Concept

## Treatment of waste containing PCBs, and soil purification

Although Matsushita used to manufacture products containing polychlorinated biphenyls (PCBs), we stopped use of these substances in 1972, when we received administrative guidance from the Japanese government. Nowadays, we strictly manage waste containing PCBs in compliance with the Japanese Law concerning Special Measures against PCB Waste, which took effect in July 2001. In January 2003 we voluntarily disclosed that we had buried PCB-containing capacitors in some of our manufacturing sites. In fiscal 2006, we announced a plan to conduct soil remediation verification tests to seek appropriate remediation techniques.

Activity 1

## Immediate treatment of waste containing PCBs

After announcing our plan to excavate buried capacitors containing PCBs at our plant sites, we excavated the buried waste taking all appropriate safety measures, and reported our activities to the relevant authorities. To date, we have completed excavation at all the sites concerned, except for the Panasonic Electronic Devices Matsue compound, where excavation is scheduled to be completed by 2008. By December 2005 we had completed application procedures to commission the Japan Environmental Safety Corporation (JESCO), a special governmental corporation dedicated to PCB waste treatment, to process the excavated materials.

### Treatment applications filed to JESCO

Types of waste	Number/volume
Transformers/capacitors	Approx. 2,100 units
PCBs and oils containing PCBs	Approx. 4,700 kg



Storage of PCB waste

### Initiatives taken by plants concerned

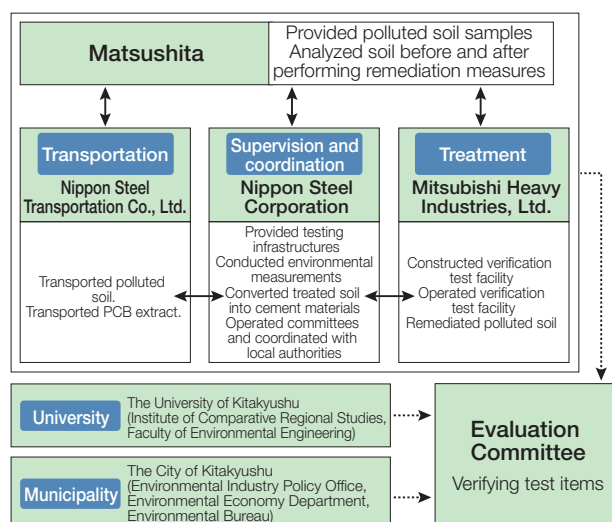
Plant name	Anti-dispersion measures	Groundwater remediation by pumping	Excavation	Completion
Matsushita Welding Systems (Toyonaka)	○	○	○	Mar. 2004
Matsushita Electric Industrial (former site of Tsukamoto Plant)	○	○	○	Dec. 2003
Panasonic Electronic Devices Matsue	○	○	(Measures taken since fiscal 2005)	
Matsushita Electric Industrial Lighting Company (Takatsuki)	Unnecessary because no pollutants detected		○	Dec. 2003
Matsushita Electric Industrial Semiconductor Company (Nagaoka)			○	Nov. 2004

Activity 2

## Remediation test of soil contaminated with PCBs - first private sector success in Japan

We successfully completed soil remediation verification tests, which took place over a period of about five months starting in May 2005. With the cooperation of Nippon Steel Corporation, Mitsubishi Heavy Industries, Ltd., and Nippon Steel Transportation, Co., Ltd., we transported the polluted soil from our plants to Kitakyushu Eco-Town, where it was cleaned using a solvent extraction method. The verification test was the first such test in Japan conducted by the private sector.

### Scheme of the verification tests



Verification test facility using solvent extraction for PCB polluted soil

Future activities

## Seeking to resolve PCB problems as promptly as possible

To resolve PCB problems, we will thoroughly promote proper management of PCB waste and its treatment in collaboration with JESCO. We will also begin full-fledged soil remediation, after verifying the safety and validity of the method that we adopted for the verification tests.

# Partnership with an International NGO, the Natural Step

## ●Background

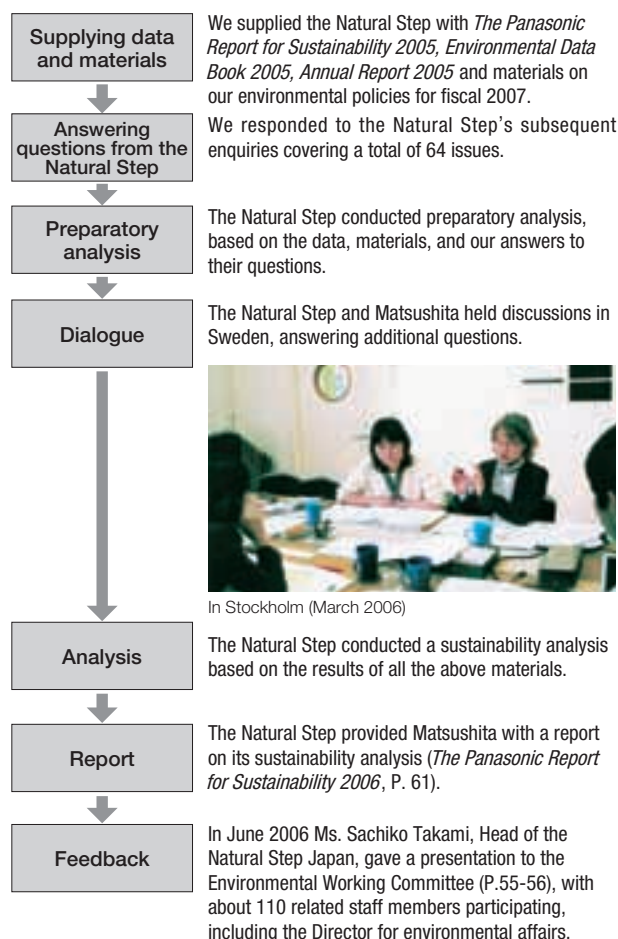
In 2001 Matsushita entered into a partnership with the Natural Step, an international non-governmental organization (NGO), to augment our environmentally-conscious business operations, aimed at contributing to the creation of a sustainable society. We selected the Natural Step as a partner in recognition of its clear-cut guidelines for realizing a sustainable society and proactive attitude towards social evolution through corporate activities.



## ●Sustainability analyses

From the perspective of the Four System Conditions for sustainable society proposed by this NGO, we asked the Natural Step Sweden to evaluate our sustainability initiatives using “backcasting,” a method of evaluating an organization’s current initiatives from the viewpoint of the desired state of a future sustainable society.

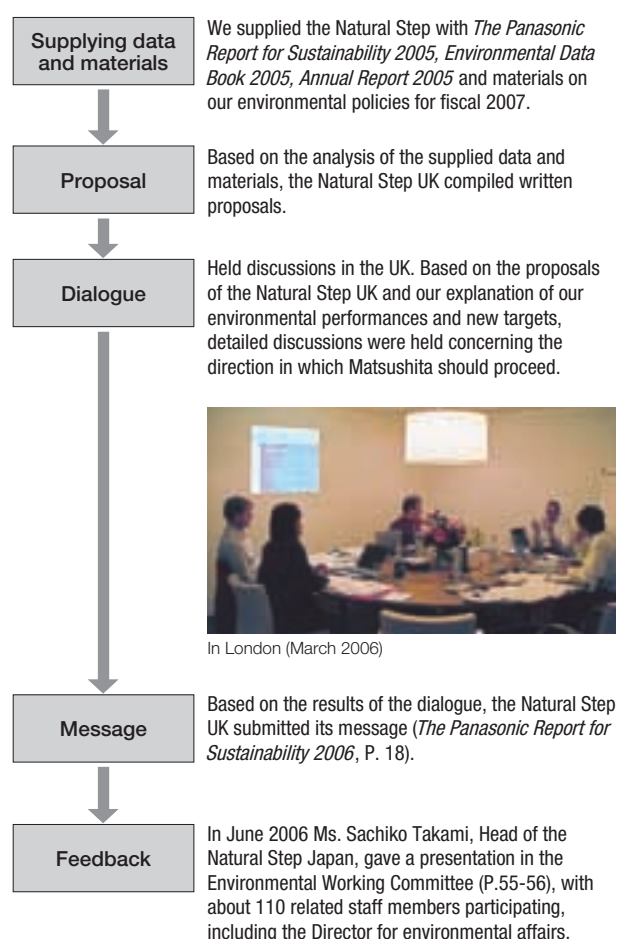
## ●Flowchart of sustainability analyses (2006)



## ●Dialogues on New Green Plan 2010

In preparing the new Green Plan 2010 and subsequent plans, we held discussions with the Natural Step UK to seek their suggestions.

## ●Dialogue on new Green Plan 2010 (2006)



### The Natural Step

This international NGO, with branches in 11 countries, was established in 1989 by Dr. Karl-Henrik Rob  rt, a Swedish specialist in infant cancer. In consensus with scientists, the Natural Step identified the key requirements for a sustainable society, which it defined as the Four System Conditions. Many environmentally-advanced countries and international business corporations refer to these conditions in determining their sustainability strategies.

**URL** [www.thenaturalstep.com](http://www.thenaturalstep.com)

### The Natural Step’s Four System Conditions

In a sustainable society, nature is not subject to systematically increasing:

1. Concentrations of substances extracted from the Earth’s crust
2. Concentrations of substances produced by society
3. Degradation by physical means and in that society...
4. People are not subject to conditions that systematically undermine their capacity to meet their needs.



## Independent Review Report on "Matsushita Group Environmental Data Book 2006"

To the President of Matsushita Electric Industrial Co., Ltd.

### 1. Purpose and Scope of Our Review

We have reviewed "Matsushita Group Environmental Data Book 2006" (the "Data Book") of Matsushita Electric Industrial Co., Ltd. (the "Company") for the year ended March 31, 2006. Our engagement was designed to report to the Company, based on the results of our review, whether the indicators for the period from April 1, 2005 to March 31, 2006 described in "Green Plan 2010" (the "Indicators") included in the Data Book have been collected, compiled and reported, in all material respects, rationally and in accordance with the Company's standards shown in the Company's website ([http://panasonic.co.jp/report/data\\_file/analysis2006.pdf](http://panasonic.co.jp/report/data_file/analysis2006.pdf)) (the "Standards"), and whether the Data Book includes complete material environmental information.

The Data Book is the responsibility of the Company's management. Our responsibility is to independently report the results of our procedures performed on the Indicators.

### 2. Procedures Performed

We have performed the following review procedures:

- ① Made inquiries of responsible personnel regarding Company's reporting policy for the Data Book.
- ② Performed analytical procedures including comparative analysis among sites and between years by site for each Indicator.
- ③ Made inquiries of the Company's personnel regarding significant fluctuations, and ascertained the appropriateness of their explanations through reviewing the supporting documentation.
- ④ Made inquiries regarding the processes of collecting and compiling the Indicators, and evaluated the Company's relevant internal controls.
- ⑤ Made inquiries regarding the outline of the environmental management system and identified material environmental information through reviewing the internal and external audit reports on environmental issues at each site we inspected.
- ⑥ Reviewed, on a sample basis, the original supporting documents such as manifests for industrial wastes, measurement reports prepared by certified measurers, measurement instrument calibration records, price estimates and invoices, and examined, at each site we inspected, accuracy of the Indicators.
- ⑦ Reviewed corrective action reports and records for legal compliance assessment, to see material breach of relevant laws or regulations, or complaints relating to environmental issues, if any.
- ⑧ Assessed the appropriateness of the formulae and coefficients used for compilation of the Indicators.
- ⑨ Assessed the completeness of Data Book in accordance with the applicable provisions of the code of the Japanese Association of Assurance Organizations for Environmental Information.
- ⑩ Verified the accuracy in compilation of the Indicators in the Company's headquarter and examined the appropriateness of the reporting on the Data Book.

We conducted our engagement in accordance with the Practical Guidelines of Environmental Information Assurance (January 2006, Japanese Association of Assurance Organizations for Environmental Information), referring to "International Standard on Assurance Engagements (ISAE) 3000 (Revised)" (December 2003, International Federation of Accountants).

### 3. Results of the Procedures Performed

We believe that our review procedures provide a reasonable basis for our conclusion.

As a result of the procedures performed we are not aware of any material modifications that should be made to the Indicators in the Data Book in order for them to comply with the Standards for the rational collecting, compiling and reporting such information, or in order for them to report the complete material environmental information.

Our firm and engagement members have no interest in the Company which would have to be disclosed pursuant to the provisions of the Certified Public Accountants Law of Japan.

*KPMG AZSA Sustainability Co., Ltd.*

KPMG AZSA Sustainability Co., Ltd.

Osaka, Japan  
July 7th, 2006



# ISO 14001 Certification Sites

\* Company names as of June 1, 2006. When certification organizations change, the "Date of Registration" refers to the latest dates when certification is registered under new organizations.

Type	Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
Japan (Manufacturing)	<b>Semiconductor Company</b>				
	Multiple-site Certification Group (6 sites)	Semiconductor	JACO	EC97J1114	1997 NOV
	Panasonic Semiconductor Device Solutions Co., Ltd., Shirakawa Site	Cellular phone camera, In-vehicle camera	JACO	EC98J2012	1995 DEC
	Panasonic Semiconductor Discrete Devices Co., Ltd., Utsunomiya Site	Semiconductor, Magnetron	JACO	EC97J1033	1997 JUN
	Panasonic Semiconductor Discrete Devices Co., Ltd., Kyoto Site	Diode, Transistor, Micro component	JACO	EC97J1029	1997 JUN
	Panasonic Semiconductor Discrete Devices Co., Ltd., Kameoka Site	Lead frame, Circuit component	JACO	EC97J1083	1997 SEP
	Panasonic Semiconductor Opto Devices Co., Ltd.	LED, LCD module	JQA	JQA-E-80029	1997 MAR
	Panasonic Semiconductor Discrete Devices Co., Ltd., Kumamoto Site	Diode, Transistor	JACO	EC97J1087	1997 SEP
	<b>Matsushita Battery Industrial Co., Ltd.</b>				
	Multiple-site Certification Group (3 sites)	Batteries	LRQA	YKA0773053	1998 APR
	Moriguchi Site A Block	Alkaline manganese battery	LRQA	YKA4002148	1998 APR
	Moriguchi Site B Block	Lithium battery	LRQA	YKA0771898	1998 JUL
	<b>Panasonic Electronic Devices Co., Ltd.</b>				
	Multiple-site Certification Group (21 sites)	Electronic components	JQA	EM1015	2000 SEP
	<b>Motor Company</b>				
	Multiple-site Certification Group (4 sites)	Home appliance/Air conditioner/IT device motor, Industrial compact geared motor	LRQA	YKA0771761	1997 AUG
	<b>Panasonic Factory Solutions Co., Ltd.</b>				
	Kofu Site	Electronic chip mounter	JACO	EC97J1137	1997 DEC
	Tosu Site	Electronic chip mounter	LRQA	YKA0771759	1997 AUG
	<b>Matsushita Welding Systems Co., Ltd.</b>				
	Multiple-site Certification Group (2 sites)	FA/Welding equipment, Supervision and control system equipment	JACO	EC97J1213	1998 MAR
	<b>Panasonic AVC Networks Company</b>				
	Multiple-site Certification Group (10 sites)	TV, VCR, Audio equipment, DVD player	JACO	EC98J2010	1995 NOV
	Fujisawa Manufacturing Center	In-vehicle equipment (Car TV)	JACO	EC97J1008	1997 APR
	<b>Panasonic Communications Co., Ltd.</b>				
	Saga Site	Printer	LRQA	YKA0771152	1997 JUL
	Kikusui Site	CD-R/RW, COMBO drive	LRQA	YKA0771785	1998 MAR
	Oita Site	Motor	LRQA	YKA0771777	1998 MAR
	Utsunomiya Site	Laser scanning unit	JACO	EC97J1223	1998 MAR
	Nigata Site	Digital imaging system, Facsimile, PPC	JACO	EC97J1020	1997 MAY
	Shonan Site	Press reporting equipment	JACO	EC98J1114	1998 DEC
	Panasonic Communications Miyazaki Co., Ltd.	Ceramic capacitor, Fixed resistor	JQA	JQA-E-90082	1997 DEC
	<b>Yokohama Site (Panasonic Mobile Communications Co., Ltd., Panasonic System Solutions Company, Healthcare Business Company, Panasonic Semiconductor Device Solutions Co., Ltd.)</b>				
	Multiple-site Certification Group (2 sites)	Communications network system, Solutions, Healthcare equipment, Cellular phone camera	LRQA	YKA0771842	1997 DEC
	<b>Panasonic Mobile Communications Co., Ltd.</b>				
	Shizuoka Site	Cellular phone	LRQA	YKA0771841	1997 DEC
	<b>Panasonic Automotive Systems Company</b>				
	Matsumoto Site	Car navigation system, Car audio equipment	LRQA	YKA0771743	1997 JUN
	<b>Home Appliances Group, Matsushita Refrigeration Company</b>				
	Household Appliances Business Group, Laundry Systems Business Unit (3 sites)	HA headquarters research function, Automatic washing machine, Dish washer & dryer	JET	E98-053	1998 JUL
	Vacuum Cleaner Business Unit	Vacuum cleaner, Garbage disposer	JACO	EC98J1017	1998 JUN
	IH Cooking Equipment Business Unit	IH cooking heater	JET	E96-525	1998 JUN
	Cooking Appliances Business Unit	IH rice cooker, Rice cooker, Electric pot, Cooking appliance	JET	E98-043	1998 APR
	Nara Site	Microwave oven, Hygiene toilet seat, HP, Gas water heater	JACO	EC97J1124	1997 NOV
	Refrigeration & Air Conditioning Business Domain Multiple-site Certification Group (9 sites)	Air conditioner, Refrigerator, Compressor, Vending machine	LRQA	YKA0771754	1997 OCT
	<b>Lighting Company</b>				
	Multiple-site Certification Group (5 sites)	Fluorescent lamp, CRT, PDP	JACO	EC99J2017	1996 SEP
	<b>Matsushita Ecology Systems Co., Ltd.</b>				
	Kasugai Plant	Ventilation fan, Kitchen-hood, Ventilation equipment	JACO	EC99J2042	1996 DEC
	Osaka Matsushita Ecology Systems Co., Ltd.	Air purifier, Humidifier, Dehumidifier	JACO	EC97J1194	1998 FEB
	Shonan Matsushita Ecology Systems Co., Ltd.	Bath dryer, Heat exchange unit	JTCCM	RE0013	1998 AUG
	Matsushita Environmental & Air-conditioning Engineering Co., Ltd.	Air conditioning system, Clean system	JACO	EC00J0288	2001 MAR
	<b>Panasonic Shikoku Electronics Co., Ltd.</b>				
	Multiple-site Certification Group (4 sites)	AV equipment, Computer peripheral, Healthcare & heating equipment, Medical product	JACO	EC97J1224	1998 MAR
	<b>Victor Company of Japan, Ltd.</b>				
	Headquarters	Multi-layer circuit board	JACO	EC98J1095	1998 NOV
	Hachioji Site	Monitoring equipment	JACO	EC99J2049	1997 JAN
	Rinkan Site	CD	JACO	EC97J1011	1997 APR
	Yokosuka Site	Camcorder	JQA	JQA-E-90053	1997 SEP
	Mito Site	DVC tape	JACO	EC97J1244	1998 MAR
	Yamato Site	Card printer, DVD	JACO	EC98J1048	1998 AUG
	Maebashi Site	Office equipment, Car stereo	JACO	EC98J1051	1998 AUG
	Victor Isesaki Electronics Co., Ltd.	Circuit board assembly	JQA	JQA-EM0276	1998 DEC
	<b>Matsushita Electric Works, Ltd.</b>				
	Multiple-site Certification Group (35 sites)	Lighting, Information system, Housing equipment, Building materials, Control equipment, Electric/electronic materials	LRQA	YKA0770279	1996 OCT
	Meiji National Industrial Co., Ltd.	Lighting fixture, Lighting component	J S A	JSAE 115	1999 MAY
	Otani National Electric Co., Ltd.	Lighting fixture	JET	E99-113	2000 FEB
	Tokai Electric Works, Ltd.	Security system, Building automation system	LRQA	YKA0772836	2000 OCT
	OHMS Co., Ltd.	Wiring device, Home amenity, Communication equipment	ISC	E087	2000 DEC
	SUNX Ltd.	Sensors & Systems, Laser Marking & Processing, Advanced intelligent Sensor	JQA	JQA-EM0528	1999 SEP
	Siga Matsushita Electric Works, Ltd.	Electronic circuit board	JACO	EC01J0165	2001 NOV
	Kuroi Glass Ind. Co., Ltd.	Lighting component	JET	E00-121	2000 APR
	Gifu Matsushita Electric Works, Ltd.	System stairs	JQA	JQA-EM2467	2002 JUL



Type	Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
Japan (Manufacturing)	Ikeda Electric Co., Ltd.	Ballast, Lighting-related device	JET	E00-140	2000 AUG
	PanaHome Corporation				
	Multiple-site Certification Group (4 sites)	Production of components for prefabricated housing	JTCCM	RE0206	2001 MAR
	Kanagawa Branch Construction Department	Construction of prefabricated housing	JTCCM	RE0233	2001 NOV
	Saitama Branch and Saitama-nishi PanaHome Corporation	Construction of prefabricated housing	JTCCM	RE0320	2003 MAR
	Matsushita Eco Technology Center Co., Ltd.	Recycling for home appliances	JACO	EC01J0383	2002 MAR
	National Bicycle Industrial Co., Ltd.	Bicycle, Electromotive bicycle, Electrical device	JACO	EC99J1013	1999 MAY
	National Tyre Co., Ltd.	Bicycle tire, Tube, Industrial resin component	CJ	C/1185E	2003 DEC
Japan (Non-manufacturing)	Wakayama Machine Tools Co., Inc.	Compressor	JACO	EC98J1124	1998 DEC
	Matsushita Electric Industrial Co., Ltd., Head Office		JACO	EC98J1057	1998 SEP
	Matsushita Electric Industrial Co., Ltd., Tokyo Site, Multiple-site Certification Group (2 sites)		JACO	EC98J1049	1998 AUG
	Matsushita Electric Industrial Co., Ltd., Twin21 OBP Panasonic Tower		JACO	EC99J1012	1999 MAY
	Matsushita Electric Industrial Co., Ltd., R&D Group, Multiple-site Certification Group (4 sites)		JACO	EC98J1046	1998 AUG
	Matsushita Electric Industrial Co., Ltd., Corporate Manufacturing Innovation Division		JACO	EC97J1235	1998 MAR
	Matsushita Electric Industrial Co., Ltd., Industrial Marketing & Sales Group		JACO	EC00J0167	2000 DEC
	Matsushita Electric Industrial Co., Ltd., Human Resources Development Company, Hirakata Site		JACO	EC00J0144	2000 NOV
	Matsushita Electric Industrial Co., Ltd. Panasonic Center Tokyo		JACO	EC04J0461	2005 FEB
	Panasonic Communications Co., Ltd., Fukuoka Headquarters		LRQA	YKA0771775	1997 DEC
	Panasonic Communications Co., Ltd., Meguro Site		JACO	EC01J0209	2001 DEC
	Panasonic Mobile Communications Co., Ltd., Research Laboratory, Multiple-site Certification Group (3 sites)		LRQA	YKA0773020	2002 MAR
	Panasonic System Solutions Marketing Co., Ltd.		JACO	EC00J0177	2000 DEC
	Panasonic Factory Solutions Sales & Engineering Japan Co., Ltd.		JQA	JQA-EM1845	2001 OCT
	Panasonic Mobile & System Engineering Co., Ltd.		JQA	JQA-EM2598	2002 SEP
	Matsushita Marketing Training Institute		JACO	EC99J1131	1999 DEC
	Matsushita Industrial Safety Science Center		JACO	EC99J1234	2000 MAR
	Matsushita Logistics Co., Ltd.		JACO	EC00J0062	2000 JUL
Japan (Third-Sector Companies)	Kibi Matsushita Co., Ltd.	DVC camcorder assembly, DVC LCD unit & lens unit	JACO	EC98J1056	1998 SEP
	Katano Matsushita Co., Ltd.	Micro cassette tape, PDP TV component assembly	JACO	EC98J1142	1999 JAN
Type	Domain/Affiliated Company Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
Americas (Manufacturing)	Panasonic Motor Company, Division of Panasonic North America	Motors	UL	A7287	1999 MAY
	Panasonic Automotive Systems Company of America	Automobile equipment	BSI	EMS 62857	1998 NOV
	Panasonic Home Appliances Company of America	Vacuum cleaner	DNV	CERT-02193-2005-AE-HOU-ANAB	1999 FEB
	Panasonic Battery Corporation of America	Lithium battery	BVQI	163997	1999 JAN
	Panasonic Battery Corporation of America	Battery material (DI cans)	BVQI	164112	1999 JAN
	Panasonic Primary Battery Corporation of America	Dry battery	BVQI	163992	1999 JAN
	Panasonic Electronic Devices Corporation of America	Electrolytic capacitor, Car speaker	AWM	00012	1997 AUG
	Panasonic Disc Manufacturing Corporation of America	DVD disc	UL	A6976	1999 APR
	Panasonic Avionics Corporation	Avionics	UL	A9111	2001 JAN
	Panasonic Shikoku Electronics Corporation of America	TV-video combo unit, Rear projection TV	UL	A6578	1999 DEC
	JVC Disc America Co. (Tuscaloosa)	CD, DVD (package software)	AWM	00086	2000 AUG
	Panasonic de Mexico, S.A. de C.V.	Color TV, Stereo	TUV	950 99 0441	1999 JUN
	Panasonic Electronic Devices de Baja California, S.A. de C.V.	TV tuner, CATV set-top box	BSI	EMS 39292	1998 APR
	Panasonic Battery de Baja California, S.A. de C.V.	Ni-Cd battery, Nickel hydride battery	BSI	FM 38090	1998 APR
	Panasonic Electronic Devices de Tamaulipas, S.A. de C.V.	Car speaker, Switch	BSI	EMS 53398	2000 JAN
	Panasonic AVC Networks de Baja California, S.A. de C.V.	TV	BSI	EMS 39506	1998 MAY
	Panasonic Communications de Mexico, S.A. de C.V.	Cordless phone	BSI	EMS 57911	2001 FEB
	Panasonic Automotive Systems de Mexico S.A. de C.V.	Car audio equipment	TUV	743007646	1997 DEC
	Panasonic Home Appliances de Mexico S.A. de C.V.	Vacuum cleaner, Microwave oven	DNV	CERT-02193-2005-AE-HOU-ANAB	2002 MAY
	JVC Industrial of Mexico, S.A. de C.V.	TV, Projection TV	BSI	EMS 38385	1997 DEC
	Panasonic Electric Works Mexicana S.A. de C.V.	Switching device, Lighting fixture, Home appliance	DNV	CERT-02937-2004-AE-HOU-ANAB, Rev.1	2000 NOV
	Panasonic Centroamericana S.A.	Dry battery	BVQI	117017	1999 MAR
	Panasonic Peruana S.A.	Dry battery	DNV	3439-1998-AE-SPA-RvA	1998 MAY
	Panasonic do Brasil Ltda.	TV, Camcorder, Audio equipment, Microwave oven, Battery	CAVF	SGA-213	1999 JAN
	Panasonic Electronic Devices do Brasil Ltda.	Speaker, Coil, Transformer	FCVF	SGA-139	1999 MAR
Type	Domain/Affiliated Company Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
Europe (Manufacturing)	Panasonic Electronic Devices (U.K.) Ltd.	Car speaker, Keyboard	BMTRADA	EMS 45625	1997 APR
	Panasonic Manufacturing U.K. Ltd.	Microwave oven, Set-top box, Laptop PC	BSI	MATSUS 0009140436-001	1997 JUL
	Panasonic Communications Company (U.K.) Ltd.	PBX, Phone-related equipment	BSI	34828	1996 SEP
	JVC Manufacturing U.K. Limited	TV, Monitor	SGS	Q A E 1103	1998 APR
	Panasonic AVC Networks Germany GmbH	DVD player	DQS	DE-000821	1997 DEC
	Panasonic Electric Works Europe AG, Germany Plant	Switching device, Relay	VBQI	65747	2000 APR
	Panasonic Battery Belgium N.V.	Alkali battery	KEMA	89999	1998 NOV
	Panasonic Electric Works Electronic Materials Italia S.p.A	Copper clad laminate	CISQ	9191.MAT	2002 DEC
	Panasonic Electric Works Electronic Materials Europe GmbH	Copper clad laminate, Prepreg	OQS	089/0	1999 OCT
Europe (Manufacturing)	Panasonic Battery Poland S.A.	Dry battery	KEMA	99654	1998 JUN

Type	Domain/Affiliated Company Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
Europe (Manufacturing)	Panasonic AVC Networks Czech, s.r.o.	TV	EZU	8040070	1998 NOV
	Panasonic Automotive Systems Czech, s.r.o.	Car audio equipment	CQS	CQS 40/2006	2003 FEB
	Panasonic Electric Works Czech s.r.o.	Switching device	VBQI	104034	2002 JAN
	Panasonic Electronic Devices Slovakia s.r.o.	Tuner, Power transformer	ITQ	EMS-09	2000 JUL
	Vossloh-Schwabe Matsushita Electric Works GmbH	Lighting fixture-related device	DQS	DE-000421UM	2006 JAN

Type	Domain/Affiliated Company Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
Asia/Oceania (Manufacturing)	Panasonic Semiconductor Asia Pte., Panasonic Semiconductor Singapore	Semiconductor	AJA	AJA97/1118	1997 DEC
	Panasonic Electronic Devices Singapore Pte. Ltd.	Electronic components	AJA	AJA98/1151	1998 APR
	Panasonic Factory Solutions Singapore Pte. Ltd.	Electronic chip mounter	PSB	97-0019	1997 DEC
	Panasonic AVC Networks Singapore Pte. Ltd.	Mini component stereo	BVQI	SGPSGP001177	1997 FEB
	Panasonic Refrigeration Devices Singapore Sdn. Bhd.	Refrigerator compressor	PSB	96-0004	1996 NOV
	JVC Electronics Singapore Pte. Ltd.	Car audio equipment, Audio equipment	PSB	98-0045	1998 DEC
	Panasonic Manufacturing Malaysia Bhd.	Refrigerator, Washing machine, Vacuum cleaner, Ventilation fan, Dry battery, Rice cooker	SIRIM	P07560001 & P07560002	1996 DEC
	Panasonic Semiconductor Discrete Devices (M) Sdn. Bhd.	Semiconductor	SIRIM	P07570001	1998 DEC
	MT Picture Display (M) Sdn. Bhd.	Color TV CRT	SIRIM	M0577001	2000 JUN
	Panasonic Electronic Devices Malaysia Sdn. Bhd.	Electronic components	SIRIM	M010301108	1998 OCT
	Panasonic AVC Networks Kuala Lumpur Malaysia Sdn. Bhd.	TV	SIRIM	P05740001	1997 JAN
	Panasonic AVC Networks Johor Malaysia Sdn. Bhd.	Radio cassette recorder, VCR	BVQI	133428	1997 FEB
	Panasonic Communications (Malaysia) Sdn. Bhd.	Deflection yoke, Facsimile, Cordless phone	SIRIM	P05720001	1997 OCT
	Panasonic HA Air-Conditioning (M) Sdn. Bhd.	Air conditioner	SIRIM	P06860001	1997 JUN
	Panasonic Compressor Malaysia Sdn. Bhd.	Air conditioner rotary compressor	SIRIM	P071501028	1997 DEC
	Panasonic Foundry Malaysia Sdn. Bhd.	Precision casting component	SIRIM	P069201078	1998 JUL
	Panasonic Refrigeration Devices Malaysia Sdn. Bhd.	Refrigerator compressor	SIRIM	P069101058	1998 MAY
	JVC Video Malaysia Sdn. Bhd.	VCR, Camcorder	LRQA	772056	1999 MAY
	JVC Electronics Malaysia Sdn. Bhd.	Audio equipment, Component (motor, VCR drum)	LRQA	772057	1999 MAY
	Panasonic (Thailand) Co., Ltd. Group	Color TV, Electronic component, Electric fan, Car audio equipment, Motor	AJA	AJA98/1203	1998 JUL
	Panasonic Battery (Thailand) Co., Ltd.	Dry battery, Storage battery, Battery application equipment	SGS	NE042/01	1998 JUL
	Panasonic Home Appliances (Thailand) Co., Ltd.	Washing machine, Rice cooker, Refrigerator, Electric pot	AJA	AJA98/1221	1998 JUL
	Panasonic Refrigeration Devices (Thailand) Co., Ltd.	Heat exchanger, Thermostat	AJA	AJA98/1207	1998 JUL
	MT Picture Display (Thailand) Co., Ltd.	Color TV CRT	BVQI	161000	1998 APR
	JVC Manufacturing Thailand Co., Ltd.	Fly-back transformer, TV, CCTV camera	MASCI	EMS05020/197 t	1999 APR
	JVC Components Thailand Co., Ltd.	Component (Motor, Optical pickup)	SGS	E 17387	2000 JAN
	Panasonic Electric Works (Thailand) Co., Ltd.	Relay, Home appliance	AJA	AJA99/1592	1999 OCT
	Panasonic Electric Works Steel (Thailand) Co., Ltd.	Conduit, Wiring materials	SGS	CH99/92182-1	1999 DEC
	Matsushita Electric Works (Ayuthaya) Co., Ltd.	Copper clad laminate, Molding material, Sealant, Wiring device, Lighting fixture	LRQA	BGK403378	1999 NOV
	Panasonic Electric Works (Khon Kaen) Co., Ltd.	Electromagnetic relay, Connector, Switch	LRQA	BCK0403788	2005 AUG
	Panasonic Manufacturing Philippines Corporation	Refrigerator, Air conditioner, Washing machine, Dry battery	SGS	BG05/65922.00	1998 MAY
	Panasonic Communications Philippines Corporation	Optical disc drive, MPU coolant fan, Digital imaging system	SGS	CH04/0051	2004 JAN
	PT. Panasonic Manufacturing Indonesia	TV, Audio equipment, Refrigerator, Air conditioner, Washing machine, Pump	SGS	E11900	1998 JAN
	PT. Panasonic Semiconductor Indonesia	Semiconductor	SGS	GB00/18282	2000 JUL
	PT. Panasonic Gobel Battery Indonesia	Dry battery, Battery application equipment, Lithium battery	ABSQEI	32461	1997 FEB
	PT. Panasonic Battery Batam	Nickel hydride battery, Ni-Cd battery	LLOYD'S	403934	1998 JAN
	PT. Panasonic Electronic Devices Indonesia	Electronic components	JACO	EC04W0004	1999 MAR
	PT. Panasonic Electronic Devices Batam	Electronic components	AJA	AJA04/7248	2004 FEB
	PT. Panasonic Lighting Indonesia	PA-LOOK Ball, Fluorescent lamp	LRQA	403244	1999 DEC
	PT. Panasonic Shikoku Electronics Indonesia	VCR, Camcorder, Optical disc drive	ABSQEI	33164	1998 JUN
	PT. Panasonic Shikoku Electronics Batam	HDD fluid bearing motor, Hard disk, Optical disc drive	AJA	AJA02/5622	2002 SEP
	PT. JVC Electronics Indonesia	Car stereo, Audio equipment	KEMA	79964	1999 MAY
	PT. MT Picture Display Indonesia	Color TV CRT	BVQI	149021	2000 SEP
	PT. Panasonic Electric Works Gobel Manufacturing Indonesia	Lighting fixture, Ballast, Wiring device	ABS.QEI	35688	2000 JUN
	PT. Panasonic Electric Works Mitra Indonesia	Wiring materials, Free access floor	TUV	1104000465	2000 MAY
	Panasonic AVC Networks Vietnam Co., Ltd.	TV	BVQI	89154	2001 JAN
	JVC Vietnam Ltd.	TV, Audio equipment, DVD	TUV	000711	2001 APR
	Panasonic Battery India Co., Ltd.	Dry battery	TUV	04 104 402-IND	1997 DEC
	Panasonic Carbon India Co., Ltd.	Dry battery carbon rod	TUV	04 104 2000 064-E3	1998 APR
	Panasonic AVC Networks India Co., Ltd.	TV	RWTUV	04 104 375	2001 FEB
	Panasonic Home Appliances India Co., Ltd.	Rice cooker, Blender	TUV	04 104 085-E3	1998 DEC
	Matsushita Washing Machine India Pvt. Ltd.	Washing machine	TUV	04104363-IND	2001 JAN

Type	Domain/Affiliated Company Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
China/Northeast Asia (Manufacturing)	Beijing, Matsushita Color CRT Co., Ltd.	Color TV CRT	CQC	09-2003-0521	1996 DEC
	Panasonic Electronic Devices (Beijing) Co., Ltd.	Tuner	CCEMS	1-033	1998 MAY
	Panasonic Electronic Devices Film Capacitor (Beijing) Co., Ltd.	Film capacitor	CCCI	02104E10435R1M	1998 DEC
	Panasonic Putian Mobile Communications Beijing Co., Ltd.	Cellular phone	LRQA	C982002	1998 NOV
	Panasonic Lighting (Beijing) Co., Ltd.	Fluorescent lamp	CCEMS	02105E10122R1M	2002 DEC
	JVC Beijing Electronic Industries Co., Ltd.	DVD, Digital video camera	BVGI	60006	1999 AUG
	Beijing Matsushita Electric Works Co., Ltd.	Lighting fixture, Wiring device, Home appliance	CEC	06-2000-47	2000 OCT
	Panasonic Electric Works Automation Controls (Beijing) Co., Ltd.	Switching device	CEC	06-1999-009	1999 NOV
	Panasonic Electronic Devices (Tianjin) Co., Ltd.	Fixed resistor, Capacitor	SGS	CH05/0248	2005 MAR
	Panasonic Welding Systems (Tangshan) Co., Ltd.	Welding equipment	CCEMS	01-1998-065	1998 NOV
	Panasonic Storage Battery (Shenyang) Co., Ltd.	Lead storage battery with control valve	QCCECC	031998001	1998 DEC

Type	Domain/Affiliated Company Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
China/Northeast Asia (Manufacturing)	China Hualu Panasonic AVC Networks Co., Ltd.	VCR, DVD-related equipment	CCCI	02104E10161R2L	1998 JUN
	Panasonic Automotive Systems Dalian Co., Ltd.	Car audio equipment	CCCI	02105E10046R2L	2006 APR
	Panasonic Carbon (Anyang) Co., Ltd.	Dry battery carbon rod	CCCI	02105E10064R2M	1999 FEB
	Panasonic AVC Networks Shandong Co., Ltd.	TV	CCCI	047R2	1998 NOV
	Panasonic Electronic Devices (Qingdao) Co., Ltd.	Transparent touch panel, Switches	CCEMS	017	1997 DEC
	Panasonic Home Appliances Refrigeration (Wuxi) Co., Ltd.	Refrigerator	CQC	0105E20066ROM/3200	1998 OCT
	Panasonic Refrigeration Devices (Wuxi) Sdn. Bhd.	Refrigerator compressor	CCCI	02104E10188R2L	1998 OCT
	Panasonic Motor (Hangzhou) Co., Ltd.	Home appliance, Compact air conditioner motor	CCEMS	01-1998-086	1998 SEP
	Panasonic Home Appliances Washing Machine (Hangzhou) Co., Ltd.	Washing machine	WIT	15104E5298R11	1997 DEC
	Panasonic Home Appliances Rice Cooker (Hangzhou) Co., Ltd.	Rice cooker	CCCI	02105E10084R2M	1999 DEC
	Panasonic Home Appliances & System (Hangzhou) Co., Ltd.	Water heater	CCCI	02105E10066R2M	1998 NOV
	Panasonic Home Appliances (Hangzhou) (Export Processing Zone) Co., Ltd.	Vacuum cleaner, Housing equipment	CEC	05504E10679ROM	2004 AUG
	Panasonic Semiconductor (Shanghai) Co., Ltd.	Semiconductor	SCEMS	098 04 E1 009 R1 M	1998 DEC
	Panasonic Magnetron (Shanghai) Co., Ltd.	Magnetron	EIQA	04204E10021R1M	2004 FEB
	Panasonic Battery (Shanghai) Co., Ltd.	Dry battery	CCCI	02104E10144R2M	1998 APR
	Panasonic Plasma Display (Shanghai) Co., Ltd.	TV	CQC	0104E10848ROL/3100	2004 SEP
	Panasonic Home Appliances Microwave Oven (Shanghai) Co., Ltd.	Microwave oven	CCCI	02104E10166R2L	1998 JUN
	JVC Shanghai Electronics Industries Co., Ltd.	DVD, Audio equipment, Car audio equipment	CCEMS	1-041	1998 JUN
	Panasonic Electric Works (Shanghai) Co., Ltd.	Bath tub, Dressing counter	BSi	EMS69083	2002 AUG
	Shanghai Matsushita Denko Automation Controls Co., Ltd.	Programmable logic controller, Inverter	LRQA	QAC002012	2001 JAN
	Shanghai Matsushita Electric Works Ikeda Co., Ltd.	Lighting device, Breaker	CQC	09-2004-0709	2004 MAR
	Panasonic Electric Works Electronic Materials (Shanghai) Co., Ltd.	Encapsulont	LRQA	QAC0031028/A	2004 AUG
	Panasonic Electric Works Information Equipment (Shanghai) Co., Ltd.	Switch, Socket, Circuit breaker	LRQA	QAC0052014/A	2005 DEC
	Panasonic System Solutions Suzhou Co., Ltd.	CCVE camera	SGS	CH05/0095	1998 OCT
	Panasonic Semiconductor (Suzhou) Co., Ltd.	Semiconductor	CEPREI	01206E10055ROM	2006 JAN
	Panasonic Semiconductor (Suzhou) Co., Ltd. AVSMF	Cellular phone camera, In-vehicle camera, Condenser microphone	CEPREI	01204110424ROM	2004 JUN
	Suzhou Toyodenpa Electronic Co., Ltd.	Micro component, Metal component	SAC	11-2003-119	2003 MAY
	Panasonic Electric Works (Suzhou) Co., Ltd.	Copper clad laminate, Printed wiring board	CCEMS	01-1998-071	1998 DEC
	SUZHOU SUNX Limited	Photoelectric sensor, Proximity sensor	CQC	0105E10379ROM/3200	2005 NOV
	Panasonic AVC Networks Xiamen Co., Ltd.	Portable CD player, Personal headphone stereo	CQC	0105E20041ROM/3502	1997 DEC
	Panasonic Electric Works Automation Controls (Xiamen) Co., Ltd.	Relay, Socket, Micro switch	CCIC	04005E10387ROM	2005 DEC
	Panasonic Wanbao Home Appliances Electric Iron (Guangzhou) Co., Ltd.	Electric iron	CCEMS	00705E20105R1M	1998 DEC
	Panasonic Home Appliances Air-Conditioning (Guangzhou) Co., Ltd.	Air conditioner	CCCI	02104E10184R21	1998 AUG
	Panasonic Wanbao Compressor (Guangzhou) Co., Ltd.	Compressor	CCCI	02104E10220R2L	1998 AUG
	JVC Guangzhou Electronics Co., Ltd.	Component (Motor)	EPRE	03 1999 006	1999 NOV
	Panasonic Electric Works Electronic Materials (Guangzhou) Co., Ltd.	Copper clad laminate, Prepreg	VBQi	100655	2001 NOV
	Panasonic Electric Works Wanbao (Guangzhou) Co., Ltd.	Home appliance	EPREI	03-1999-004	1999 OCT
	Fujian JVC Electronics Co., Ltd.	Component (Deflection yoke)	JQA	JQA-EM3430	2003 OCT
	Panasonic Ecology Systems Guangdong Co., Ltd.	Ventilation fan, Kitchen-hood, Ceiling fan	CCCI	034R2	2005 APR
	Panasonic Ecology Systems Guangdong Co., Ltd., Beijing Plant	Air-handling unit, Fan coil unit	CCCI	414R2	2004 SEP
	Panasonic Electronic Devices (Jiangmen) Co., Ltd.	Electronic device capacitor	CCCI	02104E10263R1M	1998 DEC
	Panasonic Battery (Zuhai) Co., Ltd.	Alkali storage battery	CCCI	02105E10244R2L	1998 SEP
	Panasonic Motor (Hangzhou) Co., Ltd.	AV/OA motor	SGS	GB05/64450	1998 OCT
	Panasonic Communications Zuhai Co., Ltd.	Cordless phone, Facsimile	CQC	0104E20702ROM/4404	2006 MAR
	Ohms Electronics (Shenzhen) Co., Ltd.	Wiring device, Intercom	SSCC	061-03-E1-0023-R1-M	1998 DEC
	Panasonic Taiwan Co., Ltd.	TV, VTR	LRQA	771708	1997 MAY
	Panasonic AVC Networks Taiwan Co., Ltd.	Personal computer	LRQA	771709	1997 APR
	Panasonic Battery Taiwan Co., Ltd.	Dry battery carbon rod, Gouging carbon	TUV	04104 063 E4	1998 JUL
	Panasonic Electric Works (Electrical Construction Materials) Taiwan Co., Ltd.	Wiring device, Lighting fixture	Taiwan	4A6E002-00	1999 MAY
	Panasonic Electric Works Electronic Materials Taiwan Co., Ltd.	Copper clad laminate, Prepreg	SGS	ETW00061	1998 DEC
Type	Domain/Affiliated Company Sites	Major Products	Certification Organizations	Certification Number	Date of Registration
Outside Japan (Non-manufacturing)	Panasonic Corporation of North America	Regional headquarters in North America	UL	A8673	2000 APR
	Panasonic Electronic Device Europe GmbH	Sales of electronic components	TUV	31342301	1999 JAN
	Panasonic Mobile Communications Development of Europe Ltd.	Development of cellular phones	BSI	EMS34515	1996 JUL
	Panasonic Asia Pacific Pte. Ltd.	Regional headquarters in Asia	JACO/PSB	EC99W1001	1999 MAY
	Panasonic Singapore Laboratories Pte. Ltd.	Research on AV signal processing	PSB	99-0052	1999 MAR
	Panasonic Motor Singapore Pte. Ltd.	R&D on brushless motor	SGS	TW01/53815EM	1998 NOV
	Panasonic HA Air-Conditioning R&D (M) Sdn. Bhd.	Design and development of air conditioners	SIRIM	P06900001	1997 DEC
	Panasonic Malaysia Sdn. Bhd.	Sales of home appliances and system products	SIRIM	0005	2003 DEC
	Panasonic Siew Sales (Thailand) Co., Ltd.	Sales of AV, system, and other products	AJA	AJA99/1542	1999 SEP
	Panasonic A.P. Sales (Thailand) Co., Ltd.	Sales of electric and other products	AJA	AJA99/1543	1999 SEP
	PT. Panasonic Gobel Indonesia	Sales of home appliances and other products	PTLRI	500203	2004 MAY
	Panasonic Australia Pty. Ltd.	Sales of home appliances and system products	SGS	AJ04/2019	2004 MAY
	Panasonic New Zealand Ltd.	Sales of home appliances and system products	TELARC	73	2004 MAR
	Panasonic Electronic Devices (Hong Kong) Co., Ltd.	Sales of electronic components	UL	A7150	1999 APR

# History of Environmental Activities

(As of March 31, 2006)

Era	Matsushita Group	World	Japan
1970s			1967 •Basic Law for Environmental Pollution Control enacted
			1968 •Air Pollution Control Law enacted
	1970 •Pollution Survey Committee established		1970 •Water Pollution Control Law enacted •Waste Disposal and Public Cleansing Law enacted
			1971 •Environment Agency established
	1972 •Environmental Management Office established	1972 •U.N. Conference on Human Environment held in Stockholm (Declaration of Human Environment adopted)	
		1973 •First oil shock occurred	
1980s	1975 •Environmental Management Regulations enacted		
		1979 •Second oil shock occurred	1979 •Energy Conservation Law enacted
		1985 •Vienna Convention for the Protection of the Ozone Layer adopted	
		1987 •Montreal Protocol on Substances that Deplete the Ozone Layer adopted •World Commission on Environment and Development (the Brundtland Commission) advocated the concept of sustainable development	
1990s	1988 •CFC-reduction Committee established		1988 •Ozone Layer Protection Law enacted
	1989 •Environmental Protection Promotion Office established		
	1991 •Matsushita Environmental Charter (Environmental Statement and Code of Conduct) enacted •Matsushita Product Assessment adopted and implemented		1991 •Keidanren Global Environment Charter enacted by Japan Federation of Economic Organizations •Law for Promotion of Effective Utilization of Resources enacted
	1992 •Environmental Policy Committee established	1992 •The Earth Summit held in Rio de Janeiro, Brazil; Agenda21 and Rio Declaration on Environment and Development adopted •United Nations Framework Convention on Climate Change adopted	
	1993 •Matsushita Environmental Voluntary Plan (Year 2000 targets) adopted •Matsushita Group's global environmental internal audits launched •Won Stratospheric Ozone Protection Award presented by U.S. Environmental Protection Agency		1993 •The Basic Environment Law enacted
	1995 •Acquired Environmental Management System Certification at AV Kadoma Site (first in the Matsushita Group)	1995 •First Conference of Parties to the U.N. Framework Convention on Climate Change (COP1) held in Berlin	1995 •Containers and Packaging Recycling Law enacted
		1996 •ISO 14001 International Standard on Environmental Management Systems launched	
	1997 •Corporate Environmental Affairs Division (CEAD) established •Environmental Conference established (held semi-annually)	1997 •Kyoto Protocol adopted in COP3 held in Kyoto	1997 •Keidanren Appeal on the Environment announced by Japan Federation of Economic Organization
	1998 •Love the Earth Citizens' Campaign commenced •Recycling Business Promotion Office established •Verification experiments of used TV recycling launched •First environmental report (1997) published		1998 •Home Appliance Recycling Law enacted (took effect in 2001) •Law Concerning the Promotion of the Measures to Cope with Global Warming enacted •Energy Conservation Law revised: Top Runner Approach introduced
	1999 •Green Procurement launched •Chemical Substances Management Rank Guidelines established •Acquired ISO14001 Certification in all manufacturing business units •Won the Director-General's Prize in the Environmental Reporting Awards		1999 •PRTR (Pollutant Release and Transfer Register) Law enacted
2000s	2000 •Lead-free Solder Project commenced •Held first environmental exhibition for general public in Osaka	2000 •Global Reporting Initiative (GRI) issued The Sustainability Reporting Guidelines	2000 •Basic Law for Establishing the Recycling-based Society enacted •Law for Promotion of Effective Utilization of Resources enacted
	2001 •Environmental Vision and Green Plan 2010 adopted •Held Environmental Forum in Tokyo •Held Environmental Forum in Freiburg, Germany •Green Product (GP) certification criteria revised •Matsushita Eco Technology Center launched	2001 •Reached final agreement on the actual rules of Kyoto Protocol in COP7 held in Marrakesh	2001 •Reorganized into the Ministry of the Environment •Law Concerning Special Measures against PCBs enacted
	2002 •Panasonic Center opened •Won the Grand Prize in the 11th Global Environmental Awards •Won the Minister of Economy, Trade and Industry Prize in the Green Purchasing Awards	2002 •Johannesburg Summit (Rio+10) held	2002 •Kyoto Protocol ratified •Vehicle Recycling Law enacted •Law for Countermeasures against Soil Pollution enacted
	2003 •Coexistence with the Global Environment established as one of the twin business visions •Factor X advocated as an indicator for creating value for a new lifestyle •Completely introduced lead-free soldering globally •No Hazardous Substances in Products Project launched •Super GP Certification Program launched •Achieved zero waste emissions in Japanese manufacturing business units (ongoing program) •Held Environmental Forum in Tokyo	2003 •EU's WEEE Directive was promulgated •EU's RoHS Directive was promulgated	
	2004 •Environmental Vision and Green Plan 2010 revised •PCB Management Office established •Superior GP Certification Program launched		2004 •Prohibited manufacturing and use of products containing asbestos in principle
	2005 •Participated in Expo 2005 Aichi, Japan as an official sponsor •Green Plan 2010 revised •Continued with the nationwide Lights-out Campaign •3R Eco Project launched •Completed the elimination of specified substances in products •Asbestos Countermeasures Committee established •Matsushita Group's Green Logistics Policy established •CF Accreditation System introduced •Eco & Ud HOUSE opened •Installed the first commercial household fuel cell cogeneration system in the new official residence of the Japanese Prime Minister •Won the first place in Nikkei Environmental Management Survey	2005 •Kyoto Protocol entered into force	2005 •Expo 2005 Aichi, Japan held •National campaign against global warming "Team -6%" launched •Energy Conservation Law revised (transportation sector added) •Marking for the presence of the specified chemical substances for electrical and electronic equipment (J-Moss) established
		2006 •Administrative Measures on the Control of Pollution Caused by Electronic Information Products (Chinese version of RoHS) enacted	2006 •Relief Law for Asbestos Victims enacted



## Environmental Performance Data

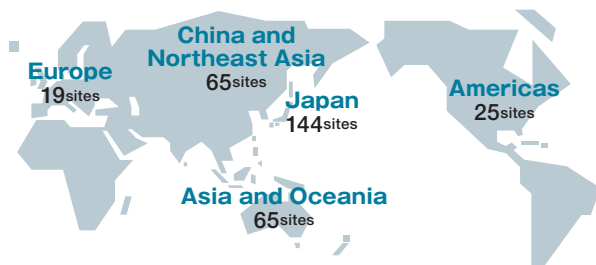
Matsushita's environmental activities top page

[URL](http://panasonic.net/eco/) [panasonic.net/eco/](http://panasonic.net/eco/)

### Site reports (manufacturing sites)

[URL](http://panasonic.net/eco/data/siteindex.html) [panasonic.net/eco/data/siteindex.html](http://panasonic.net/eco/data/siteindex.html)

Manufacturing sites in Matsushita Group disclose one's their own environmental performance data (including several non-manufacturing sites).



## Information Disclosure on the Internet

► IR info

[URL](http://ir-site.panasonic.com/) [ir-site.panasonic.com/](http://ir-site.panasonic.com/)

► Corporate Citizenship

[URL](http://panasonic.co.jp/ccd/index_eng.html) [panasonic.co.jp/ccd/index\\_eng.html](http://panasonic.co.jp/ccd/index_eng.html)

► The Panasonic Report for Sustainability 2006

[URL](http://panasonic.net/report/2006/) [panasonic.net/report/2006/](http://panasonic.net/report/2006/)

► Annual Report 2006

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[URL](http://ir-site.panasonic.com/annual/2006/) [ir-site.panasonic.com/annual/2006/](http://ir-site.panasonic.com/annual/2006/)

► Global Corporate Citizenship Activities

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[URL](http://panasonic.co.jp/ccd/index_eng.html) [panasonic.co.jp/ccd/index\\_eng.html](http://panasonic.co.jp/ccd/index_eng.html)

### Domain reports (divisions and affiliated companies)

[URL](http://panasonic.net/eco/data/) [panasonic.net/eco/data/](http://panasonic.net/eco/data/)

Divisions and affiliated companies in Matsushita Group disclose their own environmental performance data.

Semiconductor Company\*

[URL](http://panasonic.co.jp/semicon/environment/en/) [panasonic.co.jp/semicon/environment/en/](http://panasonic.co.jp/semicon/environment/en/)

Panasonic AVC Networks Company\*

[URL](http://panasonic.co.jp/pavc/en/environment/) [panasonic.co.jp/pavc/en/environment/](http://panasonic.co.jp/pavc/en/environment/)

Panasonic Automotive Systems Company\*

[URL](http://panasonic.co.jp/pas/environment/en/) [panasonic.co.jp/pas/environment/en/](http://panasonic.co.jp/pas/environment/en/)

Lighting Company

Motor Company\*

[URL](http://panasonic.co.jp/motor/eng/environment/) [panasonic.co.jp/motor/eng/environment/](http://panasonic.co.jp/motor/eng/environment/)

Home Appliances Group\*

[URL](http://panasonic.co.jp/appliance/global/environment/) [panasonic.co.jp/appliance/global/environment/](http://panasonic.co.jp/appliance/global/environment/)

Healthcare Business Company

Panasonic System Solutions Company\*

[URL](http://panasonic.co.jp/pss/eco/en/) [panasonic.co.jp/pss/eco/en/](http://panasonic.co.jp/pss/eco/en/)

Panasonic Mobile Communications Co., Ltd.\*

[URL](http://panasonic.co.jp/pmc/environment/en/) [panasonic.co.jp/pmc/environment/en/](http://panasonic.co.jp/pmc/environment/en/)

Panasonic Factory Solutions Co., Ltd.\*

[URL](http://panasonic.co.jp/pfsc/environment/en/) [panasonic.co.jp/pfsc/environment/en/](http://panasonic.co.jp/pfsc/environment/en/)

Panasonic Communications Co., Ltd.\*

[URL](http://panasonic.co.jp/pcc/eco/en/) [panasonic.co.jp/pcc/eco/en/](http://panasonic.co.jp/pcc/eco/en/)

Panasonic Shikoku Electronics Co., Ltd.

Matsushita Welding Systems Co., Ltd.\*

[URL](http://panasonic.co.jp/mwsc/environment/en/) [panasonic.co.jp/mwsc/environment/en/](http://panasonic.co.jp/mwsc/environment/en/)

Matsushita Ecology Systems Co., Ltd.

Matsushita Battery Industrial Co., Ltd.\*

[URL](http://panasonic.co.jp/mbi/environment/en/) [panasonic.co.jp/mbi/environment/en/](http://panasonic.co.jp/mbi/environment/en/)

Panasonic Electronic Devices Co., Ltd.\*

[URL](http://panasonic.co.jp/ped/en/environment/) [panasonic.co.jp/ped/en/environment/](http://panasonic.co.jp/ped/en/environment/)

Matsushita Electric Works Ltd.\*

[URL](http://www.mew.co.jp/e/corp/eco/) [www.mew.co.jp/e/corp/eco/](http://www.mew.co.jp/e/corp/eco/)

PanaHome Corporation

Victor Company of Japan Ltd.

\* Companies which have their own website to report environmental activities.

## Information Transmission and Reception Facilities

► Matsushita Eco Technology Center

[URL](http://panasonic.co.jp/eco/metec/en/) [panasonic.co.jp/eco/metec/en/](http://panasonic.co.jp/eco/metec/en/)

► Eco & Ud HOUSE

[URL](http://panasonic.co.jp/euhouse/en/) [panasonic.co.jp/euhouse/en/](http://panasonic.co.jp/euhouse/en/)

► Panasonic Center TOKYO

[URL](http://panasonic.net/panasonic-center/tokyo/) [panasonic.net/panasonic-center/tokyo/](http://panasonic.net/panasonic-center/tokyo/)

► Panasonic Center OSAKA

[URL](http://panasonic.net/panasonic-center/osaka/) [panasonic.net/panasonic-center/osaka/](http://panasonic.net/panasonic-center/osaka/)  
TEL:+81-6-6949-2111

► National Center TOKYO

[URL](http://national.jp/center/tokyo/en/) [national.jp/center/tokyo/en/](http://national.jp/center/tokyo/en/)  
TEL:+81-3-6218-0010

► National Center OSAKA

[URL](http://national.jp/center/osaka/en/) [national.jp/center/osaka/en/](http://national.jp/center/osaka/en/)  
TEL:+81-6-6943-9575

### Inquiries

Corporate Environmental Affairs Division  
Matsushita Electric Industrial Co., Ltd.  
1006 Kadoma, Kadoma City, Osaka 571-8501, Japan  
TEL +81-6-6908-1243 FAX +81-6-6909-1163  
E-mail [eco@gg.jp.panasonic.com](mailto:eco@gg.jp.panasonic.com)

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