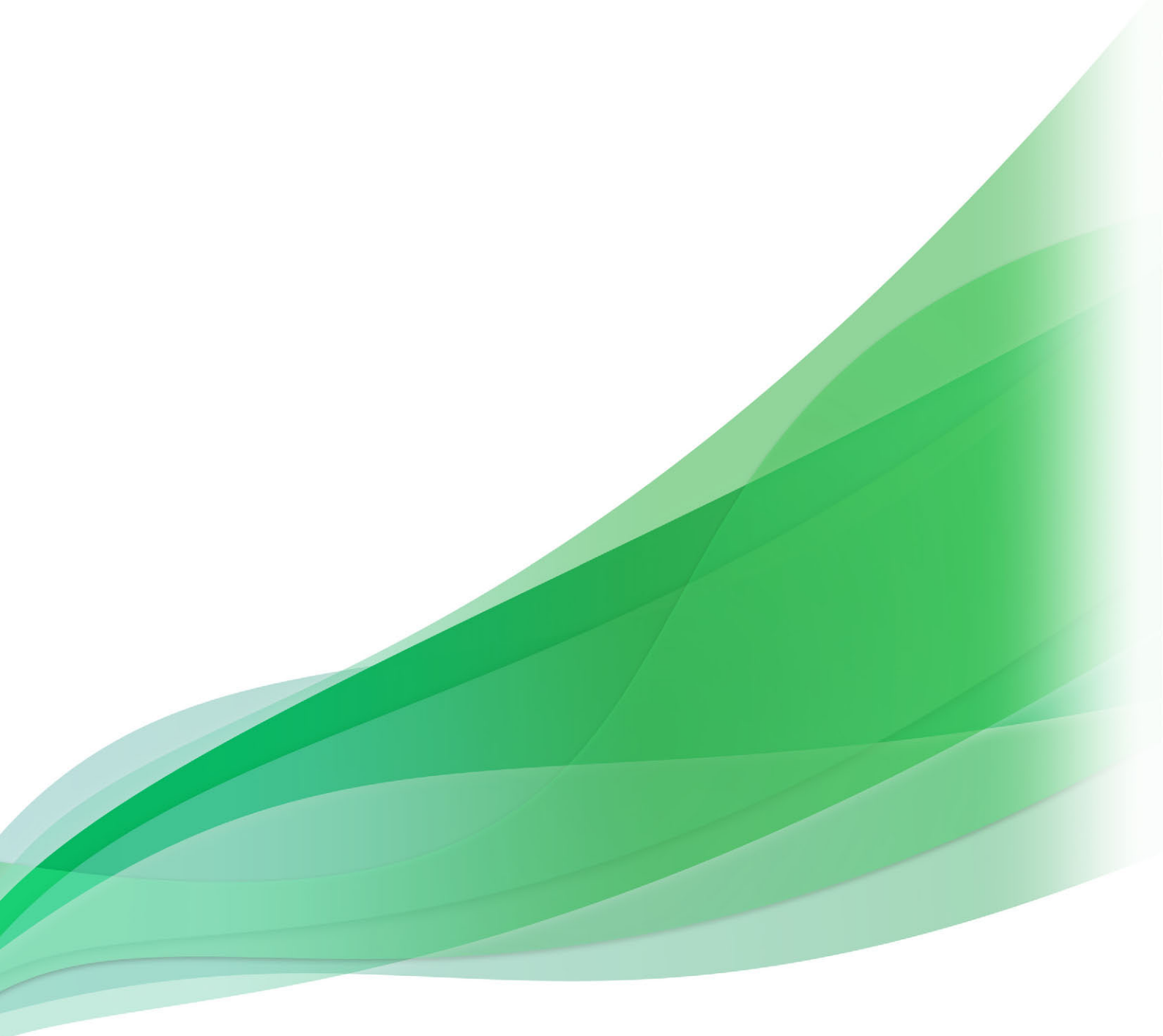


'eco ideas' Report 2012



Panasonic Group



Panasonic
ideas for life

Company Name: Panasonic Corporation

Head office Location: 1006 Kadoma, Kadoma City,

Osaka 571-8501, Japan

Tel: +81-6-6908-1121

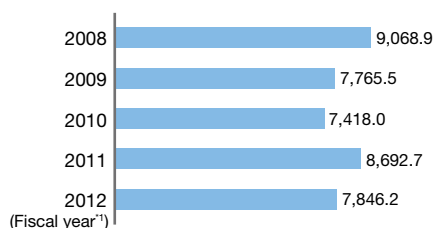
Founded: March, 1918

(incorporated in December, 1935)

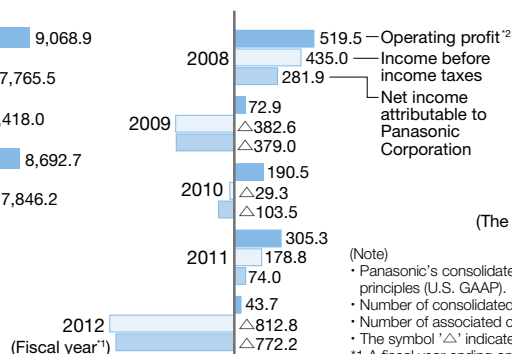
Representative: Fumio Ohtsubo, President

Common Stock: 258.7 billion yen

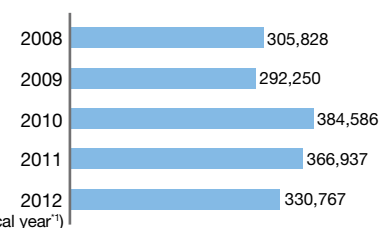
Sales (billions of yen)



Profit (Loss) (billions of yen)



Number of employees (persons)



(Note)

• Panasonic's consolidated accounting conforms to U.S. generally accepted accounting principles (U.S. GAAP).

• Number of consolidated companies: 579 (including parent companies)

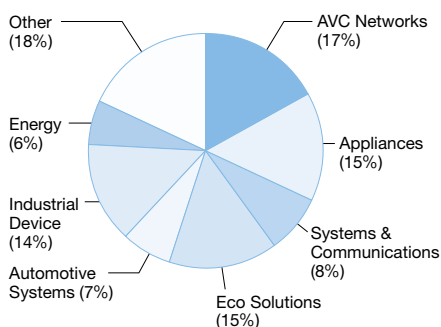
• Number of associated companies under the equity method: 103

• The symbol '△' indicates loss.

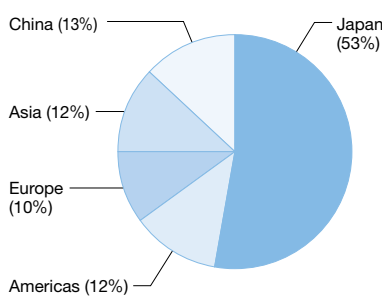
*1 A fiscal year ending on March 31st in each year.

*2 In order to be consistent with generally accepted financial reporting practices in Japan, operating profit, a non-GAAP measure, is presented as net sales less cost of sales and selling, general and administrative expenses. The Company believes that this is useful to investors in comparing the Company's financial results with those of other Japanese companies.

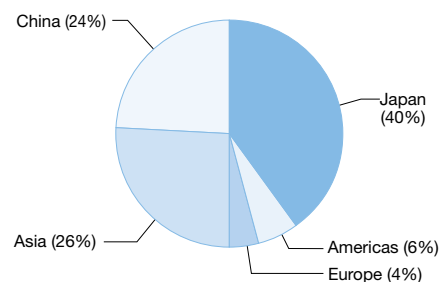
Sales by segment (fiscal 2012)



Sales by region (fiscal 2012)



Rate of employees by region (at the end of fiscal 2012)



Principal Business

As of March 31, 2012

Panasonic Group's main products and services by business segment are as follows:

AVC Networks

LCD and Plasma TVs, digital cameras, Blu-ray Disc and DVD recorders, PCs, optical disc drives, home audio equipment, aircraft in-flight entertainment systems, etc.

Appliances

Air conditioners, washing machines and clothes dryers, refrigerators, compressors, electric hot water supply equipment, sanitary equipment, microwave ovens, dish washer/dryers, rice cookers, vacuum cleaners, showcases, electric motors, personal-care products, etc.

Systems & Communications

Mobile phones, communications network equipment, security network equipment, business systems equipment, social infrastructure systems equipment, etc.

Eco Solutions

Lighting fixtures and electric lamps (including LED lighting), wiring devices, interior furnishing materials, modular kitchen systems, water-related products, ventilation and air-conditioning equipment, air purifiers, etc.

Automotive Systems

Car-use-multimedia-related equipment (car AVC equipment, car navigation systems etc.), eco-car-related equipment, electric components, etc.

Industrial Devices

Electric components (capacitors, circuit boards, circuit components, electromechanical components, custom components, automation controls), semiconductors, optical devices, electronic materials, etc.

Energy

Solar photovoltaic systems, lithium-ion batteries (consumer and in-car use), dry batteries, etc.

Other

Healthcare equipment and services, electronic-components-mounting machines, industrial robots, welding equipment, detached housing, rental apartment housing, land and buildings for sale, home remodeling, imported materials and components, bicycles, etc.

Note: The Other segment consists of the Healthcare Company, the Manufacturing Solution Company, PanaHome Corporation and others.

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Publication objective and editorial policy

- In consideration of the increasing importance of the environmental sustainability management, Panasonic published the 'eco ideas' Report to report our initiatives towards the environment and the annual environmental information.
- This report is composed of contents based on the Green Plan 2018, an environmental action plan aiming to achieve our vision looking to the 100th anniversary of our founding, and the final settlements of the year in terms of environmental sustainability management as well as initiatives at frontlines are introduced in detail.
- Data reported in this report refers to a global result and the name of a country or region is indicated when disclosing data specific to a particular country or region. More detailed information or those by region is disclosed in the Environmental Activities page on our website.

▶<http://panasonic.net/eco/>

Reporting period and boundary

Reporting period: Fiscal 2012 (April 1, 2011 – March 31, 2012)
The abbreviated year indication in graphs refers to a fiscal year (April 1 - March 31)
Organization covered: Panasonic Corporation and consolidated subsidiaries

- Data related to manufacturing sites covers all manufacturing sites (328 sites) that have established Environmental Management Systems.
- When companies included in the scope of tabulation are changed, data is corrected in a retrospective manner.
- Data without any indications of fiscal years or regions refers to global results in fiscal 2012.

Reference guidelines

- Environmental Reporting Guidelines 2012 by the Ministry of the Environment, Japan
- Sustainability Reporting Guidelines 2006 by the Global Reporting Initiative (GRI)



F. Ohtsubo

President
Panasonic Corporation

The Great East Japan Earthquake, as well as the floods in Thailand which occurred just 4 months later, once again served as a strong reminder to us of the importance of having in place in society a solid system for disaster-readiness. What is more, if we look at what is happening around the world, we find that as emerging countries are achieving spectacular development, we are also facing more serious problems, such as depleting resources and energy, shortages of food and water, and a reduction in biodiversity. The situation surrounding us is changing daily, even hourly, and we have to accelerate our activities more than ever before in order to achieve sustainable development throughout all of society.

With all of these challenges which the global community faces, Panasonic is now moving forward with a Group vision to become the No.1 Green Innovation Company in the Electronics Industry looking to 2018, the 100th anniversary of our founding. Wishing to realize this vision, we want to integrate our environmental contribution with our business growth and thereby accomplish our goal of creating a situation where “The more we contribute to the environment, the more our business will grow.” To put it another way, we need to take up the challenge and prove wrong the conventional rule which states: “To improve people’s lives, there is no other way than to have an increase in consumption.” To that end, we will make value proposals by providing energy solutions for the entire home, building and town, focusing on energy creation, energy storage, energy saving and energy management, and at the same time, we will offer green lifestyles which are sustainable and which provide people around the world with safety, a sense of security, and comfort. In this way, we want to bring about green innovation which begins with our everyday lives.

Although the fiscal year which ended March 31 was the 2nd year of our 3-year midterm management plan, Green Transformation 2012 (GT12), which was devised to help us realize our corporate vision, we suffered our largest-ever net loss and are facing the biggest crisis in our history. But on the other hand, we were able to set the foundation to reach our goal of becoming a Green Innovation Company, as for instance, in launching our new business organization in January 2012. Our new initiatives, such as those for reducing CO₂ emissions, promoting recycling-oriented manufacturing, and product planning tailored to individual regions around the world, have been showing steady results.

Under our new business organization, we will create new lifestyle value in a comprehensive manner by taking full advantage of the individuality and abilities of our employees all around the world. And as a result of our making a contribution to society, we will overcome our difficulties and improve our financial performance. Moving forward, Panasonic will continue to cooperate with all of its stakeholders, listen sincerely to their voices, and fulfill its mission as a public entity of society, a mission that has remained unchanged since our foundation.

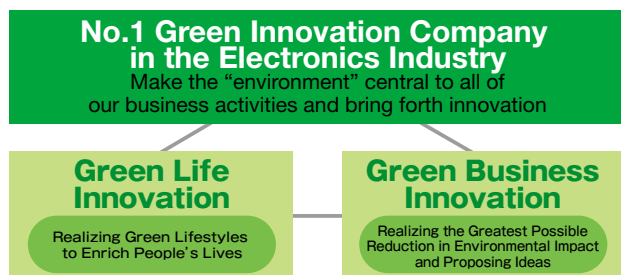
June 2012

Vision Looking to the 100th Anniversary of Our Founding

Global environmental issues such as global warming becoming more serious, concerns about the depletion of resources, and the ecosystem being in crisis, have become the biggest social problems we have to address as a global community. We have long been carrying out our business activities following a management philosophy of “contributing to society.” In this regard, we at Panasonic want to lead the industry in bringing about a “green revolution,” and we also want to make a contribution starting in an area which affects the day-to-day lives of people, a contribution worthy of Panasonic. Having such a goal firmly in mind, we set our vision looking to the 100th anniversary of our founding, and announced it at our Annual Management Policy Meeting on January 18, 2010. By fiscal 2019, the 100th anniversary of our founding, we aim to become the No. 1 Green Innovation Company in the Electronics Industry. We will make the “environment” central to all of our business activities and bring forth “Green Life Innovation” and “Green Business Innovation.”

Vision ▶ <http://panasonic.net/vision/>

■ Vision looking to the 100th anniversary of our founding



When we made our vision looking to the 100th anniversary of our founding, we set down “Indexes for the No.1 Green Innovation Company in the Electronics Industry,” consisting of two kinds of management indexes. The first is “Global Excellence Indexes,” which contain our global management targets, such as our sales and operating profit ratio. The second is “Green Indexes,” which consist of four items, namely our “contribution to reducing CO₂ emissions,” our “contribution to recycling resources,” the “size of our Energy Systems Business,” and the “percentage of sales for No.1 eco-conscious products.” We will work to always meet the “Global Excellence Indexes,” and at the same time we aim to become industry No.1 for the four items in the “Green

■ Indexes for No.1 Green Innovation Company in the Electronics Industry

Be industry No.1 in Green Indexes	Always meet Global Excellence Indexes
<ul style="list-style-type: none"> • Contribution to reducing CO₂ emissions • Contribution to recycling resources • Size of Energy Systems Business • Percentage of sales for No.1 eco-conscious products 	<ul style="list-style-type: none"> • Sales: 10 trillion yen or more • Operating profit ratio: 10% or more • ROE: 10% or more • Having multiple key products with a No.1 global market share

Indexes” taken as a whole. By simultaneously pursuing these indexes, we will integrate our environmental contribution and our business growth throughout the entire Group.

Toward the attainment of our vision, we have renewed our ‘eco ideas’ Declaration to focus on Lifestyles and Business-styles.

■ Our ‘eco ideas’ Declaration

The Panasonic Group strives to be a Green Innovation Company with a global perspective

‘eco ideas’ for Lifestyles

We will promote lifestyles with virtually zero CO₂ emissions all throughout the world

‘eco ideas’ for Business-styles

We will create and pursue a business-style which makes the best use of resources and energy

For the period from fiscal 2011 to 2013, during which we will take the first steps toward achieving our vision, we will implement our midterm management plan, GT12 (Green Transformation 2012) to make a paradigm shift for growth and to lay the foundation to be a Green Innovation Company. In these three years we will strive to increase our profitability and make more environmental contributions, thereby meeting the Global Excellence Indexes and laying the groundwork to become No. 1 in terms of Green Indexes.

In April 2011, we made Panasonic Electric Works and SANYO Electric our wholly-owned subsidiaries, with a view to speeding up and maximizing synergy creation in order to achieve the vision and GT12 plan. Based on this integration, we implemented a business reorganization of the Group, and launched a new business structure in January 2012.

In fiscal 2013, we have set out the basic guidelines for our Group, “focus on profitability,” “strengthen products,” and “take initiatives to change ourselves and make changes.” We will establish new business models based on the results of the structural reforms carried out in fiscal 2012.

We aim to increase profitability in the solar, lithium-ion batteries, and appliances businesses. Specifically, we will promote high-efficiency photovoltaic power generation systems, mainly in the housing market, and propose new values by providing linking of products in various ways unique to Panasonic, including proposals on our energy creation-storage coordination systems. For lithium-ion batteries, we will also expand our business in both consumer and automotive areas. In the appliances business we will pursue global growth opportunities for all our products, promoting our ECONAVI appliances to help people throughout the world save energy in their daily lives. Moreover, we will provide stores and local communities with comprehensive solutions through proposals on energy management that link equipment for creating, storing, and saving energy, thereby making further contributions to the environment while at the same time achieving business growth.

Midterm Management Plan

▶ <http://panasonic.net/vision/midterm/>

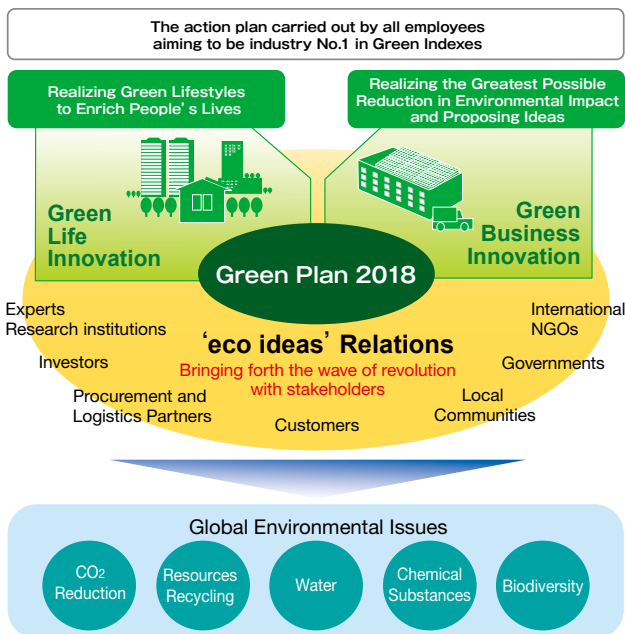
Fiscal 2013 Business Policy

▶ <http://panasonic.co.jp/corp/news/official.data/data.dir/en120511-10/en120511-10.html>

Environmental Action Plan – Green Plan 2018

Green Plan 2018, set to realize our vision and Green Indexes, is Panasonic's environmental action plan that outlines initiatives for all Panasonic Group employees to carry out. Following our previous action plan, the Green Plan 2010, which was established in 2001 our new Green Plan 2018 provides a clear action plan to take, our company forward from fiscal 2011 through fiscal 2019. Our action plan consists of a set of goals and targets including the four core items from our Green Indexes, as well as goals for other environmental challenges such as water conservation, management of chemical substances, and biodiversity conservation. Panasonic employees are committed to the Green Plan 2018 and we will continue to work together with everyone in society to address shared global environmental issues.

■ Concept of Green Plan 2018



In the total CO₂ emissions from our business activities, CO₂ emissions from the actual use of our products by customers account for a large proportion. We will cut CO₂ emissions by setting targets to reduce the amount of CO₂ emitted from the use of our products in people's daily lives, in addition to endeavoring to reduce emissions from our production activities across the world. Specifically, we will deliver comprehensive energy solutions that focus on proposing equipment for creating/storing energy and energy management systems. We aim for net CO₂ emissions from our business activities to reach a peak in fiscal 2019 and decline thereafter by providing more advanced products and systems towards the global minimization of CO₂ emissions.

Since fiscal 2011 we have also been enhancing measures to deal with the depletion of resources. We are committed to decreasing the amount of resources used and increasing recycled resources as our basic policy,

and are pursuing Recycling-oriented Manufacturing from the procurement of materials and through the design, manufacture, and transportation of products. As for the recycling of waste from factories, which we have been promoting by setting specific targets, we will further enhance activities outside Japan while continuing the activities we started in fiscal 2011 to further increase the percentage of recycled resources within the total resources used. As one of our activities, in February 2012 we launched the Resources Recycling-oriented Products series that incorporate recycled resources.

Water will increase its importance as an environmental issue. In response, we will globally foster the recycling of water within our factories, in addition to continuing to reduce the use of water. We will also develop more products that will contribute to water saving and recycling.

As for the management of chemical substances, we have been implementing measures based on an initiative to target all countries, including those where the use of chemical substances is not regulated by law. For example, for the RoHS Directive enforced in Europe, we have met the criteria earlier than the legally provided term, and not only in Europe but on a global scale. Towards 2018 we will of course identify all the chemical substances used in our products and at our factories, assess their environmental impacts, and voluntarily reduce or discontinue the use of chemical substances with significant environmental impact.

Although we have been addressing biodiversity in our social contribution activities, we will begin implementing measures to conserve biodiversity in our business activities towards 2018, focusing on the following three fields: products, land use, and procurement.

With regard to our No.1 eco-conscious products, we have been globally fostering development activities to increase No.1 eco-conscious models. However, for CO₂ emissions reduction, it is essential that these products are actually used by customers. We will foster the development of No.1 eco-conscious products using more strict criteria while promoting the sales of these products in every category. We aim to double the sales share of these products in our total sales by fiscal 2019, compared to the fiscal 2010 level.

These targets cannot be achieved by Panasonic alone. We will ask for the understanding of all our partner companies and build closer relations with them to accelerate our contributions to the environment.

For these environmental initiatives to bring about great innovations, we need to have active communication, where we put forth various ideas one after the other and receive frank opinions from all the stakeholders involved. Panasonic calls such relations "'eco ideas' Relations (eR)," and it will conduct a range of initiatives to communicate more with its stakeholders through various opportunities.

■ Description of Green Indexes and their progress

Items		Results	Targets				
		FY2012	FY2012	FY2013	FY2019		
Contribution to reducing CO ₂ emissions	Size of contribution in reducing CO ₂ emissions*	40.37 million tons	37.00 million tons	41.00 million tons	• Increase the size of contribution in reducing CO ₂ emissions to 120 million tons • Make net CO ₂ emissions peak and decline thereafter (Emissions from production activities and product use)		
	Products	37.87 million tons	35.00 million tons	38.45 million tons			
		Energy saving	35.05 million tons	32.00 million tons			34.85 million tons
		Energy creation	2.82 million tons	3.00 million tons			3.60 million tons
	Production activities	2.50 million tons	2.00 million tons	2.55 million tons			
Contribution to recycling resources	Total recycled resources used/Total resources used	14.7%	>12% in FY2013		>16%		
	Waste recycling rate	98.9%	98.5%	≥ 99%	≥ 99.5%		
Size of Energy Systems Business		¥519.3 billion	¥850 billion in FY2013		¥3 trillion or more		
Percentage of sales for No.1 eco-conscious products		Approx. 13%	30% in FY2019 (Double FY2010 level)				

* Affected by restructuring of the TV business that has major influence on CO₂ reduction per unit, the FY2013 target in CO₂ reduction contribution has been revised. (See page 11 for the definition of the size of contribution in reducing CO₂ emissions)

■ Description of Green Plan 2018 and its progress

☆Also targeted in Green Indexes

Targets for 2018		Our Actions	Page(s)
CO ₂ Reduction	Make net CO ₂ emissions peak and decline thereafter☆ (Emissions from production activities and product use)	<ul style="list-style-type: none"> ● Maximize a size of contribution in reducing CO₂ emissions from production activities and product use (120 million tons compared to FY2006) ● Reduce CO₂ emissions per basic unit in logistics (Reduction in CO₂ emissions per basic unit of weight: By 46% or more compared to FY2006) ● Reduce CO₂ emissions from offices (Self-owned office buildings in Japan: Reduction by 2% or more on yearly average) ● Promote CO₂ reduction in cooperation with procurement partners ● Promote the Business of Energy Conservation Support Service for Entire Factory 	11-18, 29
	Expand the sales of Energy Systems Business to three trillion yen or more☆	<ul style="list-style-type: none"> ● Globally develop energy management systems for the entire home and building ● Win the world's top-class share in solar cell business (Top three rank in 2015) ● Win the world's top share in fuel cell cogeneration systems ● Globally expand stationary lithium-ion battery systems ● Vastly expand eco-car related business (Batteries, thermal management systems, power supply management systems and power charging infrastructure) 	12, 14
Resources Recycling	Pursue the recycling-oriented manufacturing to make the best use of resources☆	<ul style="list-style-type: none"> ● Reduce total resources used and increase recycled resources used (Ratio of total recycled resources used to total resources used: more than 16%) ● Achieve Zero Waste Emissions from production activities at all sites (Waste recycling rate: 99.5% or more) ● Promote resources recycling together with procurement partners 	19-23, 29
Water	Minimize the amount of net water consumption	<ul style="list-style-type: none"> ● Increase products to save water and contribute to water recycling ● Reduce water consumption in production activities and increase the use of recycled water 	24
Chemical Substances	Minimize environmental impact caused by chemical substances	<ul style="list-style-type: none"> ● Develop alternative technologies for environmentally hazardous substances ● Discontinue the use of substitutable environmentally hazardous substances in products ● Minimize environmentally hazardous substances released from factories 	25-26, 29
Biodiversity	Identify impact on biodiversity and contribute to conservation	<ul style="list-style-type: none"> ● Increase products contributing to the biodiversity conservation ● Encourage greening in business sites and surrounding areas ● Promote the sustainable use of forest resources ● Promote biodiversity conservation together with procurement partners 	27
Increase the percentage of sales for No.1 eco-conscious products to 30%☆ (Double FY2010 level)		<ul style="list-style-type: none"> ● Provide top-class eco-conscious products in all business areas ● Promote eco marketing firmly rooted in each region and country 	9
Increase environmental contribution through collaboration with stakeholders		<ul style="list-style-type: none"> ● Research and propose green lifestyles ● Foster human resources leading green innovation ● Promote Panasonic ECO RELAY for Sustainable Earth ● Provide environmental education to two million children around the world ● Plant ten million trees around the world together with stakeholders ● Accelerate environmental contribution through collaboration with suppliers 	28-29

Initiatives for Resources Recycling-oriented Products Product to Product

We use a lot of resources in our lives.

However, our Earth has limited resources. To use our limited resources such as gold, silver, copper, and oil more wisely, Panasonic has been promoting Recycling-oriented Manufacturing (see page 19) since fiscal 2011.

In February 2012, under the concept of "product to product," we launched a new series of products that passes on limited resources for our future. These products, the "Resources Recycling-oriented Products" series, use resources that are extracted from used products through Recycling-oriented Manufacturing.

This series consists of four major Panasonic products: refrigerators, washing/drying machines, vacuum cleaners, and rice cookers. With our unique recycling technology, resources are extracted from used products and reused to the fullest extent. For example, glass wool (glass fiber) recycled from cathode-ray tube (CRT) televisions is used to make vacuum insulation material for our refrigerators. We also utilize plastics that are recovered at our recycling plants, such as those recovered from refrigerators and air conditioners, to manufacture new washing/drying machines, vacuum cleaners, and rice cookers.

Due to heat and flame resistance issues, recycled plastics previously could not be widely used in products. However, development of new technologies has enabled the use of recycled plastic, thereby expanding the range of application.

In addition, by optimally combining anti-oxidizing agents or additives with various specific plastics, we have extended the strength and life of recycled plastics, as well as improved the quality of their appearance, and recycled plastic can now be used in external components. We have also adopted a consistent earth-beige coloring to convey a natural look.

In this manner, we will contribute to the development of a sustainable society by expanding our Resource Recycling-oriented Products.

Top-unit Refrigerator (NR-F506T-X)



Glass used in CRT televisions is processed into an ultra-fine glass fiber of approx. 4 μm. The fiber is then turned into vacuum insulation material and used in the refrigerator.

Vacuum insulation material

90%^{*1}

Drum-type Washing/Drying Machine (NA-VX7100L-X)

Previously, because foreign particles left in recycled plastics appeared as black spots and lines, recycled plastics could not be used as external materials. We have achieved the technologies to remove the impurities and prevent visibility, which have enabled the use of recycled plastics in the frames of the washing/drying machine.



Detergent tray

Underframe

26%^{*2}

Cyclone Vacuum Cleaner (MC-SS310GX-X)

The use of film for three-dimensional components and development of 3D in-mold technology, a method of simultaneous decoration and forming, have enabled recycled materials to be used in the base layer, now giving our products high-quality and appealing design.



Body

17%^{*3}

Steam Induction-heating Rice Cooker (SR-SX101-X)



Our technologies that optimize the properties of filling materials introduced to recycled plastics have increased the strength at high temperatures and extended the life of recycled plastics.

Body

20%^{*4}

^{*1} Ratio of recycled material used in glass wool for vacuum insulation material. ^{*2} Ratio of recycled plastic (containing at least 80% recycled materials) within the plastic components used in the product. ^{*3} Ratio of recycled plastic (containing at least 65% recycled materials) within the plastic components used in the product's body. ^{*4} Ratio of recycled plastic (containing at least 89% recycled materials) within the plastic components used in the product's body.

Electricity Saving Efforts

Enhancing corporate efficiency in response to power shortages

Following the occurrence of the Great East Japan Earthquake, Japan has been undergoing vast changes regarding power supplies. In July 2011, Panasonic established the Corporate Electricity Saving Division to deal with the power shortages expected to continue long into the future, and has been accelerating measures to improve the productivity and management efficiency by making more efficient use of electricity.

The Division is managed as a cross-functional permanent taskforce comprising members from the environmental, facilities management, production innovation, personnel and general affairs departments, all of which are particularly concerned with power saving measures.

In the summer of 2011, Tokyo Electric Power and Tohoku Electric Power called for reducing the use of electricity from the peak demand by 15% and Japan faced power shortages not only in the areas served by these companies but also in other areas. In response, all our bases took measures to curb power consumption from the peak demand based on the initiatives that we had been implementing to save more energy (see pages 15 to 17). Specifically, measures suitable to the characteristics of each site were implemented in consideration of peak demand hours, which differ between summer and winter, and we are conducting a wide range of power-saving activities from the three aspects of factories and offices, working style, and activities conducted by employees at their workplaces and homes. As a result, we were able to reduce our power consumption to meet the requests of the power companies both in the summer and winter of fiscal 2012, and will continue these measures in fiscal 2013.

For activities conducted by employees at their workplaces and homes, we have been implementing the power saving action plan, in which about 4,400 employees participated in the summer, and 12,000 employees in the winter of fiscal 2012. Participants succeeded in reducing their use of electricity at their homes by 12% in summer and by 6% in winter, on average per household. Also, in March 2012 we donated 572 LED lights to the education board of Ofunato City, Iwate Prefecture, to support local schools and children in the disaster-afflicted areas. This measure generates a power-saving effect equivalent to 1% of the reduction of power use achieved by employees at their homes. We also donated 100 LED solar lanterns, which combine solar panels and storage batteries, to the school board. We will continue implementing similar measures as a means of supporting the afflicted areas in fiscal 2013.

Factories and offices

- Appropriately manage equipment and suspend the use of unnecessary devices
- Conduct production activities at night instead of during the daytime
- Manufacture products ahead of schedule
- Enhance the management of power usage
- Carry out emergency energy conservation diagnoses
- Create and distribute energy conservation manuals
- Extend the operating hours of in-house power generation systems, increase their capacity, and rent more systems
- Automatically distribute software for energy-saving PC settings across the company



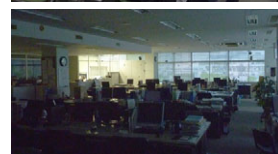
Monitors power consumption in real time with a webcam

For energy conservation, it is very important to “visualize” power consumption, and accordingly Panasonic used the SE-Navi (see page 17) and other advanced technologies while steadily conducting other necessary activities to save more energy across the company. The Yamagata factory of AVC Networks worked to identify the least expensive remote monitoring system for power use and began to display a power demand meter on the intranet in real time using a webcam, thereby making it possible for employees to check power consumption on their PCs. Also, the results of daily power usage are announced to employees to increase awareness.

Working style

- Ensure all employees leave work on time and encourage employees to travel directly to and from the work destination without stopping by at the office
- Encourage working at home
- Expand the “cool biz” period (from May to October)
- Work on holidays instead of on weekdays
- Conduct production activities in turn through coordination with other industries

We implemented innovative measures to save power, including promoting working at home and encouraging employees to travel directly to and from the work location without stopping by at the office. The Corporate Environmental Affairs Division implemented measures for higher productivity while increasing the days on which its employees must leave work on time from twice a month to twice a week. On these days, all the lights and air conditioners are switched off after the end of working hours in principle, and employees who nonetheless need to work overtime must work in a designated conference room where the lighting and air conditioning equipment are kept on. This activity has reduced the use of electricity during peak demand hours.



Workplace after the end of working hours: Before (above) and after (below) the start of the activity

Activities conducted by employees at their workplaces and homes

- Propose power saving ideas that can be implemented both at the workplace and at home
- Conduct an online environmental quiz, including questions about power saving



Awards for two top prize employees

Employees also undertook activities to save substantial amounts of electricity at their homes. In summer, employees were asked to review their use of air conditioners, refrigerators, and lighting equipment which consume much electricity, and implemented creative ideas for power saving at home. Employees who achieved exceptional results were given awards including commemorative gifts at their workplaces. Also, in winter, employees conducted similar activities and donated LED lights to the disaster-afflicted areas in proportion to the reduction of power use achieved at their homes.

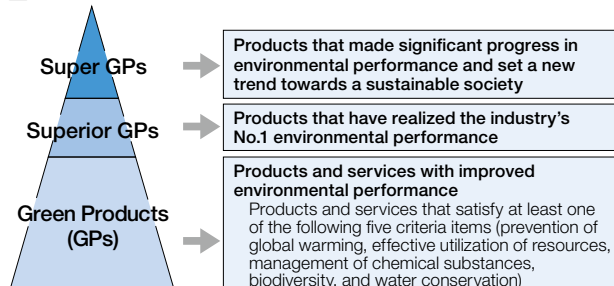
Eco-conscious Products

Initiatives for eco-conscious products (Green Products)

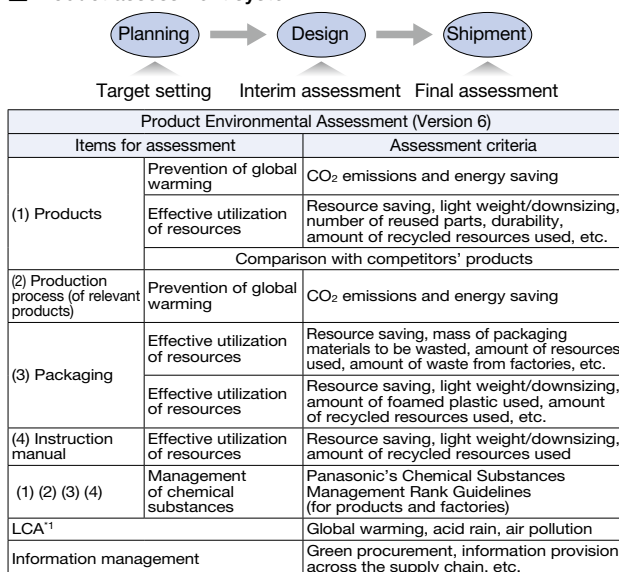
We use a product assessment system that evaluates the environmental impacts of our products and services starting at the planning and design stages. Based on our criteria, we accredit our products and services that achieve high environmental performance as Green Products (GPs). Furthermore, we accredit our products that have achieved top environmental performance in the industry as Superior GPs. Products with trend-setting environmental performance toward achieving a sustainable society are accredited as Super GPs.

In the GP accreditation criteria, we assess the performance of our products in terms of prevention of global warming, effective utilization of resources, and management of chemical substances by comparing not only among our own products but also with competitors' products. In fiscal 2012, we took steps to further enhance our accreditation criteria by adding biodiversity and water conservation to existing items. This has in turn enabled the creation of a wider range of GPs.

Green Product accreditation criteria



Product assessment system



Laws/regulations and Panasonic's criteria, guidelines, and environmental action plan

^{*1} Life Cycle Assessment: Method of quantitatively assessing the environmental impact of products at each life cycle stage.

No.1 eco-conscious products (Superior GPs)

After achieving our fiscal 2011 target of developing 90% or more GPs for three consecutive years since fiscal 2006, we decided to shift the focus of our activities to the creation of Superior GPs. In fiscal 2011, we enhanced our criteria for Superior GPs to maintain the industry's No.1 status for as long as possible and to ensure a 10% or more eco-performance advantage compared with our competitors at the time of product launch. After first certifying 19 models in fiscal 2005, we accredited 413 models in fiscal 2012. We also expanded the number of models in each of our global regions compared to fiscal 2011.

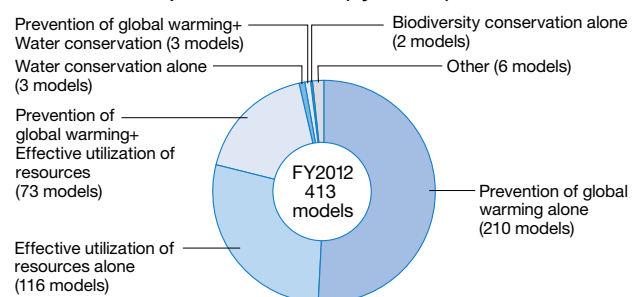
In this way, by working to maintain and expand the number of Superior GPs, we are increasing the selection options and opportunities of our customers. Furthermore, we are focusing on lifting the percentage of sales for No.1 eco-conscious products to 30% by fiscal 2019, one of our Green Indexes. We achieved a ratio of approx. 13% in fiscal 2012.

In addition, we expect to certify our fiscal 2012 Super GP in June 2012.

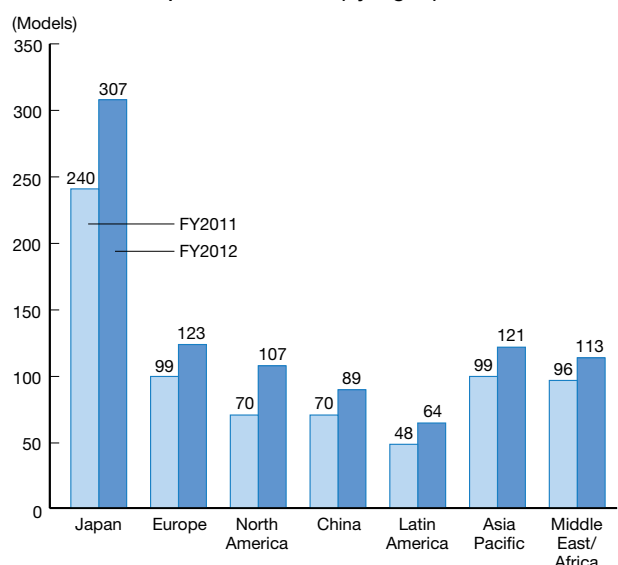
List of certified Green Products

▶ <http://panasonic.net/eco/products/gp/list/>

Number of Superior GP models (by feature)



Number of Superior GP models (by region)^{*2}



^{*2} Global models sold in multiple regions are counted as one in each region.

Eco-conscious Factories

Initiatives for eco-conscious factories (Green Factories)

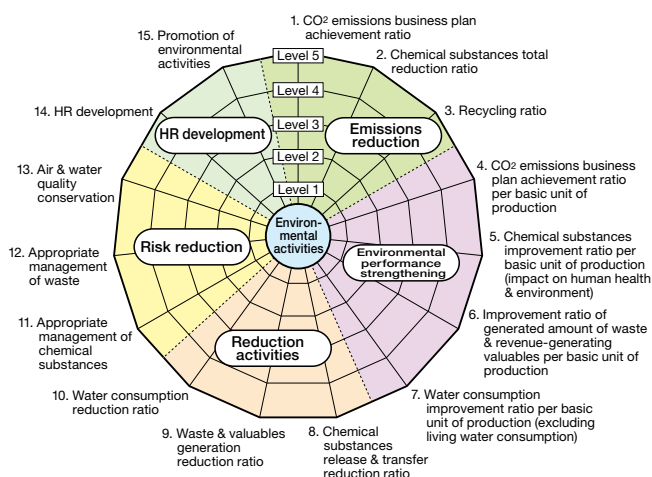
We aim to reduce our environmental impact to as close to zero as possible in all our factories worldwide, and our Green Factories (GFs) are engaged in activities that will help us achieve this goal. Specifically, we include plans to reduce the environmental impacts in our production activities focusing on our factories' CO₂ emissions, total waste generation, and chemical substance releases and transfers in our midterm business plan and business goals, and implement those plans as well as progress control.

We started our internal GF accreditation system in fiscal 2006 to evaluate the activities of our factories and we certify factories that meet certain standards as GFs. After achieving a fiscal 2011 target of 90% or higher GF accreditation rate for all factories in fiscal 2009 and 2010, we upgraded the GF accreditation system to the GF assessment system to further improve the standard of measures implemented across our factories.

Under the upgraded system, our factories evaluate themselves on a one-to-five scale across 15 environmental activity items classified into five groups, and visualize the progress to address issues and make improvements. In addition to the existing indicators of "emissions reduction" and "reduction activities," "environmental performance strengthening," "risk reduction," and "HR development" have been added to promote GFs with a wider view.

Our target was to achieve a "Level 4" average score across the entire Panasonic Group in fiscal 2013, and the reinforcement of initiatives in fiscal 2012 enabled us to achieve a "Level 4" average score. We are determined to reduce environmental impacts and at the same time enhance our management structure through the PDCA of these activities.

Indicators for GF assessment system



Advanced examples of eco-conscious factories

In October 2010, Panasonic opened the Kasai Green Energy Park (GEP)—its newest production factory for lithium-ion batteries for environmentally-conscious vehicles—a leading example of an eco-conscious factory that uses advanced environmental technologies and systems. At Kasai GEP, we installed a one-megawatt Mega Solar System comprising our industry-leading HIT solar battery, the world's top-class* 1.5 megawatt-hour lithium-ion Mega Battery System, an energy management system that controls each piece of equipment, and a smart energy system that links and coordinates all systems to optimize the performance of these "energy creating," "energy storing," and "energy saving" equipment. Substantiative experiments on efficient energy utilization at Kasai GEP are conducted, and we also use Kasai GEP as a place for product and system development, as well as a place to showcase innovations to customers.

Kasai Green Energy Park was awarded the Japanese Ministry of Economy, Trade and Industry (METI) Minister's Award in the "Energy-saving by IT" category of the Green IT Award 2011 in October 2011, for its energy conservation efforts through coordinated control of energy creation, storage and conservation devices with IT.

Additionally, the factory has received the highest evaluation rank of "S" based on the CASBEE (Comprehensive Assessment System for Built Environment Efficiency) scale, a methodology to comprehensively assess and rank the environmental performance of buildings.

* Based on battery systems for power storage that combine lithium-ion batteries for consumer use. As of October 2010 (surveyed by Panasonic).



Kasai Green Energy Park

▶ <http://panasonic.net/ec/gep/>

Winning prizes in recognition of energy saving efforts

In the 23rd Energy Conservation Grand Prizes hosted by the Energy Conservation Center, Japan (ECCJ), Panasonic was awarded the Minister of Economy, Trade and Industry Prize in the energy-saving activities category for the group-wide energy-saving (CO₂ reduction) initiatives aimed at integrating environmental contribution with business growth.

In addition, the Appliances Company received the Chairman's Prize from the ECCJ in recognition of our energy-saving manufacturing of air-conditioner heat exchangers.

CO₂ Reduction

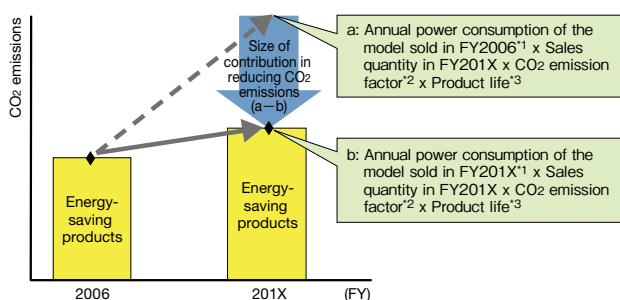
Size of Contribution in Reducing CO₂ Emissions

One of the long-term environmental targets set by the international community is to reduce emissions of CO₂ and other GHGs by 50% from the 2005 level by the year 2050. To achieve this, CO₂ emissions should “peak out” (reach a peak and decline thereafter) during the period from 2020 to 2030.

Panasonic will endeavor to ensure that CO₂ emissions from its entire business operations—not only from its own production activities but also from the use of its products by customers—peak out by 2018, the 100th anniversary of its founding. To this end, we must continue making even greater efforts in emissions reduction. Based on this recognition, we have introduced a unique indicator “size of contribution in reducing CO₂ emissions” to accelerate emissions reduction, targeting both our products (for energy saving and energy creation) and production activities. The size of contribution in reducing CO₂ emissions is defined as the amount achieved by deducting the actual emissions from the amount that would have been emitted without improvements such as the energy-saving performance of our products and productivity from fiscal 2006. In other words, it reflects the continuous efforts being made to reduce CO₂ emissions. Panasonic will maximize the size of contribution in reducing CO₂ emissions and achieve the “peak-out.”

We will improve the energy-saving performance of our products to reduce the energy consumed in using the products. The more energy-saving products are introduced and promoted, the size of contribution in reducing CO₂ emission will further increase.

Size of contribution in reducing CO₂ emissions through energy-saving products



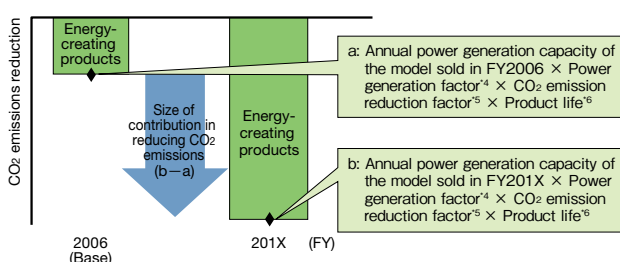
^{*1} For each product category, the model that was sold in the largest quantity in the region was selected.

^{*2} Regional CO₂ emission factors (kg-CO₂/kWh) used: 0.410 (Japan); 0.487 (Europe); 0.579 (North America); 0.740 (China); 0.927 (India); 0.527 (Asia Pacific, Northeast Asia); 0.332 (Latin America); 0.327 (other regions).

^{*3} Number of years during which spare parts for the product are available (defined by Panasonic).

By using electricity generated by solar power generation and such, we can reduce CO₂ emissions from thermal power plants. Panasonic will further foster its energy creation business to make an even greater contribution to CO₂ emissions reduction.

Size of contribution in reducing CO₂ emissions through energy-creating products



^{*4} For photovoltaic power generation: 1,193 kWh/kW (considering sunshine conditions, system loss, and other variables).

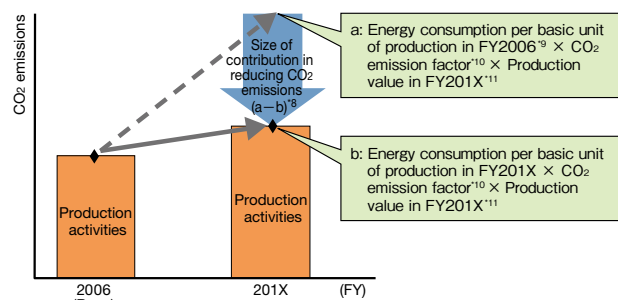
^{*5} For photovoltaic power generation: 0.3145 kg CO₂/kWh (considering energy used in the manufacturing process; by the Japan Photovoltaic Energy Association).

^{*6} For photovoltaic power generation: 20 years.

The smaller amount of CO₂ emissions per basic unit of production (tons/100 million yen),^{*7} the more efficient productivity is, and the size of contribution in reducing CO₂ emissions in production activities will increase.

^{*7} Productivity indicator (Energy consumed in manufacturing products whose total monetary value is 100 million yen, converted to the amount of CO₂ emissions).

Size of contribution in reducing CO₂ emissions through production activities



^{*8} Factories whose nominal energy consumption per basic unit of production had increased from the fiscal 2006 level due to sharp declines in product prices recorded negative figures in the size of contribution in reducing CO₂ emissions. For the size of contribution made by factories consolidated or sold in fiscal 2007 onwards, CO₂ emissions in fiscal 2006 were used for the calculation. For factories purchased, CO₂ emissions in fiscal 2006 were not deemed as a negative contribution.

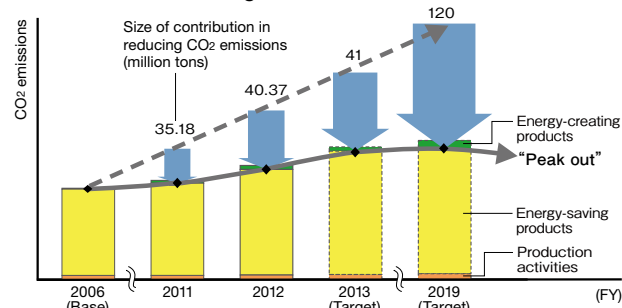
^{*9} CO₂ emissions per basic unit for fiscal 2006 were used for factories acquired; while for factories newly constructed, the CO₂ emissions per basic unit for the fiscal year in which they were constructed were used.

^{*10} The factors related to fuels are based on the Guideline for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment. The CO₂ emission factor for electricity purchased in Japan (kg CO₂/kWh) is fixed at 0.410. The factors above are also used for electricity purchased from power producers and suppliers (PPS). The GHG Protocol's factors for each country are used for electricity purchased outside Japan.

^{*11} Nominal production value.

The size of contribution in reducing CO₂ emissions came to 40.37 million tons in fiscal 2012. We aim to increase the amount to 41 million tons in fiscal 2013 and eventually to 120 million tons in fiscal 2019.

Medium to long-term targets and actual results for the size of contribution in reducing CO₂ emissions



Contribution in Reducing CO₂ Emissions through Products

Energy-creating Products

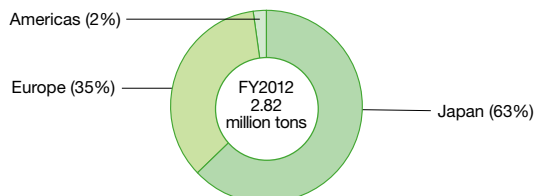
Contribution in reducing CO₂ emissions through energy-creating products

We actively develop our energy creation business to maximize the size of contribution in reducing CO₂ emissions.^{*1} By delivering photovoltaic power generation systems and household fuel cell cogeneration systems as means to create necessary electricity with few CO₂ emissions, we reduce CO₂ emissions in society.

While our initial target of the size of contribution in reducing CO₂ emissions through energy-creating products was 3 million tons, the result was 2.82 million tons in fiscal 2012, driven mainly by the impacts of lower-than-expected sales of our solar panels. Approx. 99% of the result was driven by our photovoltaic power products which were sold primarily in Japan and in Europe.

We will continue to make progress toward achieving our targets which are the size of contribution in reducing CO₂ emissions through energy-creating products of 3.6 million tons in fiscal 2013.

■ Size of contribution in reducing CO₂ emissions through energy-creating products (by region)^{*1}



^{*1} This does not include data for China and the Asia Pacific region (except India) since the amount of CO₂ emissions reduced falls below zero in the regions due to a decrease in sales quantities. Also, it does not include data for India because Panasonic does not sell these products in this region.

● Photovoltaic power generation system

Photovoltaic power is generated by transforming solar light energy into electricity by semiconductors. The amount of power generation depends on season, weather, and time, but unlike thermal power generation in which fossil fuels are burned to generate electricity, no CO₂, exhaust gas or ash is emitted during photovoltaic power generation.

The Panasonic Group's HIT² solar panels provide high-power generation efficiency and output per unit area, and are lightweight and compact, allowing sufficient power generation even with narrow roofs. In March 2012, we began taking orders for a residential solar power system, HIT240/233 Series, which is a line of household solar panels that has low energy-generation loss and current resistance, and boasts the world's highest energy conversion efficiency rate.^{*3}



Residential photovoltaic power generation system

^{*2} "HIT" is a registered trademark and an original technology of the Panasonic Group.

^{*3} Based on the Japan Photovoltaic Energy Association standard calculation method for the amount of energy generated annually for Japan's residential photovoltaic power generation system industry. As of January 2012 (surveyed by Panasonic).

● Household fuel cell cogeneration system

Fuel cell cogeneration systems provide high-power energy efficiency and conservation by generating electricity through an electrochemical reaction between oxygen in the atmosphere and hydrogen extracted from city gas, and can heat water with the heat generated from the reaction at the same time.

In May 2009, we launched our household fuel cell cogeneration system named ENE-FARM in partnership with domestic gas companies to lead the world in bringing fuel cell cogeneration technology into the home for residential use. By December 2011, we shipped a total of approx. 11 thousand units. As of April 2011, we have reached a high power generating efficiency rate of 40% (LHV^{*4}), and have further simplified our system, as well as reduced the size of key components. As a result, we have begun selling an improved model that is also better priced and requires less installation space.



Household fuel cell cogeneration system

^{*4} Lower Heating Value: The value determined by subtracting latent heat of the water vapor from the amount of heat generated when fuel gas is fully combusted.

Energy-storing Products

Industry- and residential-use lithium-ion storage battery system

Energy-storing products store and use power when needed. These energy-storing products play an important role in ensuring the stable supply of power through the use of renewable energy, such as solar and wind power. Further attention has gathered since the Great East Japan Earthquake as to the importance of these products in alleviating electricity shortfalls during power outages and at times of disaster.

In addition to industrial applications, we began taking orders in November 2011 for residential-use lithium-ion energy storage systems (1.6 kWh/3.2 kWh type). This system has a long track record in the notebook PC market, and uses an energy storage unit comprised of a number of cylindrical, 18650-size (65 mm height × 18 mm diameter) lithium-ion batteries with high voltage and capacity. In the event of a blackout, the system provides the electric power to lighting and communications equipment automatically. Even during normal times, the timer setting can be used to automatically limit the amount of power drawn from the grid during peak electricity demand, and still operate connected equipment using the energy already stored in the battery system.

Because Panasonic's energy-storage system falls within the scope of the Japanese government's fiscal 2012 stationary lithium-ion battery energy storage system subsidy program, individuals installing energy-storage systems can earn a rebate of one-third of the overall expense, up to a maximum of 1 million yen.



Industry- and residential-use lithium-ion storage battery system

Contribution in Reducing CO₂ Emissions through Products

Energy-saving Products

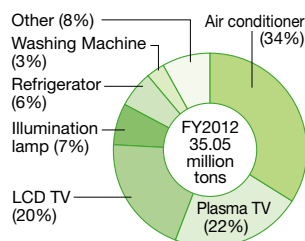
Contribution in reducing CO₂ emissions through energy-saving products

In fiscal 2012, we aimed to increase the size of contribution in reducing CO₂ emissions through energy-saving products to 32 million tons. Thanks to the positive flow-on effects from the eco-point incentive program implemented by the government in Japan, as well as the initiative put forward by the Chinese government to promote the replacement of used home appliances, we successfully exceeded our target by increasing the size of contribution in reducing CO₂ emissions through energy-saving products to 35.05 million tons.

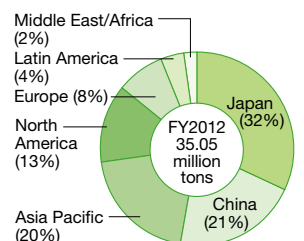
On an individual global product basis, our air conditioners and TVs accounted for 76% of the contribution in reducing CO₂ emissions. By region, Japan and China, as well as other parts of Asia Pacific accounted for 73% of the contribution in reducing CO₂ emissions through energy-saving products.

In addition to enhancing the energy-saving performance of our products, we have been promoting the development of ECONAVI products since fiscal 2010. ECONAVI is a sensor technology that enables consumer electronics equipped with this function to automatically find ways to reduce energy waste and conserve power. As of April 2012, 21 Panasonic product lines for sale in Japan were equipped with the ECONAVI function (compared to 16 as of March 2011). We have also begun to equip products sold in Asia with ECONAVI. In addition, with stand-by power regulations being strengthened, we have reached 0.5 W or less in stand-by power for 295 of our models by April 2012 globally. We will continue to develop and disseminate energy-saving products, and aim to have 34.85 million tons of contribution in reducing CO₂ emissions through energy-saving products in fiscal 2013.

Size of contribution in reducing CO₂ emissions through energy-saving products (by product)



Size of contribution in reducing CO₂ emissions through energy-saving products (by region)



Examples of No.1 energy-saving products

● Air Conditioner

By improving the design of the indoor unit to increase the total length of the fan and heat exchanger and also by improving the blast performance through a shape change of the outdoor fan, our CS-X282C model for Japan achieved an improvement in the APF^{*1} by 0.3 points compared to our fiscal 2011 model. This air conditioner is equipped with our ECONAVI function, which senses the presence of people

and objects and sends air mainly to the places where people are. It also runs in an energy-saving manner by sensing changes in the sunlight.

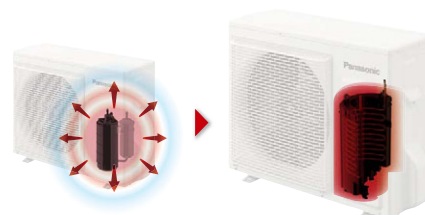
In addition, the installation of the “Ene-Charge System,” which stores extra energy from the compressor and uses it for heating, enables heating even during defrost mode and provides a higher temperature at the start of the “warm air” mode.

*1 APF: Annual Performance Factor.

Energy-Saving Performance Annual Performance Factor:

FY2011 Model: 6.7 (CS-X281C)

FY2012 Model: 7.0 (CS-X282C)



● Refrigerator

Using our inverter control compressors and internal LED lighting, we reduced the annual power consumption of NR-BY602X-S, a model of a refrigerator for the Thai market, by 25% compared with our fiscal 2007 model and achieved 460.63 kWh while increasing storage capacity. As a result, our technology obtained the highest level (Level 5) of Thailand's EGAT.^{*2}

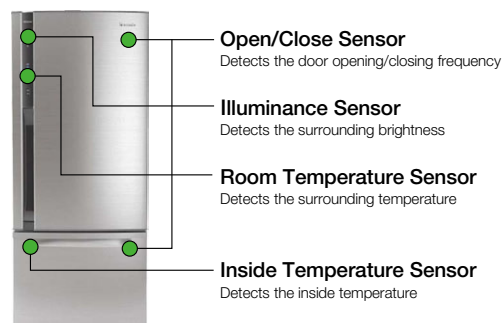
In addition, this refrigerator is equipped with our energy-saving ECONAVI function with four sensors to operate according to lifestyle patterns.

*2 EGAT: The Electricity Generating Authority of Thailand.

Energy-Saving Performance Annual Power Consumption:

FY2007 Model: 616.85 kWh (NR-B41M1 / Capacity: 405.5 liters)

FY2012 Model: 460.63 kWh (NR-BY602X-S / Capacity: 546.0 liters)



● Blu-ray Disc Recorder

The DMR-BRT220 model for Japan has achieved an annual power consumption of 18.9 kWh, which is the lowest in the industry.^{*3} Without the use of the quick start function and the clock display, the power consumed during the standby mode can be further minimized to about 0.02 W.

The product met the criteria for Eco Mark products in all 14 items, including resource saving and recycling-oriented design, and became the first Eco Mark product in the industry in April 2012.

*3 As of February 7, 2012 (surveyed by Panasonic).

Contribution in Reducing CO₂ Emissions through Products

Annual power consumption (reference values calculated based on the JEITA standards)

FY2007 model: 81.5 kWh (DMR-BR100)

FY2012 model: 18.9 kWh (DMR-BRT220)



Blu-ray disc recorder (DMR-BRT220)



Eco Mark

● LED lighting

Security lighting plays important roles, in helping prevent crime on the streets, and in use at people's homes, and because they are used in great numbers and for long hours during the night, the improvement of their energy conservation performance was deemed very important.

Focusing on the fact that the human eye increases sensitivity to short wavelength light in darker places, we have developed our Akalumina, a new security LED light, to contain a higher proportion of short wavelength light to give a sense of higher brightness level even with the same luminance and power consumption. As a result, the amount of electricity consumed by Akalumina LED lights is about 60% less than conventional fluorescent security lights.

The Akalumina light received the Chairman's Prize from the ECCJ in the products and business models category at the Energy Conservation Grand Prizes held in January 2012.

Power consumption:

FY2010 model: 22 W (Fluorescent light FL20)

FY2012 model: 8.4 W (LED light replacing FL20)



Akalumina security LED light (replacing FL20)



Also, Panasonic LED lights (1,995 in total) are used in all the lighting equipment for Tokyo Sky Tree, the world's tallest tower (as of November 17, 2011), which opened in May 2012. The unique technologies for light distribution design and high-precision color reproduction by Panasonic contribute to the artistic lighting of the tower. LED lighting ensures durability and safety for use under severe conditions at high altitude, and the use of LED for the entire tower has significantly reduced power consumption.

Comprehensive Energy Solutions

Virtually Zero CO₂ Emissions Throughout the Entire Home

While people try to realize a higher standard of living, the increase of CO₂ emissions from households is becoming a concern. As a company that provides a range of products deeply rooted in people's lives, Panasonic offers Comprehensive Solutions for the Entire Home, which range from stand-alone home appliances to entire houses themselves, with the four concepts of "create energy," "store energy," "save energy," and "manage energy" to

comprehensively reduce CO₂ emissions. First, we reduce energy consumption of the entire house by increasing the energy efficiency through reduction of power consumption of appliances during use and higher insulation efficiency of the house itself. For energy yet necessary even after saving, we create energy by promoting photovoltaic power generation and fuel cells, and store energy by drawing on household lithium-ion accumulator batteries. Through this energy management system, we aim to have virtually zero CO₂ emissions throughout the entire home. This concept is displayed at our "eco ideas HOUSE" in Tokyo, Japan since April 2009.

eco ideas HOUSE ▶ <http://www.panasonic.co.jp/ecohouse/en>

In October 2011, through PanaHome Corporation, we launched sales of houses that aim to create virtually zero CO₂ emissions throughout the entire home.

In addition, Eco Solutions Company developed "Energy Creation-storage Linked System for the Home," which supplies stable energy in homes in the event of power outages, and started taking orders from March 2012. This system links solar batteries and lithium ion battery units to enable efficient utilization of power in blackouts as well as in normal times, and contributes to reducing the power consumption peak and environmental impact. The "CASART TERRA SMART," which is equipped with our Energy Creation-storage Linked System for the Home as well as high-level insulation of the house itself to enable a lifestyle with virtually zero CO₂ emissions, was launched from PanaHome in April 2012. From this platform, we provide a lifestyle that is environmental, comfortable, and safe throughout the entire home.



Smart PanaHome "CASART TERRA SMART"

Promoting Comprehensive Solutions for the Entire Town Worldwide

Through our energy systems business, we have extended the scope of comprehensive solutions beyond the entire home to stores, public, and other facilities, as well as entire towns to promote our solutions worldwide. In Japan, we are currently constructing the Fujisawa Sustainable Smart Town (Fujisawa SST) within our former factory site in Fujisawa City, Kanagawa Prefecture, with the aim of opening the 1,000-household town by the end of March 2014. As projects outside Japan, Panasonic participated in the constructions of the Sino-Singapore Tianjin Eco-city and Dalian Best City in China, both with plans to introducing our energy management support system. In addition, we are teaming up with local government agencies in Singapore to take part in the total solutions test-bed project for Punggol Eco-Town public housing.

Aiming to expand our Energy Systems business, we achieved 519.3 billion yen in sales in fiscal 2012, and will contribute to people's richer lifestyles and CO₂ reduction while expanding our business.

Contribution in Reducing CO₂ Emissions through Production Activities

Energy Saving and Global Warming Prevention at Factories

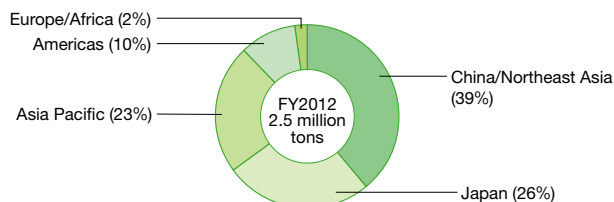
Maximizing the size of contribution in reducing CO₂ emissions

With respect to our CO₂ targets, we achieved 0.84 million tons in CO₂ emissions reductions in our production activities by fiscal 2010, far exceeding our target of 0.3 million tons from fiscal 2007. By pursuing continuous improvement of our energy management capabilities and lowering our CO₂ emissions per basic unit, we aimed to maximize our contribution in reducing CO₂ emissions in production activities from fiscal 2011.

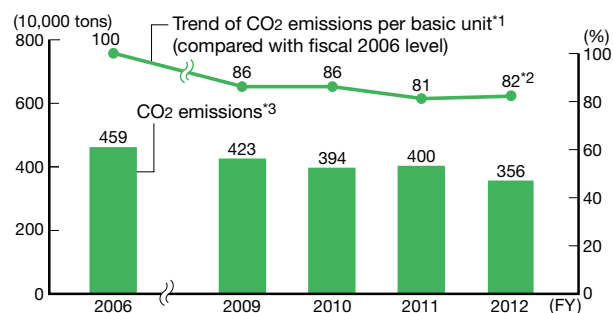
As a result, we increased the size of contribution in reducing CO₂ emissions through production activities in fiscal 2012 to 2.5 million tons, exceeding our target of 2 million tons.

We will continue to make progress toward achieving our target of the size of contribution in reducing CO₂ emissions through production activities, which is 2.55 million tons in fiscal 2013.

■ Size of contribution in reducing CO₂ emissions through production activities (by region)



■ CO₂ emissions in production activities and the trend of CO₂ emissions per basic unit



*1 Calculated with the weighted average of the improvement rate for CO₂ emissions per basic unit of nominal production for each factory. The amount of CO₂ emitted from each factory was used for weighting cases that had no improvements.

*2 Increase in CO₂ emissions per basic unit in fiscal 2012 is due to the decline in production volume.

*3 The factors related to fuels are based on the Guidelines for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment. The CO₂ emission factor for electricity purchased in Japan (kg-CO₂/kWh) is fixed at 0.410. If the factors set for each fiscal year are used instead (0.425 for fiscal 2006, 0.373 for fiscal 2009, 0.351 for fiscal 2010, and 0.350 for fiscal 2011 and 2012), total CO₂ emissions will be 4.63 million tons for fiscal 2006, 4.08 million tons for fiscal 2009, 3.70 million tons for fiscal 2010, 3.74 million tons for fiscal 2011, and 3.34 million tons for fiscal 2012. The factors above are also used for electricity purchased from power producers and suppliers (PPS). The GHG Protocol factors for each country are used for electricity purchased outside Japan.

● Promotion of CO₂ ITAKONA^{*4} initiative

To ensure the reduction of CO₂ emissions at our factories, it is important to track the energy consumption of each

factory and the effects of specific emissions reduction measures to visualize reduction effects. To date, we have introduced more than 40,000 measurement systems and Factory Energy Management Systems (FEMS) at all of our global manufacturing sites, and we have continued to promote our CO₂ METAGEJI^{*5} initiative.

From fiscal 2011, we promoted our CO₂ ITAKONA initiative to further identify energy waste and develop ideas for reduction through the best use of METAGEJI. Through our CO₂ ITAKONA initiative, we will be able to use the data and results visualized through METAGEJI to troubleshoot and classify our consumed energy according to its factor and implement measurable reduction activities more efficiently.

In fiscal 2012, we utilized model factories to conduct practical activities and research to document and establish new instructions and methods on energy savings. As a result, we confirmed that energy savings of 20 to 30% higher than expected were possible in these model lines.

For example, in the continuous cleaning process of our Eco Solutions Company's air conditioner manufacturing factories, visualizing energy flow and analyzing energy consumption per product by time has led us to discover energy loss due to operation of empty or unfilled lines. We have achieved a 23% increase in energy saving by remodeling these facilities.

In the future, we will extend these processes to all our global factories in an effort to realize substantial energy savings.

*4 ITAKONA is a term unique to Panasonic which refers to a process by which we review stages prior to production to study raw materials to ensure waste is minimized and quality is maintained. We apply a similar review process for our CO₂ emissions reduction efforts and call these our CO₂ ITAKONA initiatives.

*5 METAGEJI is a term unique to Panasonic which refers to visualizing energy consumption and implementing measurable reduction initiatives by introducing measurement instruments, such as meters and gauges.

● Promotion of Top Runner Factories for saving and creating energy

To further promote energy conservation and reduce CO₂ emissions across our company, since fiscal 2011 we have selected Top Runner Factories in each of our domain companies to provide a model for other factories in the domain to follow. Top Runner Factories make investments in energy conservation and create three-year implementation plans that are used to raise the environmental performance of all companies within the domain. This plan provides guidance in six areas: (1) Introducing top-level production process innovations, (2) Maintaining and managing highly efficient manufacturing equipment, (3) Pursuing the top-level rate of CO₂ emissions reduction per basic unit, (4) Implementing system for energy consumption visualization, (5) Promoting factory-wide CO₂ emissions reduction efforts in production processes, and (6) Introducing photovoltaic power generation system. Selected Top Runner Factories are required to have outstanding and specialized features in energy conservation. Through this initiative, Top Runner Factories achieve the highest level of energy saving in the domain company, as well as develop No.1 energy-saving technologies for their specialized area. Such cases of advanced factories are rolled out across relating factories worldwide by Top Runner Factories.

Contribution in Reducing CO₂ Emissions through Production Activities

●Identifying necessary measures through energy conservation diagnoses

We have been promoting energy conservation diagnoses undertaken by internal experts since fiscal 2008. At our business domain companies, managers and skilled engineers who have expertise in manufacturing processes collaborate together to resolve problems to reduce CO₂ emissions. Further, we have an expert team to provide technical support to our factories and conduct diagnosis activities to search for themes that can be applied group-wide.

In recent years, in addition to conventional energy conservation ideas such as enhancing insulation efficiency and updating equipment, ideas that also contribute to the innovation of manufacturing processes, including changing the furnace temperature settings and shortening the processing time, have also been proposed, bringing great possibilities for further energy conservation. By fiscal 2012, energy conservation diagnoses were conducted at over 50 of our factories across 10 countries, and a total of over 1,000 energy conservation ideas were proposed. Most of the ideas were then implemented, leading to about an average of 10% reduction in CO₂ emissions at factories.



Energy conservation diagnosis

●Sharing CO₂ reduction examples and training experts

In September 2008, we created a keyword search system on the intranet with a database of CO₂ reduction examples called BA Charts.*6 A total of 1,100 examples are registered in the database (as of March 2012) and we are now promoting its use across the company.

We also organized an exchange meeting to share information about advanced energy conservation cases and measures being taken across the company. In the meeting held in fiscal 2012, about 80 employees participated from business domain companies in Japan. We will now expand the target to include our bases outside Japan.



Exchange Meeting on Energy Conservation

For the promotion of energy conservation initiatives, it is critical to train engineers versed in energy-saving technologies. Accordingly, Panasonic has held 34 training seminars on CO₂ reduction since fiscal 2008, developing a total of 820 experts.

In fiscal 2011, we also began holding a competition on practical onsite energy conservation diagnosis skills where participants take a written examination and also watch footage to list the points to be improved. These activities

promote the development of human resources who have both theoretical and practical knowledge about onsite energy-saving activities.

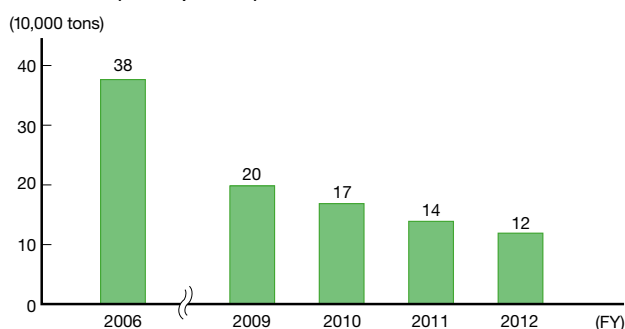
*6 BA Chart: Chart that provides a comparison between before and after the implementation of CO₂ reduction measures.

Reducing the emissions of GHGs other than CO₂ from energy use

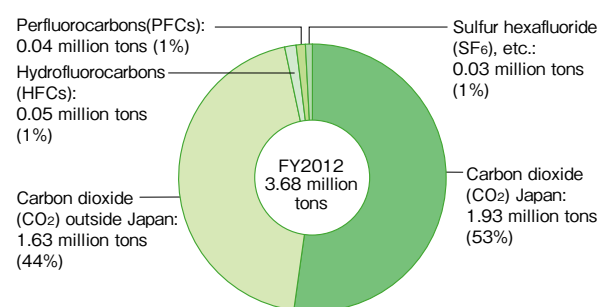
In addition to CO₂, Panasonic emits PFCs, SF₆, and other GHGs, which are mainly used as etching and cleaning gases at its semiconductor factories. In order to reduce the emissions of these gases, our semiconductor factories have been implementing measures including substituting such gases with those having lower environmental impact and installing GHG removal devices to recover the generated gases and render them harmless.

The World Semiconductor Council has been continuing until 2012 its aim to reduce GHG emissions by at least 10% from the 1995 level by 2010. Panasonic's semiconductor department has achieved a 60% reduction from the 1995 level in fiscal 2012.

■ Emissions of GHGs other than CO₂ from energy use in production activities (CO₂-equivalent)



■ Breakdown of total GHG emissions in production activities (CO₂-equivalent)



Promoting factory energy conservation CDM*7

Panasonic has been implementing an energy conservation project at its factories in Malaysia since fiscal 2005, which was approved as a CDM project by the United Nations in March 2007, becoming the first CDM project to be implemented by a Japanese company for energy conservation. We are now further promoting this project.

*7 Clean Development Mechanism: a method authorized by the Kyoto Protocol, whereby industrialized countries undertake initiatives to reduce GHG emissions through rendering financial and technical assistance to developing countries.

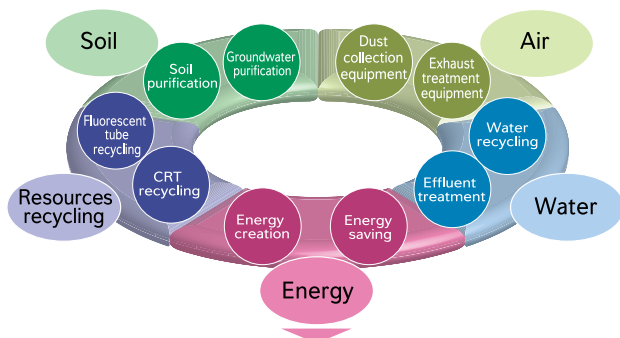
Contribution in Reducing CO₂ Emissions through Production Activities

Environmental Solution Business

Factory Energy Conservation Support Service

We provide our technologies, knowledge, and experience related to the environment as a packaged service offering to enterprises outside our company looking to improve the environmental performance of their factories. Our Total Environmental Package Solutions for Entire Factories offers environmental solutions in energy conservation, effluent treatment and water recycling, exhaust treatment, resources recycling, soil and groundwater purification, and energy creation such as photovoltaic power generation system. In addition, in April 2010, we started the Factory Energy Conservation Support Service to provide further guidance in energy consumption visualization, energy conservation diagnoses, practical measures for energy saving, and overall implementation support for factories through technology, equipment, human resources, and finance.

Image of our Total Environmental Package Solutions for Entire Factories



Factory Energy Conservation Support Service

Phase1	Phase2	Phase3	Phase4
Proposals of energy conservation measures	Making energy use visible	Support energy conservation efforts	Energy conservation solutions for entire factories

As a part of our service menu, in October 2011, we launched SE-Navi, a condensed system containing our energy management expertise and know-how to visualize energy consumption at factories. This system identifies the level of energy consumption efficiency with basic energies such as electricity and gas, physical data such as flow, pressure, temperature, humidity that directly reflects the operation status, and production quantity to help factories swiftly plan energy-saving measures, make trial calculations, and improve verification accuracy. This system also provides graphic displays of long-term efficiency fluctuations for equipment, including compressors, boilers, and freezers, to identify equipment deterioration and necessary maintenance—all of which serve to reduce wasted energy consumption. Looking ahead, we will use our proprietary energy-saving determination methods to analyze the basic unit calculated from production quantity and energy consumption, and deliver additional benefits through our energy-saving navigation function that identifies issues relating to production lines and equipment on a timely basis.

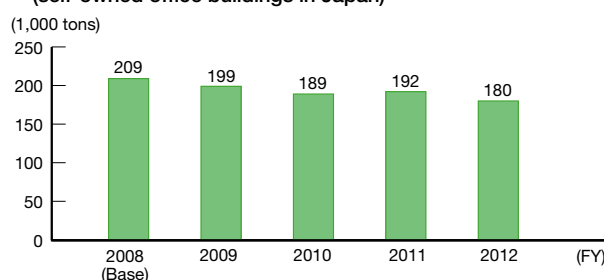
Energy Saving in Offices

CO₂ emissions reduction at non-manufacturing sites

In our efforts to reduce CO₂ emissions from our production activities, we have also focused on measures aimed at curtailing emissions at non-manufacturing sites, including offices and research centers, since fiscal 2009. We have set a company-wide target of reducing CO₂ emissions by an average of 2% or more each year, over a baseline year of fiscal 2008, at 81 self-owned office buildings in Japan. To meet this goal, each site has implemented a three-year energy conservation plan while also taking steps to conduct energy conservation diagnoses to visualize the nature and amount of waste. As a result, we have reached our goal in fiscal 2012, reducing our CO₂ emissions by approx. 0.18 million tons, marking an annual average reduction of about 3.4% compared with the fiscal 2008 baseline level.

From fiscal 2011, we started to check the progress of 124 sites including 45 sites owned by other companies on a monthly basis. We also introduced our Green Office Assessment to improve our environmental management practices at non-manufacturing sites. This assessment is composed of a 50-point scale section with 40 items and another 50-point scale section focusing strictly on CO₂ emissions reduction, and is used as an annual evaluation process. In fiscal 2012, we achieved a “Level 3.8” average (total score: 76/100) across the entire Panasonic Group. We continue to aim toward achieving a performance average of “Level 4” or higher (total score: 80 or more/100) at our non-manufacturing sites in fiscal 2013.

CO₂ emissions from non-manufacturing sites (self-owned office buildings in Japan)



Note: Scope of the data: Non-manufacturing sites with 100 or more employees. CO₂ emission factor for electricity purchased: 0.410 kg CO₂/kWh.

Initiatives for Green IT

Panasonic has been promoting Green IT initiatives to reduce CO₂ emissions through the use of IT technologies. To be specific, the initiatives are classified into Green of IT, Green by IT, and Green Data Center.

Activity details and results

Activity	Details	CO ₂ emissions reduction in fiscal 2012
Green of IT	Stricter management of PC power sources Reducing the standby power used by IT devices	785 tons
Green by IT	Promoting telecommuting, Internet-based meetings, and HD image communication system	3,393 tons
Green Data Center	Consolidating/integrating servers	1,898 tons

Contribution in Reducing CO₂ Emissions through Production Activities

Green Logistics

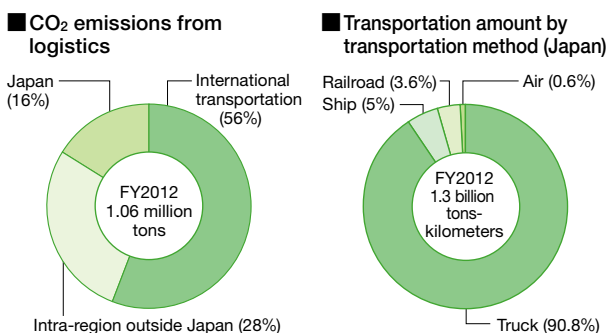
Reducing CO₂ emissions in logistics

Panasonic has set the target of reducing its CO₂ emissions by 46% by fiscal 2019 (from fiscal 2006 level) and a midterm goal of reducing its CO₂ emissions per basic unit^{*1} by at least 1% year-on-year for both international and domestic transportation every year until fiscal 2012.

In fiscal 2012, our global CO₂ emissions from logistics activities came to 1.06 million tons, of which international transportation accounted for 56% and domestic transportation accounted for 16%. The year-on-year reduction rate of CO₂ emissions per basic unit from international and domestic transportation was 1% (compared to the fiscal 2011 level) due to modal shift activities.

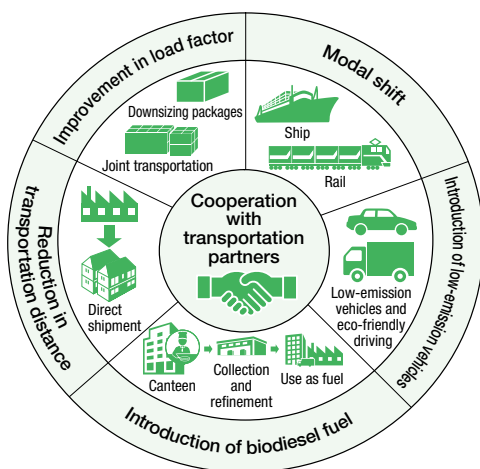
In fiscal 2013, we will continue to accelerate our green logistics endeavors by nurturing our workforce through Logistics Training Seminar and establishing structures and systems for green logistics promotion overseas.

^{*1} CO₂ emissions per transportation weight.



Note: Former SANYO Electric is not included in the intra-region outside of Japan and international transportation. The area and products surveyed in international transportation have been expanded since fiscal 2012.

Major initiatives taken for green logistics



Building an eco-conscious logistics infrastructure

We have overhauled our sales and logistics structure in Japan, consolidating logistics in facilities located close to major ports that service the eastern and western regions of Japan. In particular, our West Japan Global Logistics Center in Amagasaki partnered with chartering brokers to create a round-trip^{*2} program for shipping cargo, reducing CO₂

emissions while curtailing costs. We increased the matching rate of import/export cargo by 10% compared to fiscal 2011, and cut our CO₂ emissions by 14% (76 tons) year-on-year in fiscal 2012. We have also developed a green transportation network, which consists of six large first-in-Japan CNG^{*3}-powered vehicles, a shift to railroad transportation for long distance shipping, and highly efficient transportation through an automated delivery system. In addition, we are working on making eco-conscious sites, installing approx. 12,000 LED lights and a 50 kW photovoltaic power generation system. As a result of these initiatives, we were recommended by the city of Amagasaki, and we received the Minister of the Environment Prize for the 1st Award of the Model Initiatives on Environment Measures in January 2012 in Japan.

^{*2} Method of reusing containers used in import for export without returning them to the shipping company yard.

^{*3} CNG: Compressed natural gas.

Modal shift^{*4} initiatives

Our domestic railroad freight transportation in fiscal 2012 totaled 17,813 five-ton containers, and 9,561 tons of CO₂ emissions were reduced through transportation modal shift. In addition, as a new initiative in fiscal 2012, we established a modal shift promotion consortium in collaboration with our logistics partners, and expanded our railroad transportation by an equivalent of 2,077 five-ton containers.

Outside Japan, we are also promoting river and marine transportation, which release less CO₂ compared to truck transport. For example, in Brazil, for long-distance transport of goods from Manaus in the inland to the southern city of São Paulo, we grew our year-on-year use of river and marine transportation over the same route by 20% in fiscal 2012, resulting in a 7% reduction in CO₂ emissions.

^{*4} Switch from truck and air transport to railroad and sea vessel transport that has less environmental impact.

Joint transportation with companies in other industries

We are working to increase transportation efficiency in collaboration with other cargo-owning companies and transportation partners. Working with the Asahi Shimbun Company and Asahi Industry Co., Ltd., we began in fiscal 2011 using after-delivery vehicles and empty space on trucks to transport our cargo, reducing trips by empty vehicles and boosting transport efficiency. Not only have we achieved a return transportation model between two different industries in terms of products and delivery hours, we have also actively used low-emission vehicles powered by natural gas or biofuel, and reduced CO₂ emissions by 55%. These efforts resulted in the Minister of Economy, Trade and Industry Prize for the 10th Green Transportation Excellent Company Award in December 2011 in Japan.

Since December 2011, we have also teamed up with Oji Paper Co., Ltd. to commence a round-trip transport program; provisional calculations indicate that this initiative will reduce CO₂ emissions for both companies by 40%, or 175 tons, annually.



Oji Paper freight being loaded to our containers

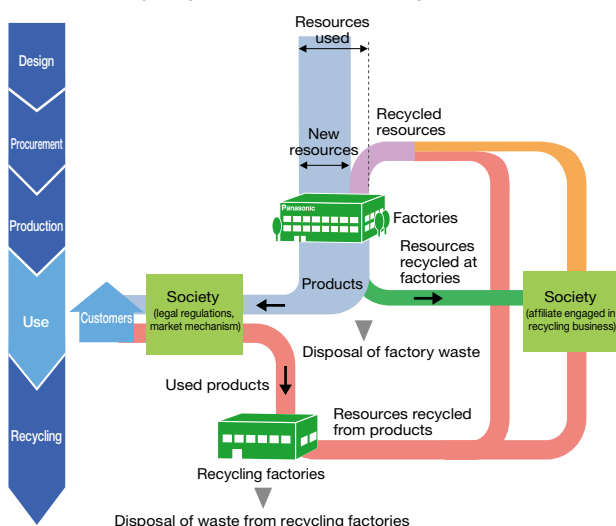
Resources Recycling

Recycling-oriented Manufacturing

With swift economic growth advancing worldwide and bringing heightened attention to concerns over resources, the sourcing of new resources and materials will not only impact our global environment, but minerals resource depletion and materials pricing run-up will also become big issues that impact company management.

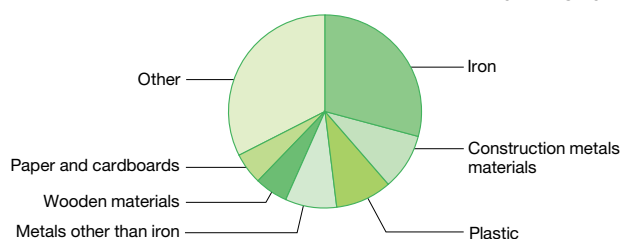
To address these concerns, we selected resources recycling as an underlying theme along with CO₂ emissions reduction, promoting our Recycling-oriented Manufacturing concept. Under this concept, we minimize the amount of total resources used and maximize the amount of recycled resources, as well as aim toward Zero Waste Emissions by reducing our final disposal of waste from production activities. We continuously look to make our products lighter and smaller to reduce our total resources used, and we employ new technologies that maximize the collection of recycled resources and expand the use of recycled resources. We also look to eliminate the waste generated at our factories by promoting the use of recycled resources, and we aim to reduce the waste we send to landfills to as close to zero. In addition to our efforts to reuse resources and eliminate waste in production processes, we have established a cycle that enables our customers to use products made from the resources collected from used products. Guided by these efforts, we will endeavor to contribute to a sustainable society while achieving continuous business growth.

Goal of Recycling-oriented Manufacturing



We use many kinds of resources due to our wide range of products and businesses, from semiconductor parts to houses. In Recycling-oriented Manufacturing, it is important to promote the reduction of total resources used, and at the same time develop a recycling process according to the specific characteristics of each resource for expansion of our usage of recycled resources.

Breakdown of total resources used in fiscal 2012 (by category)



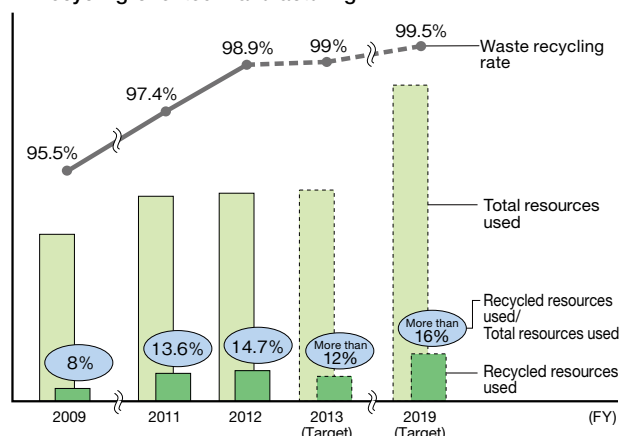
We review the volume of each type of resource used across our Panasonic Group and continuously clarify recycled resource utilization issues. For example, in the case of plastic, by identifying the characteristics of each product that require this resource, securing a stable supply, researching how to recycle it, and developing

new recycling technologies for it, we used approx. 8,000 tons of recycled plastic for our products in fiscal 2012. By proactively promoting the use of recycled resources, we launched in February 2012 the Resources Recycling-oriented Products series that incorporate insulation materials and plastics made from recycled resources (see page 7).

In addition, as for the recycling rate of waste at factories, we had traditionally set the different targets for Japan and countries outside Japan according to the relevant local infrastructures. However, with the recent global awareness of the importance of Zero Waste Emission activities, we have been taking steps to improve the standard level of waste recycling across our entire Group since fiscal 2011.

Using fiscal 2009 as our baseline, we have set the percentage of recycled resources used out of total resources used to more than 12% in fiscal 2013. In fiscal 2012, we achieved a result of 14.7%. In addition, against fiscal 2012 and fiscal 2013 targets of 98.5% and 99% or more, respectively, we achieved a factory waste recycling rate of 98.9% in fiscal 2012. As we look toward our fiscal 2019 goal, we will continue to promote our Recycling-oriented Manufacturing.

Medium to long-term targets and actual results for Recycling-oriented Manufacturing



Minimizing Total Resources Used and Maximizing Recycled Resources

Reduction in Resources Used

Reducing product mass

To reduce the use of resources for production, we continuously look to reduce the weight of our products. In addition to our efforts to make our products thinner and lighter and use less components, we will strengthen our approach to product design for easy recycling from the recycling resources point of view.

● HD integrated camera

Our integrated high-definition (HD) camera can be used for video conferencing and in a variety of venues.

This rotatable HD integrated camera (AW-HE120) can shoot full HD images and videos using a 2.2-megapixel 3MOS system and high-magnification 20x zoom lens. We have developed this high-performance, high-magnification lens module while reducing the size and mass of the camera head to improve its “pan/tilt” functionality. Through the introduction of our new, high-performance DSP-IC, which processes video signals digitally and has had improvements made in the efficiency of its circuits, we have developed a compact design that is approx. 60% smaller in size and mass* compared with the conventional model (AW-HE100). This product also achieves considerable energy savings. Compared with the conventional model, Panasonic HD integrated camera uses 48% less energy of just 21 W. Our focus on ease of use and sophisticated design earned Panasonic the top iF Product Design 2012 Award in Germany.

*180mm width/228mm height/220mm depth (main body only).



HD integrated camera (AW-HE120) that is approx. 60% smaller in size compared with the conventional model

● Angular rate sensors for portable devices

For use in portable devices such as smartphones and tablet terminals, Panasonic has developed angular rate sensors that can detect the movement of the devices in three directions (back to front, side to side, and up and down), while conventional sensors can detect movement in only two directions. In smartphones, within which the newly developed sensors are used, the subtle movement of human hands can be well reproduced for game applications because of data digitization using the same IC. Moreover, compared with conventional sensors, volume and weight have been reduced by about 38% and 21%, respectively.



Conventional sensor



New angular rate sensor

Recovery of Resources

Recycling technology development activities

It is important to recover resources as much as possible to expand usage of recycled resources. In addition to operating two recycling factories, Panasonic is actively engaged in the development of recycling technologies.

Rather than just stopping at the recovery of resources, we are working to address wide-ranging issues, including the expansion of resources recycling and the acquisition of scarce metals.

● Development of high-precision resin sorting system (mass production equipment)

In the past, we sorted by hand the resources recovered from used products that are reused as plastic materials in our products. Plastic materials that could not be sorted by hand were not reused in products but used as fuels after shredding. This is because plastics containing brominated flame retardants, which are subject to environmental regulations, could not be removed after shredding.

In fiscal 2011, Panasonic developed a high-precision resin sorting system that automatically sorts and recovers plastic materials from residues. This system was introduced into the recycling factory of Panasonic Eco Technology Center Co., Ltd. (PETEC) on a trial basis.

The system uses near-infrared rays to instantly identify specific plastic materials contained in the residues carried on a conveyor, and the plastic materials that are identified are shot down for recovery with compressed air. This system enables the sorting and recovery of plastic materials by type at purity of over 99%, and also enables the removal of plastic materials that contain bromine. This development has led to an increase in the amount of recycled resources recovered.

In fiscal 2012, we took steps to install mass production equipment. As with the trial model, the mass production equipment is compact in size and does not require the use of water. Compared with the trial model, however, the new equipment offers an approx. 20% improvement in the recovery rate, an increase in capacity of 1.5 times, and the potential to process 1,000 tons annually.



High-precision resin sorting system (mass production equipment) that was introduced at PETEC

Minimizing Total Resources Used and Maximizing Recycled Resources

● Development of the neodymium magnet recovery system

Neodymium (Nd) magnets are used in the motors of air conditioner compressors and certain drum-type washing machines. These magnets often contain dysprosium (Dy), and both of these metals are critical materials for recovery due to their scarcity and high value. Given the supply instability and booming price, securing rare earth metals has become extremely important.

In fiscal 2012, we completed the development of a set of equipment that extracts Nd magnets from used products and introduced it in our operations.

Our recycling factory PETEC has developed and introduced compact systems, primarily for air conditioning compressor motors, that do not emit heat or gases and therefore have a low environmental impact.^{*1} By putting the rotor part of the motor into the system, the plate-shaped Nd magnet can be collected after removing the magnetic force. While Nd magnets have been used in air conditioners manufactured in recent years, these important materials could not be recovered until now. With the introduction of this system, in fiscal 2013, we expect to recover 1.2 tons of Nd magnets.

Panasonic Eco Technology Kanto Co., Ltd. (PETECK), a joint-venture recycling company formed with Mitsubishi Materials Corporation, has developed and introduced systems that are capable of processing not only air conditioners, but also washing machine motors that are able to recover Nd magnets as well as non-ferrous metals.^{*2}

Up until now, large volumes of metals such as iron, copper, and aluminum were recovered in the recycling process, but our development of recycling technologies has made it possible to now retrieve materials that are more difficult to recover and reuse, such as Nd magnets.

^{*1} Supported by a business subsidy program of Japan's Ministry of Economy, Trade and Industry.

^{*2} Supported by a business subsidy program of the New Energy and Industrial Technology Development Organization.



PETEC's neodymium magnet recovery system for air conditioning compressor motors



PETECK's neodymium magnet recovery system for motors of air conditioner compressors and drum-type washing machines (heating demagnetizing furnace)

Used product recycling

Aiming toward the effective use of natural resources and the prevention of environmental pollution, a growing number of recycling laws have been enacted in various countries throughout the world. Examples include the Home Appliance Recycling Law and the Law for Promotion of Effective Utilization of Resources in Japan, the WEEE Directive in the European Union, and recycling laws in many states in the United States. In China as well, a similar law has been taking effect since January 2011. In addition to complying with recycling laws in each country, we attempt to go further: we endeavor to play an active role in creating the most efficient recycling system in each country in view of its local recycling infrastructure.

■ FY2012 Results

Japan: Recycled approx. 164,000 tons of four kinds of home appliances

Europe: Collected approx. 58,000 tons of used electronic products

USA: Collected approx. 14,000 tons of used electronic products

● Japan

In response to the Home Appliance Recycling Law of 2001, which covers four specified kinds of home appliances, we developed a geographically dispersed recycling network through the effective use of existing recycling facilities nationwide. A recycling management company operates all the recycling-related services, including supervising 378 designated collection sites and 36 recycling facilities, on behalf of the "Group A" manufacturers (22 companies including Panasonic). Our recycling factories, PETEC and PETECK, conduct unique research to improve our recycling processes for more efficient treatment of the four kinds of home appliances^{*3} and for the recovery and supply of more resources.

In fiscal 2012, we recycled approx. 164,000 tons of the four specified home appliances.

^{*3} Air conditioners, TVs, refrigerators/freezers, and washing machines/clothes dryers.



Used flat TVs disassembled at PETEC

● Europe

Prior to the enforcement of the WEEE Directive in Europe in August 2005, Panasonic established a recycling management company, ENE EcologyNet Europe GmbH, in Germany in April 2005. In cooperation with established recycling companies, we have built up a high-quality recycling system based in Germany. In 2011, we collected approx. 58,000 tons^{*4} of used products covered by the WEEE Directive.

^{*4} Calculated by multiplying the weight of collected products through each collection system by Panasonic's share on a product weight basis in the market that is relevant with the collection system.

Minimizing Total Resources Used and Maximizing Recycled Resources

● USA

Following the start-up of the state recycling law in Minnesota in July 2007, we established Electronic Manufacturers Recycling Management Company, LLC (MRM), jointly with Toshiba Corporation and Sharp Corporation in September of the same year, and began recycling TVs, PCs, and other electronics. With collaborative ties to five recycling companies, each with a nationwide network, we are running a recycling program that covers the entire United States. At more than 1,300 collection bases, Panasonic collected approx. 14,000 tons^{*5} of used electronic products in 2011.

^{*5} Total amount collected based on both state mandates and through voluntary efforts, etc.

● China

The Regulation for the Management of Recycling and Disposal of Waste Electrical and Electronic Products was enforced in January 2011. Under this regulation, we established a joint recycling company in Hangzhou, named Panasonic DADI DOWA Summit Recycling Hangzhou Co., Ltd., with Hangzhou DADI Environmental Protection Engineering Co., Ltd., DOWA Holdings Co., Ltd., and Sumitomo Corporation in November 2011. Based on the methods of advanced and practical technology and a contemporary control system that have been developing within the recycling industry in Japan for more than a decade, our new company will engage in the collection, disassembly, and sale of recycled materials extracted from used appliances in accordance with the above regulation with the aim of becoming an advanced model for home appliance recycling in China. Through these efforts, the company will contribute to environmental conservation and the effective use of resources in the country.



Rendering of Panasonic DADI DOWA Summit Recycling Hangzhou Co., Ltd.

● Asia Pacific

In the Asia Pacific region, an increasing number of countries are moving toward legislation governing recycling.

In conjunction with the enforcement of a recycling law in India in May 2012, we have built a network of collection bases using brand shops and authorized service centers.

Following the enforcement of relevant laws in Australia in July 2012, we are engaged in recycling activities through a take-back recycling scheme that covers appliances including TVs and PCs.

In Vietnam, we are involved in discussions with the government and industry bodies in an effort to make optimal laws and regulations.

Use of Recycled Resources

Technology that makes full use of resources

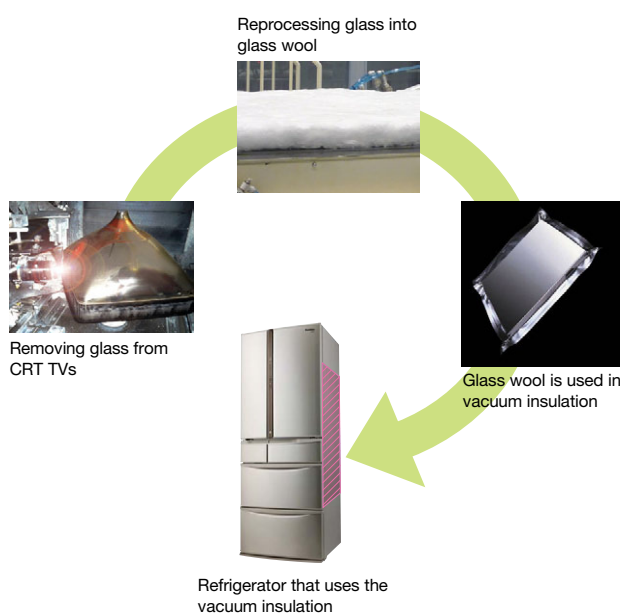
Panasonic develops technologies to extract the maximum amount of resources from used products and use these resources as materials in the manufacture of new products. For example, we developed a technology that processes glass extracted from cathode-ray tube (CRT) TVs into vacuum insulation materials that are widely used in a variety of products, including refrigerators and hot water pots. We also have molding and material recycling technologies to recover degraded plastics from used products and use them in new products. We will continue to accelerate the development of such recycling technologies.

● Utilizing glass from used CRT TVs

Glass makes up about 60% of the total weight of CRT TVs. Until recently, the part of the recycled CRT of TVs was reused to create new CRT TVs. However, with the rapid shift to flat-panel TVs and the end of analog broadcasting, demand for CRT TVs have fallen dramatically, reducing the recovery value of CRTs.

We launched a proprietary reprocessing technology that converts glass from used CRT TVs into glass wool fibers to make the vacuum insulation materials for refrigerators. First, a laser is used to remove the CRT from recovered TVs, and after crushing and dry scrubbing, the glass is transformed into cullets (bits of glass). The cullets are then melted at once in a temperature exceeding 1,000°C and subjected to micro-fabrication of approx. 4 μm. Reusable glass wool is created at the end of this process. This is the first case for a home appliance manufacturer in Japan to recycle CRTs for use in the production of other home appliances.

■ CRT TVs to refrigerators



Reducing Factory Waste Emissions

Zero Waste Emissions from Factories

Pursuing Zero Waste Emissions by minimizing final disposal

Waste generated at our factories is classified into: (1) recyclable waste (including those that can be sold and those which can be transferred free of charge or by paying a fee), (2) waste that can be reduced by incineration or dehydration, and (3) final disposal (waste with no option other than being sent to landfills). We reduce the emission of waste by boosting yield in our production process and increasing the recycle rate of our waste materials. Accordingly, we strive globally toward achieving our Zero Waste Emissions^{*1} goal by reducing the amount of final disposal to nearly zero by fiscal 2013.

Specifically, we had set the factory waste recycling rate goals at 98.5% for fiscal 2012, and buoyed by efforts to strengthen measures in China and Europe, the result we achieved was 98.9%. With a goal of achieving a recycling rate of over 99% in fiscal 2013, we will continue to improve our rate of factory waste recycling.

^{*1} Panasonic's definition: Recycling rate of 99% or higher. Recycling rate = Amount of resources recycled / (amount of resources recycled + amount of final disposal).

Measures to reduce the generation of waste

As a means to reduce the generation of waste, we are fostering resource-saving product design. In our production activities, we have reduced the generation of shape forming waste by improving the molds used in the production process. Moreover, we have started a "visualized analysis" of waste for every process. We undertook such analyses at nine sites in fiscal 2011 and eight sites in fiscal 2012 to identify specific factors that cause waste generation, which enable us to link the findings to further reduce waste. In our logistics operations as well, we are reviewing the use of packaging materials to reduce waste and promote the reuse of such materials. As a result, despite the decrease in production, we improved our amount of generated waste per basic unit of production ratio by 0.2% in fiscal 2012 over fiscal 2011.

Measures to reduce the amount of final disposal

We are working diligently to constrain the level of waste materials that are particularly difficult to recycle, including thermosetting resin. We are also strictly adhering to waste sorting practices in production processes to further expand the reuse of resources.

Because waste recycling rates in our overseas factories lag behind those in Japan, we have worked to improve the average level of recycling activities by sharing information within and between regions. Starting from Europe and China and other Asian countries, we expanded our activities in the Americas in fiscal 2012. Specifically, in addition to accelerating the information sharing on waste recycling issues between local factories and business domain companies in Japan, we also promote the sharing of excellent examples and know-how among our factories across regions by

utilizing the BA Charts,^{*2} which are prepared by each region, adopting the long-standing approach toward CO₂ reduction activities. Our specialists have visited 44 of the Group's factories with high waste disposal amounts and low recycling rates to review the state of waste management and propose solutions that are tailored to the local recycling and waste management infrastructure.

At Panasonic Appliance Refrigeration Devices Singapore Pte., Ltd. (PAPRDSG), it has implemented measures to reuse waste sand generated by cast components for compressors. In the past, waste casting sand could not be easily recycled and had largely been disposed of in landfills in accordance with local laws. Referencing recycling techniques developed in Japan, PAPRDSG explored local companies capable of recycling waste molding sand, and through collaboration with a good recycler, waste molding sand is now used in the construction of underground railways and as roadway blocks. These recycling endeavors have led PAPRDSG to reduce its amount of final waste sand disposal by 83% compared to fiscal 2011.

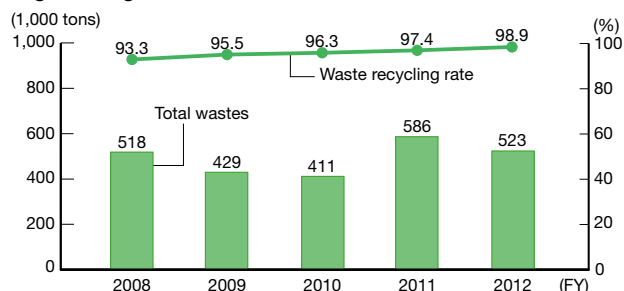


Road pavement blocks made of foundry waste sand and road paved with the blocks

To continue these successes, we must develop human resources with expertise in waste management. We have been providing regular training on waste management in each region, and in fiscal 2012, training sessions held in Asia and Europe were attended by approx. 470 officers responsible for waste management.

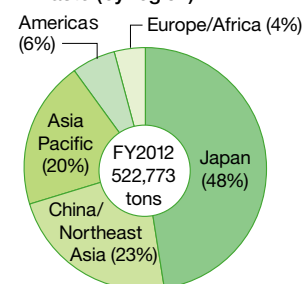
^{*2} BA Chart: Chart that provides a comparison between before and after the implementation of waste reduction and recycling measures.

Amount and recycling rate of total wastes including revenue-generating waste

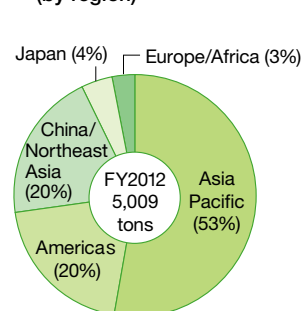


Note: SANYO Electric at that time and PLD not included in fiscal 2008 through 2010.

Breakdown of total wastes including revenue-generating waste (by region)



Breakdown of final disposal (by region)



Water Resource Conservation

Initiatives for Water Resource Conservation

Approach to water resource conservation

It is said that available fresh water is only about 0.01% of the Earth's total water resources. To save this resource, we provide products that help conserve water. We also use recycled water over and over in our production activities.

Water resource conservation through products

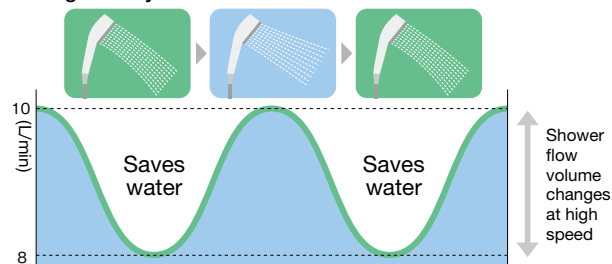
By thoroughly analyzing the use of water through our products, we have developed functionalities that allow a considerable amount of water conservation by utilizing water at a maximum level through improvement of water flow control and cyclic use. In fiscal 2012, we enhanced one of the criteria, water conservation, in our Green Product accreditation criteria (see page 9), and sped up the development of industry-leading products that contribute to water saving.

● Rhythm eShower

By varying the water flow at a high-speed of 120 times per minute, the Rhythm eShower balances comfort and water conservation while maintaining the comfort of the shower on the skin and saving the amount of water used. The Rhythm eShower can save water up to approx. 10%^{*1} compared with conventional showers.

^{*1} Comparisons based on the Rhythm eShower when ON (setting: strong) and OFF for a shower lasting five minutes.

■ Image of Rhythm eShower flow variation



● Drum washing machine

Our global model, NA-148VG3, is equipped with an innovative 3D sensor that detects the movement of the drum and an inverter that optimizes the rotation speed. In addition, the load sensor detects the load of laundry for washing with optimal amount of water. With these functions, the washer has achieved the top-level water saving performance^{*2} in the Singaporean market, in addition to being highly energy-efficient.

^{*2} Uses 6.13 liters of water to wash one kilogram of laundry. As of March 2012 (surveyed by Panasonic).



Drum washing machine (NA-148VG3)



Top rating earned in Singapore's water conservation labeling

Water resource conservation through production activities

By collecting, treating, and reusing waste water from our manufacturing processes and air conditioning systems, we reduce the amount of water use and wastewater effluent. This reduces the impact of the intake and effluent of water in production activities on water resources. With many regions around the world threatened by water shortages, we carefully select which regions to focus on to address our use of water in our manufacturing activities. In fiscal 2012, despite the decrease in production, the ratio of water used at factories per basic unit of production improved by 0.2% compared with fiscal 2011.

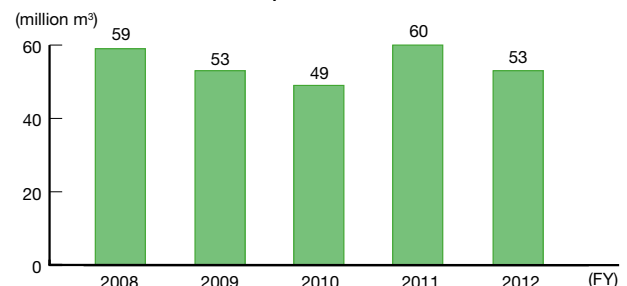
At the Suminoe factory of Panasonic Energy Company, pure water equipment, industrial water treatment equipment, and recovery equipment were conventionally placed in respective buildings. However, by introducing the latest drainage structure and switching to a centralized on-site system, we have achieved cost reductions as well as improved the recycling rate of process water. In addition, we delegated the management of our facilities including water purification equipment to water experts within our Group, which enabled us to achieve a 100% recycling rate of process water.

We will continue to reduce our water use despite increasing production volumes, foster increased water recycling, and reduce water usage at more of our factories in priority regions such as China and other Asian countries and across the world. We will also designate some of our facilities as model factories for water saving across the Group.



Water treatment equipment at Suminoe factory of Panasonic Energy Company

■ Amount of water consumption



Note: SANYO Electric at that time and PLD not included in fiscal 2008 through 2010.

■ Breakdown of water consumption (by region)

(10,000 m³)

Region	Municipal water/industrial water	Rivers/lakes	Groundwater	Consumed	Discharged
Japan	1,716	20	2,129	3,865	3,314
Americas	61	0	12	73	51
Europe/Africa	16	0	12	27	30
Asia Pacific	476	4	75	555	349
China/Northeast Asia	783	0	27	810	462
Total	3,052	24	2,254	5,330	4,207

Reducing the Impact of Chemical Substances

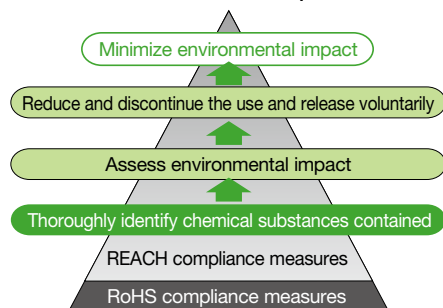
Initiatives Aiming to Minimize the Environmental Impact of Chemical Substances

Initiatives to minimize environmental impact

As represented by the enforcement of the REACH regulation^{*1} in the European Union, the world is moving toward the goals agreed at the World Summit on Sustainable Development (WSSD) held in 2002, which is to produce and use all chemical substances in a manner that minimizes their impact on human health and the environment by 2020. In support of the precautionary approach proposed in the Rio Declaration made at the Earth Summit in 1992, we have been manufacturing products in line with our basic policy of minimizing the use of chemical substances that might adversely affect human health and the environment throughout their lifecycles. As specific initiatives, we aim to minimize the environmental impact of our products by (1) identifying hazardous substances contained in our products, (2) evaluating these substances on their environmental impact, and (3) voluntarily reducing or discontinuing their use in case of any environmental risks.

^{*1} Regulations on the registration, evaluation, authorization, and restriction of chemical substances.

Process to minimize environmental impact



To promote our initiatives clearly, we set forth our Chemical Substances Management Rank Guidelines, which prohibit or specify certain substances for management in terms of our products and factory activities. Companies in the Panasonic Group are requested to follow the Guidelines, and suppliers are also requested for support as necessary.

Chemical Substances Management Rank Guidelines (for products)

Rank	Definition
Prohibit	Level 1 <ul style="list-style-type: none"> Substances whose use in products is prohibited by laws and regulations Substances whose use in products will be prohibited by laws and regulations within one year Substances whose use in products is prohibited within Panasonic
	Level 2 <ul style="list-style-type: none"> Substances whose use in products will be prohibited by international treaties or laws on and after a specified date Substances whose use in products is voluntarily restricted by Panasonic
Manage	<ul style="list-style-type: none"> Substances whose actual use status must be further researched and whose impact on health and safety as well as appropriate treatment must be considered Substances whose use or non-use and the amount of use must be further researched

Chemical Substances Management Rank Guidelines (for factories)

Rank	Definition
Prohibit	Use of the following substances should be immediately discontinued: <ul style="list-style-type: none"> Carcinogens for humans Ozone depleting substances (excluding HCFCs) Substances whose use is prohibited by Panasonic Chemical substances designated as Class I Specified Chemical Substances by the Japanese Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Substances whose manufacture is prohibited by the Japanese Industrial Safety and Health Act Substances whose manufacture and use are prohibited by international treaties
Reduce	<ul style="list-style-type: none"> Substances whose use, release and transfer should be identified and reduced Substances other than prohibited substances that might pose risks to human health and the environment

Chemical Substances Management Rank Guidelines ▶ <http://panasonic.net/procurement/green/>

Management of chemical substances in products

To minimize the environmental impact of chemical substances contained in products, we endeavor to identify chemical substances used in the components and materials of our products. In addition, for substances that are prohibited in products in major developed countries due to legislation such as the European RoHS Directive, we specify prohibited substances to globally ensure that they are not used or contained in our products, except in certain cases where substitution of the substances are infeasible. Moving forward, we will conduct environmental impact assessments for managed substances contained in our products, take steps to reduce the use of substances where the impact on human health and the environment cannot be ignored, and create plans to eventually prohibit the use.

Identifying chemical substances in products

To contribute to the achievement of the global goals set at the WSSD, it is important for us to disclose and communicate information on the chemical substances used in our products across the supply chain, for which we must promote cross-industrial initiatives to establish and disseminate an effective system. We are a member of the Joint Article Management Promotion consortium (JAMP) together with about 400 major companies from various industries, such as chemical, component, and equipment manufacturers. We are proactively formulating, utilizing, and disseminating chemical substance management standards and systems through this organization.

Because only the manufacturer of a certain part knows what substances are contained therein, it is necessary to request information not only to our suppliers but also to further upstream suppliers who do not have direct transactions with Panasonic. In order to ensure that the communication of this information flows efficiently, we have created an online e-learning site regarding chemical substance management in Japanese, Chinese, and English. In accordance with the update of the JAMP format in January 2012 in light of the recast of the European RoHS Directive, we have also updated the e-learning site in March 2012 and are providing explanations to suppliers.

In addition, to deepen the understanding on the handling of chemical substances among our suppliers outside Japan, we conducted practical seminars in China in fiscal 2011 to provide attendees with a general overview as well as training on the preparation and submission of data. We extended

Reducing the Impact of Chemical Substances

the seminars to Southeast Asia and other countries in fiscal 2012. In total, these seminars in fiscal 2012 were attended by 1,648 individuals from 1,037 companies over a course of 10 seminars, and practical operating training sessions using PCs were also held on five occasions and were attended by 237 individuals from 186 companies.

JAMP ▶ <http://www.jamp-info.com/english>

● Assessing the impact of chemical substances

Scientifically identifying the impact on human health and the environment of products containing chemical substances is vital to developing products with low environmental impact. We are engaging in activities designed to assess the levels to which customers are exposed to substances of very high concern (SVHC), as well as safety at the time of product use.

To date, we have undertaken assessments on the impact of phthalate ester contained in power supply cables and ceramic fibers used in some models of professional microwave ovens. As part of our efforts to comply with the EU REACH regulation which requires preparing information for the safe use of products containing SVHC we have created and disclosed a safety assessment document for both cases. In each case, exposure was considered to be nominal with little concern for any impact on human health. Management of Chemical Substances in Products

▶ http://panasonic.net/eco/products/chemical_substance/reach.html

● Reducing the use of PVC resin

Polyvinyl chloride (PVC) is a material of concerns to the generation of hazardous substances from inappropriate disposal, as well as the harmful effects of certain additive agents (phthalate ester) used to render PVC more pliable. In light of the significant potential for inappropriate disposal of the PVC resin used in the internal wiring of products—due mainly to difficulties associated with the sorting of this resin from used products—we have set a goal of using a substitute material in all new products introduced since April 2011 with the exception of cases where replacement would result in quality or procurement issues.

We completed our product quality evaluations in March 2011, and since April 2011, we have switched 802 tons of PVC-made wire products to non-PVC mainly for our AVC products, and have achieved our target.

Management of chemical substances at factories

We have continued to promote cutbacks in the use, release, and transfer of chemical substances at our factories since fiscal 2000. Compared with the level of fiscal 1999, we reduced the amount of chemical substances used by 81% and also reduced the release and transfer of chemical substances by 60% in fiscal 2006. Particular attention was placed on substances that have a large amount of release and transfer since then, and as a result we reduced the amounts of key reduction-target substances by 46% in fiscal 2011 compared with fiscal 2006.

Reflecting international trends in chemical substance management, our reduction measures have focused

increasingly on particularly hazardous substances from fiscal 2011. Under our Chemical Substances Management Rank Guidelines Ver. 4 for factories, we have focused our management on select chemical substances that are hazardous to human health and the environment. Moreover, we classified chemical substances based on their hazardousness and created a unique indicator, “Human Environmental Impact,”^{*2} by specifying a “hazardousness factor” for each substance.

Based on data collected in fiscal 2011, we identified the targets of reducing the Human Environmental Impact by 2.5% in fiscal 2012, 5% in fiscal 2013, and 15% in fiscal 2019. In fiscal 2012, we improved the efficiency of removal/deodorization equipment, improved yields, promoted recycling, introduced substances with low solvents and hazards, and improved processes including reviewing the amount of substances used or the number of times for washing. These efforts enabled us to reduce the Human Environmental Impact by 5.3%.

^{*2} Human Environmental Impact = Hazardous factor x Release and transfer amount.^{*3} ^{*3} Release amount: Includes emission to air, public water areas, and soil.

Transfer amount: Includes transfer as waste and discharge into the sewage system. Recycling that is free of charge or recycling where Panasonic pays a fee for treatment under the Waste Management Law is included in “Transfer.” (Different from the transferred amount reported under the PRTR Law.)

■ Approach to the management of substances based on the Chemical Substances Management Rank Guidelines Ver. 4 (for factories)

Governing laws and regulations (Japan):

- Regulations on the management of chemical substances (PRTR Act, etc.)
- Regulations on environmental conservation (environmental criteria under the Basic Environment Act, etc.)
- Regulations on occupational health and safety (Industrial Safety and Health Act)
- International treaties (Stockholm Convention on Persistent Organic Pollutants, etc.)

Hazards to be included in the assessment target

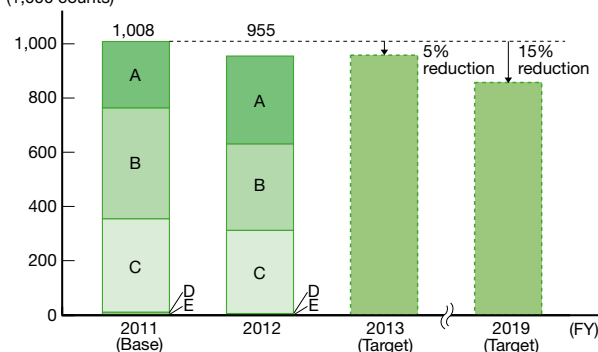
- Hazards to human health: Carcinogenicity, mutagenicity, reproductive toxicity, and acute toxicity
- Hazards to the environment: Substances that might cause ecological toxicity, ozone layer depletion, global warming, or generate photochemical oxidants

■ Classification of hazards

Classification	Hazards to human health	Hazards to the environment	Hazardousness factor
A	Carcinogenicity	Ozone layer depletion	x 10,000
B	Serious or direct impact		x 1,000
C	Medium impact		x 100
D	Small or indirect impact		x 10
E	Minor impact or not assessed		x 1

■ Medium to long-term targets and actual results for the Human Environmental Impact

(1,000 counts)



Note: Overseas sites of former SANYO Electric not included.

Biodiversity Conservation

Initiatives to Conserve Biodiversity

Approach to biodiversity

Our society benefits from a multitude of nature's blessings grounded upon biodiversity, known as ecosystem services. This biodiversity, however, is experiencing significant damage at an unprecedented speed. Accordingly, corporate enterprises are now expected to address issues of conservation and sustainable use of resources.

We are committed to properly understanding the impact of our business activities on biodiversity and contributing to conservation. To this end, we are promoting initiatives in cooperation with local governments, environmental conservation NPO/NGOs, and specialized agencies.

Promoting biodiversity initiatives in our business activities

Since 2009, we have identified and are promoting action in three areas where our business activities affect biodiversity: products, land use, and procurement.

● Initiatives in Products

Together with the NGO BirdLife International, we have established a third-party assessment system to provide customers with information about product contributions to biodiversity. Through this system, we have assessed products which are closely-linked to biodiversity.

Furthermore, in fiscal 2012 we have reviewed our green product accreditation criteria related to biodiversity, and are revising guidelines for more specificity on materials and functions in order to develop and promote products that make a contribution to biodiversity.

● Initiatives in Land Use

We are aiming to contribute to the conservation of biodiversity through greenery at our business sites. To date, we have surveyed biodiversity contribution possibilities at our 121 business sites in Japan, and selected the Moriguchi and Kadoma district, which consists of 12 sites including the Head Office, as a model case. Our plan is to strengthen the ecological network and to contribute to urban development complementary to nature in the area between Tsurumi Ryokuchi Park in the south and the Yodo first class River running in the north. In fiscal 2011, we established a committee of local governments, universities, and corporate members to promote activities. This year, we are taking the first step in favor of biodiversity by creating green spaces on the grounds of our business sites. We will be able to survey



Creating biodiversity-friendly green spaces from a part of an auto park

the effects of green space by directly monitoring nature in close proximity to us. We will also have the opportunity to study the environment through the lens of biodiversity.

At our 'eco ideas' Factory Biwako in Kusatsu, Shiga Prefecture, Japan, we foster our connection with Lake Biwa, the surrounding forest, and other green areas around the plant. With cooperation among our employees and specialists, we strive to maintain the areas around the plant through responsible stewardship of the vegetation, natural environment, and wildlife in the area.



Network between 'eco ideas' Factory Biwako and surrounding environment

● Initiatives in Green Procurement for Wood

In an effort to address biodiversity conservation and sustainability, we consulted extensively with World Wide Fund for Nature (WWF) Japan and formulated Panasonic Group Green Procurement Guidelines for Wood. In fiscal year 2012, the total procurement of timber and wood materials was measured at approx. 420,000 m³. By category, this breaks down to 75% meeting "Priority" procurement standards (a 4-point year-on-year increase), 25% in the category of "Acceptable" (a 3-point year-on-year decrease), and 0.6% in the "Avoiding" category (a 0.5-point year-on-year decrease). We continue to aim toward reducing our Category 3 procurement to nearly zero by fiscal 2013.

■ Green Procurement Guidelines for Wood



Partnership with the World Wide Fund for Nature (WWF)

Since 2007, we have been promoting the Yellow Sea Ecoregion Support Project, a seven-year partnership with WWF Japan. The project aims to implement measures required for the sustainable use and conservation of the Yellow Sea Ecoregion, a body of sea water enclosed by China and the Korean peninsula, in which area known for its high biodiversity value.



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Panasonic ECO RELAY for Sustainable Earth

Vision for Panasonic ECO RELAY

Panasonic launched the Love the Earth Citizens' Campaign in 1998 as an environmental contribution activity conducted by employees. The scope of this activity has been subsequently expanded globally in a range of fields and it was renamed the Panasonic ECO RELAY for Sustainable Earth in October 2010. By connecting people, local communities, and activities across generations through the ECO RELAY, we aim to contribute to a sustainable society and the preservation of the global environment as responsible global citizens. In fiscal 2012, we implemented more than 500 projects in activities across the world, with the participation of employees, their families, and local people.

Promoting environmental education on a global scale

We independently developed the materials to be used by employees or school teachers to provide environmental education to children, and these materials are presently being used in 29 countries. Since 2007 we have also been continuing a campaign to plant one tree for each targeted product sold as an activity to increase green plants in cooperation with customers. We are conducting this tree planting activity through the Eco-Schools and LEAF program of the Foundation for Environmental Education (FEE), an international NGO.



Environmental education in Indonesia

Employees working as tree planting volunteers

Panasonic has been engaged in tree planting activities to make a green contribution as a company that uses significant amounts of forestry resources in its core business. Since 2007, both employees and senior executives have been participating in our volunteer tree planting activities conducted in Nagaki-no-mori forest in Wakayama Prefecture, Japan. Approx. 45,000 trees will be planted by a total of about 3,000 environmental volunteers over 10 years on land extending over 20 hectares.



Tree Planting at Nagaki-no-mori forest

Results of environmental education and tree planting

Environmental education	About 726,000 children have participated in 29 countries and regions worldwide. (Cumulative total from fiscal 2010)
Tree planting	About 2,962,000 trees were planted in 54 countries and regions worldwide. (Cumulative total from fiscal 2008)

Initiatives for Human Resource Development

Encouraging all employees to become environmental innovators

In fiscal 2012, an in-house test on environmental issues was conducted online via the intranet as part of general employee education, and about 136,000 employees took the test, which was designed to help them obtain a range of environmental information, including the environmental initiatives taken by Panasonic and the related world trends, laws, and regulations. For our specialized programs, we provided training on environmental laws and regulations, the management of chemical substances and waste, and energy conservation diagnosis. Moreover, we expanded the target of the three seminars for eco-conscious product design, including the basic training seminar on Green Products, to include more employees. In fiscal 2012 we held a total of 23 seminars in Japan, China, and other Asian regions, and a total of 680 persons including those not in environmental divisions, attended the seminars.

In the future, we will further expand and enhance environmental education in our human resource development programs for both new and newly promoted employees, in order to nurture them into human resources who can help the company achieve business growth while also making contributions to the environment.

Increasing employees' environmental awareness and skills through a global competition

In the Panasonic Group Manufacturing Skills Competition, held every year on a global scale, participants compete in the two categories of eco mind skills (overall environmental knowledge and expertise) and energy conservation diagnosis skills (ability to make improvement proposals for energy conservation at offices and factories). In fiscal 2012, we held the eco mind skills competition for the first time in China, with local Chinese employees taking the leadership in the organization and management of the competition, including localizing the questions asked to participants, and receiving support from Japan.

In addition, employees at our bases outside Japan also participated in the energy conservation diagnosis skills competition held in Japan. We will continue to increase environmental awareness and skills across the entire company through this competition, in which we give commendations to those who have achieved excellent results, aiming to encourage them to lead environmental innovation through their advanced knowledge and skills.



Energy conservation diagnosis competition

Collaboration with Suppliers

Reducing Environmental Impacts across the Supply Chain

Collaboration with suppliers and transportation partners

As a globally operating company, we must consider the environmental impacts of our entire supply chain, and not just of our own operations. Through our coordination efforts with suppliers and transportation partners, who form an integral part of our business operations, we strive to minimize our environmental impact across the entire supply chain, focusing on the reduction of CO₂ emissions, resource recycling, chemical substance management, and biodiversity conservation.

Measures for green procurement

We issued our Green Procurement Standards in March 1999 and are actively engaging in green procurement in order to promote the manufacture of environmentally conscious products in partnership with our suppliers. As a first step in collaborating with suppliers and achieving the goals outlined in our environmental action plan—Green Plan 2018—we issued an updated sixth version of our Green Procurement Standards in January 2012. This renewed policy aims to build a group of suppliers providing products and goods to Panasonic to support our 100th anniversary vision, reduce the environmental impact of their business activities, share achievements through collaboration, and encourage upstream suppliers in our supply chain to reduce their environmental impact.

Green Procurement Standards ▶ <http://panasonic.net/procurement/green/>

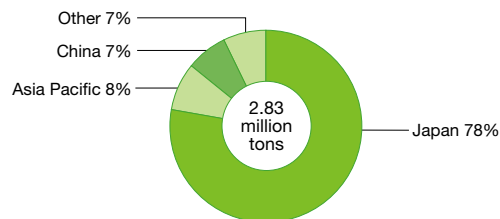
● Calling on suppliers to reduce their environmental impacts

In addition to ongoing requests to build environmental management systems and ensure our chemical substance management policy, we ask suppliers to accelerate their efforts toward identifying and reducing GHG emissions, recycling resources, and protecting biodiversity.

We have launched a trial to identify GHG emissions in our supply chain as a first step toward implementing reduction efforts. We began with suppliers selected according to provisional calculations of the GHG emissions of products delivered to Panasonic in order to first identify any issues arising from suppliers' GHG calculation processes. We briefed raw material suppliers and electrical/electronic component manufacturers in July 2011 and parts manufacturers in November 2011, urging suppliers to calculate and submit appropriate GHG emissions data. We received replies from 84 consenting suppliers, with global calculations taking into account GHG emissions from supplier domains, upstream domains (raw material suppliers and component manufacturers), and downstream domains (domestic import and logistics companies). The total emissions of products delivered by the 84 suppliers to Panasonic were about 2.83 million tons. We will commit

to promoting these initiatives while considering factors like economic rationality between Panasonic and suppliers and the completeness of collected data.

■ Breakdown of the GHG emissions of products delivered to Panasonic by 84 suppliers (by region)



● Sharing achievements through collaboration

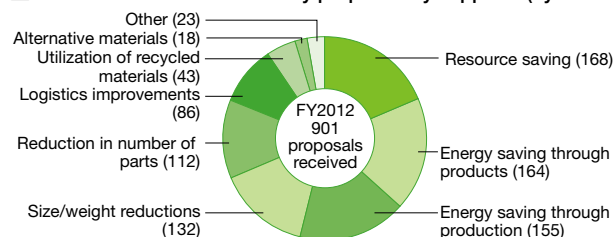
Since fiscal 2010, we have been implementing the ECO-VC* Activity with our suppliers. This program seeks out ways in our parts procurement activities to save energy and resources or use recycled materials, which at the same time aims to rationalize costs. In fiscal 2011, we expanded the focus on Recycling-oriented Manufacturing in addition to the original objective of reducing CO₂ emissions.

In fiscal 2012, we received 901 proposals from suppliers around the world on ways to reduce energy consumption in products and factories, as well as proposals about how to make products smaller and lighter, and to use fewer parts. We wanted to share the best of these proposals with all our suppliers, and so we established the Panasonic Excellent Partners Meeting, which is attended by all our suppliers worldwide.

In the future, we will implement this ECO-VC Activity throughout the supply chain—from procurement to distribution—to reach many more suppliers and reduce CO₂, lower costs, and promote Recycling-oriented Manufacturing (minimizing resources used, recycling, and switching to non-petroleum materials).

*VC: Value Creation.

■ Breakdown of ECO-VC Activity proposed by suppliers (by theme)



■ Environmental results of proposed themes for ECO-VC Activity

Items	FY2010	FY2011	FY2012
Number of proposals	512	668	901
CO ₂ reductions derived from proposals	29,000 tons	163,000 tons	323,000 tons
Use of recycled resources derived from proposals	N/A	11,612 tons	16,521 tons
Reduction in resources used derived from proposals	N/A	12,311 tons	16,231 tons

● Encouraging upstream suppliers to reduce their environmental impact

In addition to complying with environmental laws, we have called on our upstream suppliers to reduce their environmental impact in the updated Green Procurement Standards, further extending our supply chain initiatives to reduce our environmental impact.

Promoting Environmental Communication

Communicating with stakeholders

Panasonic has been focusing on maintaining close communications with stakeholders. As well as actively disseminating our environmental efforts through different media such as products, services, and publications, we also solicit stakeholders' opinions and utilize them as an important resource for our environmental sustainability management.

Communication with the government

Panasonic communicates not only with the Japanese government but also with governments in different countries as an individual company and as a member of industrial organizations as well as Keidanren. Through discussions on current policy issues and a number of information sharing and opinion exchanges regarding the future vision of the state, industry, and people's lifestyles, and international activities to realize a sustainable society, we deepen our understanding of the government's policy and constructively provide advice from the viewpoint of a manufacturer, seller, and technology developer. These help Panasonic further enhance and promote environmental sustainability management.

Environmental promotion through advertising and broadcasting

A series of advertisements, called "eco ideas file," which aimed at introducing our specific activities as a Green Innovation Company and was devised under the themes of ecological development, initiatives, and viewpoints of promoters, published monthly from May 2011 to March 2012 in major Japanese and global magazines. It was also released on our official website.

In June 2011, we concluded a strategic partnership agreement with the UNESCO World Heritage Centre aiming to conserve world heritage sites and to promote sustainable growth through environmental education for the next generation. Over a two-year period, Panasonic will be the sole sponsor of The World Heritage Special, aired on the National Geographic Channel in 183 countries and regions, and will conduct educational initiatives for the next generation, which includes providing Panasonic 3D-related audio-visual equipment and technical support.

eco ideas file ▶ <http://panasonic.net/ecoideasfile/>

THE WORLD HERITAGE with Panasonic Special Site
▶ <http://panasonic.net/worldheritage/>



World Heritage Environmental Learning Program from the eco ideas file series



Engagement with third parties

Panasonic actively conducts a number of dialogues with experts from both within and outside Japan, and utilizes their comments in its environmental strategies.

With the Natural Step, in particular, we have built a partnership since 2001. We hold an annual meeting with them to share the most advanced environmental information in Europe and seek their opinions on our environmental strategies and activities to assist us in further improvements.

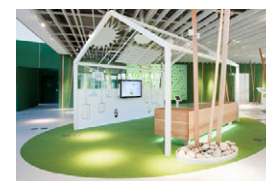


Meeting with the Natural Step

Communicating through showrooms and exhibitions

Panasonic hosts a range of exhibitions across internal and external facilities to disseminate its vision through products and services, and to receive voices and requests directly from its customers.

Panasonic Center Tokyo, one of our major communication centers, refurbished and re-opened its exhibition space in February 2012. The single-floor exhibition area, Smart Solutions, is designed to convey the vision of Panasonic through hands-on experience. Various solutions to realize a sustainable, safe, and comfortable lifestyle are introduced here, along with case studies of our research on day-to-day activities.



Refurbished exhibition space, Smart Solutions

In addition, Panasonic participated in the Eco-Products 2011, one of the largest environmental exhibitions in Japan. We demonstrated our energy solutions and the latest environmental activities under the three topics of Energy Solutions for Lifestyles of Today; Comprehensive Smart Lifestyles for Tomorrow; and Resources Recycling.

Panasonic Center Tokyo ▶ <http://panasonic.net/center/tokyo/>

Publishing environmental information through the website

Since 1997, Panasonic had been publishing its environmental reports in paper format. These reports were shifted to solely web-based publication in 2010. The environmental reports ('eco ideas' Reports) of 2010 which was published after announcing the vision looking to the 100th anniversary of our founding, and of 2011, received the Prize of Excellence for Environmental Reporting (Minister of the Environment Prize) in the 14th Environmental Communication Awards hosted by the Ministry of the Environment and the Global Environmental Forum for two consecutive years in Japan.

We created a website dedicated to 'eco ideas' in 2012, which minutely introduces our vision and environmental action plan in 10 languages. We also set up a special section within our environmental website to introduce our new efforts in resources recycling in an easy-to-understand manner.

'eco ideas' Special Site ▶ <http://panasonic.net/eco/ecoideas/>

Resources Recycling Special Site

▶ http://panasonic.net/eco/resources_recycling_sp/

Global Eco Projects

Environmental Sustainability Management across the World

In October 2007, Panasonic announced its 'eco ideas' Strategy that focused on accelerated implementation of global warming countermeasures and on globalization of environmental sustainability management. The Eco Project represented the first step in implementing this group-wide policy. In this project, each region sets out targets and concrete action plans to achieve these targets under the three categories: 'eco ideas' for Products; 'eco ideas' for Manufacturing; and 'eco ideas' for Everybody, Everywhere. Over the three years from fiscal 2008 to 2010, the three regions of China, Europe, and Asia Pacific announced their commitment to the regional 'eco ideas' Declarations. Active efforts towards attaining the respective targets in each region generated remarkable results.

The midterm management plan GT12, which started in fiscal 2011, evolved this initiative into a higher stage, where activities focus on two areas—'eco ideas' for Lifestyles and 'eco ideas' for Business-styles—based on a vision looking towards the 100th anniversary of our founding. Each region continues to work on spreading the use of eco products, reductions in the environmental impact from business activities, and collaboration with local communities. Further, each of the regions has set up an index with regard to the expansion of eco product sales to realize an integration of our environmental contributions and business growth. In fiscal 2011, the Latin America, Middle East & Africa, Russia, and North America regions announced their 'eco ideas' Declarations for the first time, and the Europe and Asia Pacific regions announced new Declarations following their original ones from fiscal 2008 to 2010. Further, the Asia Pacific region renewed a part of their targets in fiscal 2012. Taiwan also announced its first 'eco ideas' Declaration and joined our activities that now span the world.

New 'eco ideas' Declarations in fiscal 2012

● Announced Asia Pacific 'eco ideas' Declaration 2011

In May 2011, Panasonic Asia Pacific announced Asia Pacific 'eco ideas' Declaration 2011 in Singapore. The Declaration reported the progress towards the targets set out in the Asia Pacific 'eco ideas' Declaration 2010, announced in June 2010. The region is making steady progress in eco products sales expansion and in the size of its contribution in reducing CO₂ emissions.

We will further expand our contributions to the environment through the expansion of the comprehensive environment and energy system solutions business, with the aim to become the No. 1 Green Innovation Company in the Asia Pacific region.



Announcement of the Declaration

■ Targets of Asia Pacific 'eco ideas' Declaration 2011 and results in fiscal 2012

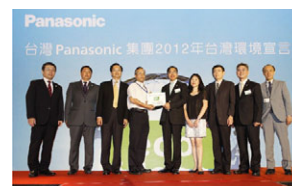
Items	Fiscal 2013 target	Fiscal 2012 progress
'eco ideas' for Lifestyles	(1) Increase the sales percentage contributed by eco products to 80% (2) Further promote Eco Learning Program (target participants: 200,000 youths by March 2013) (3) Expand the comprehensive environment and energy solutions business in Asia Pacific targeting houses, stores, and communities through the combined efforts of the new Panasonic Group (sales target: 160 billion yen or 2 billion US dollars in fiscal 2019)	(1) Increased to 70% (2) Reached out to more than 110 thousand youths (3) Commenced Asia's first total energy solutions test bed project in Singapore Punggol Eco Town
'eco ideas' for Business-styles	(1) Reduce CO ₂ emissions by 600,000 tons in production activities (compared with the case without improvement after fiscal 2006 level) (2) Establish one 'eco ideas' Factory in each country. Increasing the number of 'eco ideas' Factories to seven by developing 3 more model 'eco ideas' Factories in Asia Pacific (India, Vietnam and Philippines) by 2013 to engage and educate the community. (3) Organize an Asia Pacific 'eco ideas' Forum in the Singapore International Energy Week (SIEW) 2011	(1) Achieved 560 thousand tons (2) Reinforced environmental initiatives at 'eco ideas' Factories in Malaysia, Thailand, Singapore, and Indonesia (3) Held in November 2011 in Singapore

* An 'eco ideas' Factory is a model factory which lives in harmony with local communities and stakeholders, as well as embodies Panasonic's environmental strategy with two 'eco ideas' initiatives.

● Announced Taiwan 'eco ideas' Declaration

In October 2011, nine Panasonic group companies in Taiwan announced the Taiwan 'eco ideas' Declaration in Taipei City. The companies aim to increase the sales ratio of products with ECONAVI functionality and to achieve the size of contribution in reducing CO₂ emissions from product use amounting to 400,000 tons. The companies are also contributing in realizing the environmental policy of the Taiwanese government and the reduction of environmental impacts by reducing CO₂ emissions from production activities, increasing the waste recycling rate, and social contribution activities by employees.

In recognition of its vigorous activities, for three consecutive years Panasonic has been selected as one of the ten eco brands in the sole environmental-related brand survey conducted in Taiwan. In March 2012, Panasonic received the Super Green Brand Grand Award.



Presenting the Declaration to a government representative

■ Details of Taiwan 'eco ideas' Declaration

Items	Targets for fiscal 2016
'eco ideas' for Lifestyles	• Consecutive release of products with ECONAVI functionality (highest environmental performance) (1) Enhance sales ratio of products with ECONAVI functionality to 50% or more (2) Achieve the size of contribution in reducing CO ₂ emissions from product use amounting to 400,000 tons in fiscal 2016 (compared with the fiscal 2006 level)
'eco ideas' for Business-styles	• Environmental contribution through production activities (1) Reduce CO ₂ emissions by 5% or more (compared with the fiscal 2006 level) (2) Increase the waste recycling rate to 99.3% or more • Environmental contributions by employees (1) Enhance tree planting activities in various location (2) Promote cleaning activities (3) Expand environmental education focusing on nurturing the next generation

Global Eco Projects

Asia Pacific

Asia Pacific 'eco ideas' Forum 2011

In November 2011, Panasonic Asia Pacific held the first regional 'eco ideas' Forum outside of Japan at the 2011 Singapore International Energy Week, an international event organized by the Energy Market Authority which Panasonic participated as a Platinum sponsor. The Forum focused on the challenges and opportunities of implementing energy management systems in a company and provided a platform for the different industries to deliberate and exchange ideas on how energy conservation programs can positively impact the business bottom line. Apart from Panasonic's presentation on our total energy solutions and energy conservation efforts in factories, the Forum also invited speakers from various government agencies, academia and industry experts to share best practices and current trends in the industries.



Panel discussion in the forum

Initiatives for 'eco ideas' Factories

In the Asia Pacific region, environmental initiatives have been strengthened at our 'eco ideas' Factories in Singapore, Thailand, Malaysia, and Indonesia. 'eco ideas' Factories are model factories that embody the environmental strategy of Panasonic and manufacture eco-friendly products with sustainable industry practices, and are utilized in outreach activities to raise the level of eco consciousness in the community.

Panasonic Appliances (Thailand) produces energy efficient refrigerators and washing machines that come with inverter and ECONAVI technology. In fiscal 2012, the company reassessed its production processes and managed to reduce its water consumption by 20% compared to fiscal 2011. To further green their manufacturing activities, the factory also looked at using raw materials with less environmental impact and reducing resource wastage.

Our major LCD television production site, Panasonic AVC Networks Kuala Lumpur Malaysia, has achieved energy conservation and high efficiency through the implementation of various energy saving, space saving and resource saving measures in their production processes. The factory also conducts regular energy conservation diagnosis to visualize the company's energy consumption and implements measures to reduce CO₂ emissions in offices and distribution systems.

This 'eco ideas' Factory initiative will be expanded to other countries, such as Vietnam and India.



Refrigerator production line in Thailand



'eco ideas' Factory in Malaysia

Asia's first total energy solutions test bed project commenced in Singapore

Panasonic announced Asia's first total energy solutions project for public housing at Punggol Eco Town in Singapore in August 2011. This project is conducted jointly with three government bodies and will see Panasonic utilize and integrate its energy creation, storage and saving solutions at an existing public residential building to realize greener lifestyle. The test-bed project will be conducted over two years and aims to achieve zero emissions for common facilities and improve household energy management through visualization and Demand Response, which is the managing of consumers' consumption of electricity in response to supply conditions.



Launch ceremony of the test bed project

Environmental education in Malaysia and India

Panasonic organizes a number of environmental education programs in the Asia Pacific region. The Panasonic Kids School program in Malaysia, which started in July 2011, offers environmental lessons based on the global environmental education program created by Panasonic, factory tours at our 'eco ideas' Factory, and eco contests for the participating students of the program. The environmental lessons, held in August, were attended by 1,200 primary and junior high school students, with 200 students participating in the factory tour. In India, the environmental education program started in September 2011 and 100 schools across seven cities have enjoyed the environmental lessons to date, reaching out to 17,450 till date.



Environmental education in India

BOI Fair in Thailand

Panasonic group companies in Thailand hosted a pavilion at the Board of Investment (BOI) Fair, jointly organized by the Thai government and a number of corporations in January 2012. The pavilion presented our environmental vision and our efforts as a green innovation company in the Fair. The pavilion also exhibited our latest technologies and various businesses, including Panasonic's history in Thailand. 2011 marked the 50th anniversary of Panasonic's business inauguration in Thailand and Panasonic took this opportunity to thank the country's support of our business. The pavilion attracted many visitors, including several senior Thai officials.



Environmental display in the Panasonic pavilion

Global Eco Projects

Europe

'eco ideas' Declaration in Europe

In September 2010, Panasonic Europe announced its 'eco ideas' Declaration in Europe, which sets its environmental targets for fiscal 2013.

Panasonic Europe aims to increase the sales of products with eco labels that convey our products' environmental performances in a clear manner, and also to increase contributions to reducing CO₂ emissions during product use. The company also accelerates efforts in CO₂ emissions reduction and resource recycling in its business operations, as well as focusing on environmental education for children.

■ Targets of European 'eco ideas' Declaration 2010

Items	Fiscal 2013 targets
'eco ideas' for Lifestyles	(1) Increase the sales ratio of eco labeled products ^{*1} in total sales to 30% (2) Achieve 3.5 million tons in a size of contribution in reducing CO ₂ emissions through energy management products ^{*2} (3) Provide environmental education to 100,000 children through kids school "eco learning" program
'eco ideas' for Business-styles	(1) Achieve 7,000 tons of contribution in reducing CO ₂ emissions at European manufacturing sites (compared with the case if no improvement measures had been taken after fiscal 2006) (2) Reduce 1,000 tons of CO ₂ emissions at non-manufacturing sites ^{*3} (compared with fiscal 2010) (3) Achieve 99% waste recycling rate at European manufacturing sites

*1 Products with European Type I Eco-labels or those qualified for Panasonic's 'eco ideas' label due to their industry-leading environmental performance.

*2 Subject items: solar panels, fuel cells, heat pumps, energy recovering ventilations, LED lightings, and compact fluorescent lightings.

*3 Sites with 100 or more employees.

Improve factory waste recycling rate

Production sites in Europe are actively working on achieving their set targets concerning waste recycling rates. In June and December 2011 and March 2012, waste recycling training sessions were conducted, where model cases were presented for information sharing and common problems were discussed. Also, a web site for environmental representatives was established to widely share the recycling activity information in a timely manner across boundaries.

Panasonic Industrial Devices Slovakia, which is based in a country where sorting waste for recycling is still less common than in other European states, introduced an all-employee environmental education program. The employees are now working to implement waste sorting practices in all the production lines. Sorted waste boxes have been newly introduced with indicators for different waste categories, and waste administrators were appointed. These efforts have led to 97.6% of waste now being recycled.



Waste sorting by employees

Hosting dialogues with stakeholders

Panasonic Europe actively creates opportunities for management and stakeholders to exchange opinions in order to expand our contribution in building a sustainable society together with the community.

In September 2011 and February 2012, dialogues were held with the themes of Smart Cities in Europe and Sustainable Energy Turnaround, respectively. Active discussions were held among the attendants, including governmental organizations, NGOs, consumer groups, and academic institutes. We received valuable advice and opinions on our environmental activities, which we will constructively utilize for future activities.



Stakeholder dialogue held in Berlin in September 2011

Eco Picture Diary Contests

The Eco Picture Diary Contest is designed to encourage children to submit their picture diaries and report on the various eco activities they have conducted, or their ideas about environmental issues. The contests were held in eight countries across Europe and the selected works were put forward for the Pan-European Picture Diary Contest in July 2011. The best prize was awarded for the diary from Turkey. Following this, we held the Eco Picture Diary Global Contest award ceremony at the UNESCO headquarters in Paris, France, in February 2012. At this ceremony, Panasonic also reported its progress in the partnership with UNESCO for world heritage preservation and environmental education for the next generation.



Global award ceremony

Collaboration with NGO for next-generation educational support

Since November 2011, Panasonic Europe has been in partnership with World Vision, an international NGO that supports children, families, and communities on a world-wide scale.

One of the areas in Europe to which World Vision currently directs its support is Armenia. The country is facing environmental destruction that is ruining the country's abundant and beautiful nature. In Armenia, Panasonic is supporting a project that promotes environmental awareness and better waste management. Through providing learning equipment and environmental lessons for children and young people, Panasonic continues to improve the quality of life for the future.



Children in Armenia, where Panasonic supports environmental projects

Global Eco Projects

China

Declaration to become an environmentally contributing company in China

In September 2007, Panasonic held the China Environmental Forum, where we publicized concrete action targets concerning products, factories, and employees' activities as the Declaration to Become an Environmentally Contributing Company in China. Two years later in May 2009, Panasonic also held the China Environmental Forum 2009 and declared to be a model company in China through further intensified environmental contributions.

■ Declaration details in China

Items	Fiscal 2010 Declaration
Products	Consecutive launch of top-level energy-saving products
Manufacturing	Share know-how about environmentally-conscious manufacturing to society
Human resources	Spread employees' eco activities into the local community

Environmental labels in China

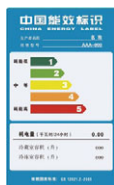
Not only does Panasonic improve its technological development to achieve high environmental performance of products, it also promotes acquisition of eco labels to provide clear information to customers.

In China, our products display an energy efficiency label that indicates energy-saving performance in five grades. All the models of our refrigerator made and released in fiscal 2012 in China secured the Grade One label, indicating top performance. We are also actively obtaining voluntary environmental labels* and acquired a total of 447 labels for a variety of products, including air conditioners and washing machines, in fiscal 2012.

* China Environmental Labeling, Energy and Water Conservation Labeling, and China Ecolabeling.



Refrigerator NR-C29WX1



Acquired first-grade energy efficiency label



China Environmental Labeling Type II



Energy Conservation Certification label

Green Room system for hotels

In June 2011, Panasonic successfully provided an energy management system, Green Room, to a hotel in Beijing.

The system automatically measures power consumption for each guest room in the hotel using a Panasonic power meter, and achieves energy conservation through analysis and visualization of power use. The result of system trials showed about 30% energy conservation at maximum. The system provides total control over the lighting and appliances installed in guest rooms. We will actively promote this system to hotels and develop this

product into a global-scale total hotel energy management business.

Improve factory waste recycling rate

In fiscal 2012, Panasonic held three training sessions on factory waste recycling activities for waste administrators and officers in China. A total of 53 people from 29 companies attended the sessions and learned good examples and knowhow to achieve a waste recycling rate of at least 99% in fiscal 2013.

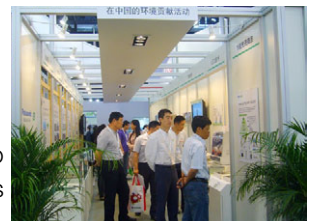
We also started the Factory Waste Management Area Working Group scheme by dividing our sites in China into six areas to reinforce communications among sites in different areas. The scheme resulted in achieving a 99.1% waste recycling rate in fiscal 2012, which was a 2% increase compared to fiscal 2011.



Waste recycling training

Participation in China-Japan Green Expo 2011

In June 2011, Panasonic participated in the China-Japan Green Expo 2011 in Beijing as a platinum sponsor and showcased its energy solutions. We enjoyed a good number of visitors, including Chinese government senior officials. Our booths featured the vision looking towards the 100th anniversary of our founding and concrete actions to implement the vision; comprehensive energy solutions for the entire house, store, building, or town; and our environmental contributions in China. We also provided several presentations at the seminar held together with the expo.



Panasonic booth in China-Japan Green Expo 2011

Tree planting and environmental education for children

In June 2009, we started the "One Million Trees over 10 Years" tree planting program and "One Million Children over 10 Years" environmental education activity.

In fiscal 2012, we distributed a DVD for in-house instructors in Chinese group companies to improve their training skills. The environmental education that we provided utilized the global environmental educational materials for children in older grades in elementary school exclusively developed by Panasonic, as well as a curriculum for younger children developed by Panasonic China. Along with the Eco Picture Diary Contest, a total of 159,000 children took part in our environmental education programs. In our tree planting activities in fiscal 2012, we succeeded in planting approx. 82,000 trees.



Tree planting

Global Eco Projects

North America

'eco ideas' Declaration in North America

Panasonic North America (PNA) announced its 'eco ideas' Declaration in North America in January 2011. In the area of 'eco ideas' for Lifestyles, PNA worked on expanding the sales of eco products, promoting a reduction in CO₂ emissions through the sale of highly energy efficient products, and delivering environmental education. In the area of 'eco ideas' for Business-styles, the company focused on CO₂ emissions reduction at its headquarters facility, as well as increasing the number of collection sites nationwide for product recycling.

■ Targets of 'eco ideas' Declaration in North America

Items	Fiscal 2013 targets
'eco ideas' for Lifestyles	(1) Double the sales of environmentally-conscious products* (2) Achieve 8,000,000 tons in reduced CO ₂ emissions through development and sale of energy efficient products (compared with the case without improvement after fiscal 2007) (3) Provide environmental educational outreach to at least 500,000 students
'eco ideas' for Business-styles	(1) Reduce CO ₂ emissions from North American headquarters' operations by 45% (compared with fiscal 2007) (2) Expand Panasonic National Recycling Program to 1,600 sites

* EPEAT Silver and Gold-registered products, ENERGY STAR-qualified products, and Panasonic's Superior GPs.

Panasonic installs solar panels for the Seattle Mariners home field

In March 2012, Panasonic Enterprise Solutions Company (currently, Panasonic Eco Solutions North America as of April 1) installed a solar panel system comprising 168 HIT Double solar panels (equivalent to 32.76 kW) at Safeco Field, the Seattle Mariners' home field. HIT Double solar panels are capable of generating electricity from both the top and bottom sides of the panel, providing greater power than the conventional model. The panels are suitable for Seattle's relative lack of annual sunshine days while providing 40,000 kW of power per year. The baseball audience can see the total amount of power generated by the solar power system on the monitor display installed in the stadium. This project is a part of Mariners' commitment to sustainability.



Installed solar panels

Environmental education for children in Hawaii

From February 27 to March 2 in 2012, SANYO North America (SNA) offered environmental education programs concerning energy creation and storage for 237 children in six different schools in Oahu and Maui, Hawaii. To date, SNA has provided environmental education to over 1,500 children in Hawaii to inspire them to become the next generation of leaders who will create a more sustainable future.



Environmental education in Honolulu

Latin America

'eco ideas' Declaration in Latin America

Panasonic Corporation of Latin America announced its 'eco ideas' Declaration in April 2010. The Declaration included expanding sales of superior green products that boast the industry's top level of environmental performance, CO₂ emission reduction in production activities, and environmental conservation activities working together with local communities. The company aims to further accelerate its environmental contributions.

■ Targets of 'eco ideas' Declaration in Latin America

Items	Fiscal 2013 targets
'eco ideas' for Lifestyles	(1) Double the sales composition of products with industry-leading environmental performance (compared with fiscal 2010)
'eco ideas' for Business-styles	(1) Reduce total CO ₂ emissions from production activities by 10% (compared with fiscal 2006) (2) Develop an 'eco ideas' Factory in Latin America by fiscal 2012 (3) Contribute to local communities by taking initiatives in driving environmental activities together with communities

Launch of Green House field trial in Mexico

Panasonic Mexico conducted the Green House project* in Mexicali, Baja California, in northwest Mexico from October 2011 to February 2012. The project was to study the energy conservation achievement in a green house installed with energy generation and energy saving devices. Immediately after installation of the devices, the energy consumption of the house was reduced by 40%. The project is expected to continue to achieve a 50% reduction in the total annual power consumption.

Based on this field trial, Panasonic continues its efforts in environmental contribution to Mexican society.

* This Green House project was commissioned by the Ministry of the Environment and Global Environment Centre Foundation in Japan under the New Mechanism Feasibility Study for Improved Household Energy Efficiency through Introduction of Low-CO₂ Houses and Promotion of Energy-Efficient Appliances in Mexico.



Opening ceremony of the Green House

Environmental education in Brazil

In September 2011, Panasonic Brazil conducted environmental education for children for the second time in Brazil.

Led by the Panasonic Brazil Manus Factory, our employees gave an environmental lecture about global warming using a unique environmental program at a retail store in Manus. The lecture was followed by a hands-on experience session assembling a hybrid car using components discarded as waste from the factory. Not only children but their parents and customers at the store all joined in the activity and learned about the environment and enjoyed themselves.



Environmental education at a factory in Manus

Global Eco Projects

Russia

'eco ideas' Declaration in Russia

In November 2010, Panasonic Russia (PRA) announced its midterm environmental targets as the 'eco ideas' Declaration in Moscow, Russia.

■ Targets of 'eco ideas' Declaration in Russia

Items	Fiscal 2013 targets
'eco ideas' for Lifestyles	(1) Increase sales ratio of Superior GPs to 30% (2) Strengthen eco-themed promotional activities at showrooms
'eco ideas' for Business-styles	(1) Shift 50% of products originating from the Asia region to transportation modes/routes with less environmental impact (2) Provide eco learning activities for the next generation in Russia (3) Actively participate in eco activities of the Sochi 2014 Winter Olympic Games Organizing Committee (4) Designate an Environment Day twice a year for employees to participate in volunteer environmental activities

Promoting next-generation environmental awareness at the Russian Seliger Forum

PRA promoted environmental awareness for the next generation at the Seliger Forum, an educational forum for young people, hosted by the Russian Federal Agency for Youth.

Panasonic actively participated in the Forum as the first main partner for Eco Week, newly established in the Forum in July 2011. Our employees ran seminars and we led all participants in cleaning up the woodland near the venue. We also awarded prizes for the best environmental projects submitted by the Forum participants.

Further, Panasonic offered help with the broadcasting equipment and in organizing seminars during the Forum. We will continue to provide support to the award-winning projects to help them achieve their goals.



First main partner in Eco Week

Eco activities across the continent on World Environment Day

Employees of Panasonic Marketing CIS, together with family members, conducted various eco activities on June 5, World Environment Day.

In Russia, we led tree planting, cleaning, and forest management in 17 locations. At the suggestion of employees, the money usually spent for snacks and recreation on the day was saved and donated to relief work for the Great East Japan Earthquake.

In Kazakhstan, we organized tree planting and a kick-off ceremony for the Eco Picture Diary Contest at a school for children with disabilities.



Kick-off ceremony in Kazakhstan

Middle East & Africa

'eco ideas' Declaration in Middle East & Africa

Panasonic Marketing Middle East Africa (PMMAF) announced the 'eco ideas' Declaration in Middle East & Africa in October 2010.

■ Targets of 'eco ideas' Declaration in Middle East & Africa

Items	Fiscal 2013 targets
'eco ideas' for Lifestyles	(1) Double the regional sales of Panasonic Superior GPs (compared with FY2010) (2) Provide environmental education to 100,000 visitors to our showrooms
'eco ideas' for Business-styles	(1) Reduce CO ₂ emissions from PMMAF premises by 15% (compared with fiscal 2010) (2) Obtain LEED and ISO 14001 certification for PMMAF premises (3) Conduct Earth Lunch Hour once every month attended by all PMMAF employees (4) Education for next-generation with the UAE Ministry of Education. Also promote the eco picture diary activity (5) Provide scholarships for graduate students under the Environmental Science Bachelor Degree Program of Abu Dhabi University (6) Participate in WWF Lake Victoria Catchment Environmental Education Programme as an exclusive sponsor

Launch of Eco Friendly Customer Care Center in the United Arab Emirates

Working together with one of our agencies, PMMAF opened an eco-friendly Customer Care Center in a showroom in Dubai, United Arab Emirates, in April 2011. The Center is a major service site offering a full range of eco-friendly approaches in both product sales and after-sales services. The Center is equipped with various eco-friendly products, including air conditioners with ECONAVI functionality, and solar-powered LED lighting. Positioning the Center as our first step in implementing the region's 'eco ideas' Declaration, we continue promoting environmental awareness among customers through our business practices.



Opening event

Life Innovation Container Donated to Village in Tanzania

In October 2011, Panasonic donated a Life Innovation Container, a stand-alone power system equipped with solar panels and rechargeable batteries, to Millennium Promise, an NPO dedicated to ending extreme poverty and working towards the achievement of the United Nations Millennium Development Goals. The container was developed to deliver electricity to areas without access to electricity throughout the globe and thus contribute to a better standard of living and the creation of a sustainable society. The container was set up near the elementary school of the Millennium Village of Mbola, Tanzania, and the power generated by the container is used for audiovisual education for children and also for mobile phone charging business.

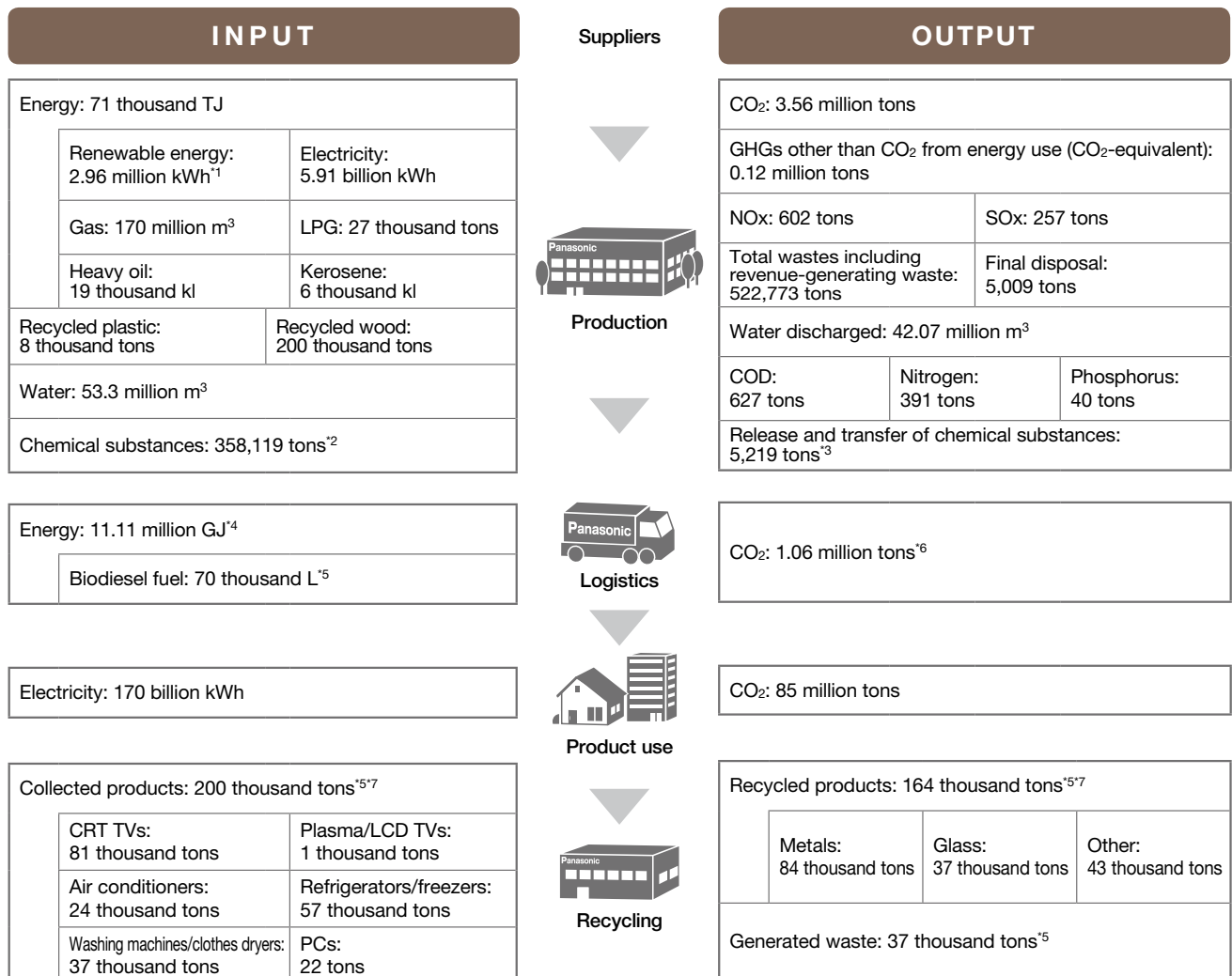


Ribbon-cutting ceremony

Overview of Environmental Impact from Business Operation

In order to mainly manufacture and market electrical and electronic products, Panasonic consumes petroleum and electricity as energy sources and resources as raw materials of parts and components. As a result, we emit

CO₂ and wastes to the environment. This diagram maps the environmental impact from our business operation from a procurement stage to recycling activities.



Scope: Global

Production: 328 manufacturing sites

Logistics: Logistics stage of procurement, production, marketing and waste by partner companies and Panasonic.

Product use: Lifetime power consumption (a) of major products⁸ with large amounts of energy use and CO₂ emissions (b) associated therewith.
a = Annual power consumption of a model sold⁹ x Sales quantity x product life¹⁰
b = Annual power consumption of a model sold⁹ x Sales quantity x product life¹⁰ x CO₂ emission factor¹¹

Recycling: Recycling of products means to use by oneself or to make into a state available for sale or free of charge the components and materials of a separated product.

*1 Figures from photovoltaic and biomass sources. Heat pumps not included.

*2 Overseas sites of former SANYO Electric not included. Object substances are based on the Panasonic Chemical Substances Management Rank Guidelines (Version 4), including the substances in the Pollutant Release and Transfer Registers.

*3 Release amount: Includes emission to air, public water areas, and soil. Transfer amount: Includes transfer as waste and discharge into the sewage system. Recycling that is free of charge or recycling where Panasonic pays a fee for treatment under the Waste Management Law is included in "Transfer." (Different from the transferred amount reported under the PRTR Law.)

*4 Intra-region outside Japan not included. Former SANYO Electric not included in international transportation. The area and products surveyed in international transportation have been expanded since fiscal 2012.

*5 Figures for Japan.

*6 Former SANYO Electric is not included in the intra-region outside of Japan and international transportation. The area and products surveyed in international transportation have been expanded since fiscal 2012.

*7 Air conditioners, TVs, refrigerators/freezers, washing machines/clothes dryers, and PCs.

*8 Household air conditioners, commercial air conditioners, household fluorescent/silica lamps, LED lamps, refrigerators, EcoCute, LCD TVs, plasma TVs, IH cooking heaters, dish washer and dryers, bathroom ventilator-driers, dehumidifiers, extractor fans, washing/drying machines, fully-automatic washing machines, electronic rice cookers, microwave ovens, warm-water bidets, irons, hair dryers, air purifiers, under-rug heaters, vacuum cleaners, BD recorders, electric thermal pots, clothes dryers, extractor hoods, cooling fans, household facsimiles, telephones, etc.

*9 For each product category, the model that was sold in the largest quantity in the region was selected.

*10 Number of years during which spare parts for the product are available (defined by Panasonic).

*11 Regional CO₂ emission factors (kg-CO₂/kWh) used: 0.410 (Japan); 0.487 (Europe); 0.579 (North America); 0.740 (China); 0.927 (India); 0.527 (Asia Pacific, Northeast Asia); 0.332 (Latin America); 0.327 (other regions).

Environmental Governance

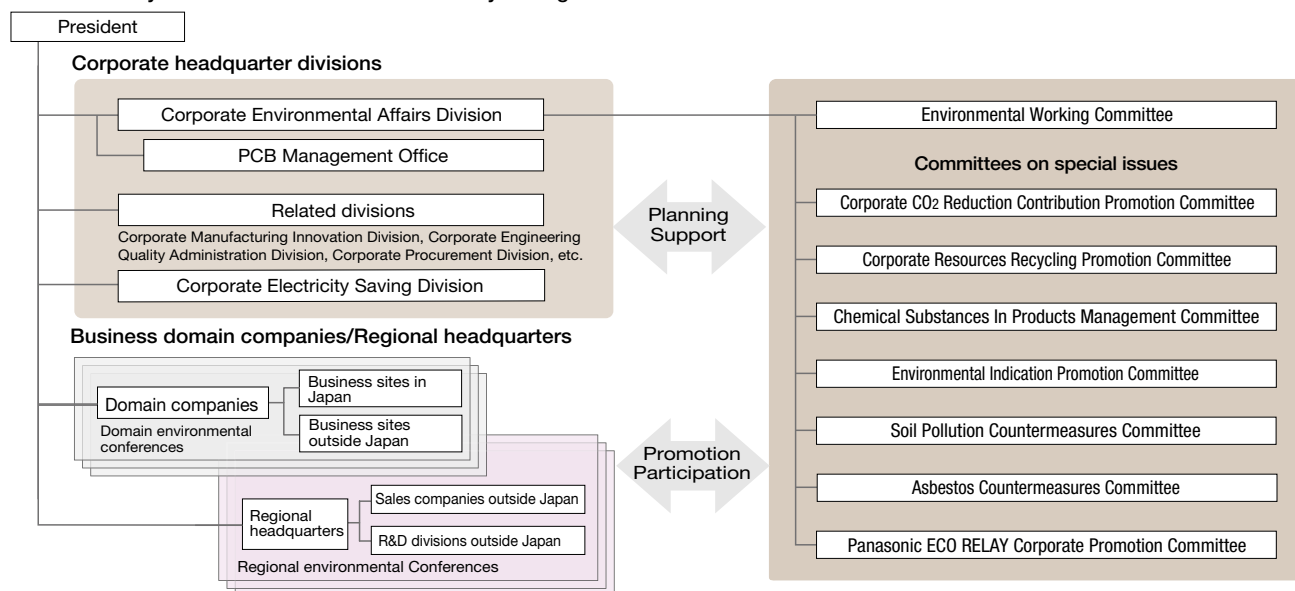
Management and promotion system

Panasonic establishes its annual environmental policy based on overall Management Policy and Green Plan 2018. This policy is then thoroughly notified corporate-wide through the Environmental Working Committee, which is led by the director in charge of environmental affairs and consists of environmental compliance administrators from business domain companies and regional headquarters. The environmental performance data resulting from each activity is collected monthly (or annually) per business site in order to determine the progress being made, and additional measures are introduced as necessary. The annual performance data is disclosed after a third-party review, and comments made by stakeholders are utilized to improve the policy and its measures. As a means of performance data assessment, the size of contribution in reducing CO₂ emissions and resources recycling are used as the key management indicators, along with the amount of sales and operating profits. In particular, CO₂ emissions reduction is linked to the business performance evaluations of business domain companies.

In addition to the Environmental Working Committee, dedicated committees for corporate-wide key issues are set up with working groups composed of major domain companies and experts. Specifically, the Corporate CO₂ Reduction Contribution Promotion Committee and the Corporate Resources Recycling Promotion Committee are established to propel related activities company-wide.

In July 2011, the Corporate Electricity Saving Division that bridges different departments and offices was newly established. The Division is responsible for centrally and efficiently managing adaptation to changes in power supply conditions in Japan after the Great East Japan Earthquake, and will accelerate productivity improvements and management structure reinforcement through energy conservation.

Promotion system of environmental sustainability management in fiscal 2013



Environmental Accounting

For environmental sustainability management

Environmental accounting for fiscal 2012

(million yen)

Classification by the Ministry of the Environment of Japan	Investments*1	Expenses*1+2	Economic benefit
R&D	5,779	24,917	—
Global environmental conservation	5,652	1,661	4,835
Pollution prevention	1,882	4,290	—
Resources recycling	667	8,144	26,730
Upstream and downstream	696	3,136	2,596
Administration	86	5,339	—
Environmental remediation	176	801	—
Social activity	0	61	—
Total	14,938	48,348	34,161

*1 Where an entire amount of investment and expenses cannot be regarded as environmental conservation costs alone, the difference or appropriate portions (divided proportionally) are calculated. *2 Expenses include a cost of capital investment depreciation.

Environmental conservation benefits for fiscal 2012 (in physical terms)

Categories	Emission reduction	Reference indicator: environmental impact	
		Fiscal 2011	Fiscal 2012
CO ₂ emissions from the use of our products	6 million tons	91 million tons	85 million tons
CO ₂ emissions from production activities	0.44 million tons	4 million tons	3.56 million tons
GHG emissions (other than CO ₂)	0.02 million tons	0.14 million tons	0.12 million tons
Human Environmental Impact*3	53,000 counts	1,008,000 counts	955,000 counts
Final disposal of waste	8,100 tons	13,100 tons	5,000 tons
Water consumption	7 million m ³	60 million m ³	53 million m ³
CO ₂ emissions from transportation activities*4	-0.19 million tons*5	0.87 million tons	1.06 million tons

*3 Overseas sites of former SANYO Electric not included. See page 26 for definition of the Human Environmental Impact. *4 Former SANYO Electric is not included in the intra-region outside of Japan and international transportation. *5 The area and products surveyed in international transportation have been expanded since fiscal 2012.

Economic effects for customers for fiscal 2012

Electricity cost reduction from product usage (global)		
	Reduced amount of electricity*6	70 billion kWh
	Reduced electricity costs*7	980 billion yen

*6 Calculated under the same conditions as when determining the size of contribution in reducing CO₂ emissions through energy-saving products (see page 11). *7 Electricity costs were set for each region based on IEA Statistics.

Systems Supporting Environmental Activities

Environmental Management Systems (EMS)

As the foundation of environmental sustainability management, Panasonic established EMS in all of our manufacturing sites across the world in fiscal 1999, and has continued to have the sites ISO14001 certified since then.

In order to further reinforce those efforts, we have set a basic policy to establish Environmental Management Systems in all our sites—both manufacturing and non-manufacturing—across the world, and to have all these sites ISO14001-certified in principle. In October 2011, we published the Environmental Management System Establishment Guidelines, which summarizes EMS concepts for different business forms such as production, sales/services, and head office tasks.

■ Obtainment of ISO 14001 certification (As of end of March 2012)

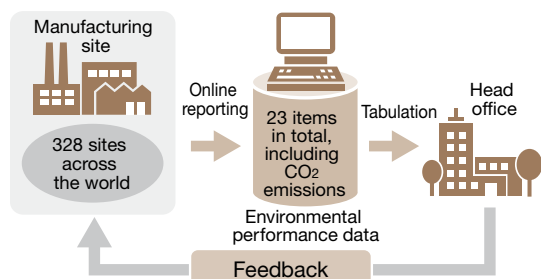
Region	Number of certifications obtained ^{*1}		Total
	Manufacturing	Non-manufacturing	
Japan	33	22	55
Americas	14	3	17
Europe/Africa	14	1	15
Asia Pacific	49	11	60
China/Northeast Asia	61	3	64
Total	171	40	211

^{*1} Including multi-site certifications. Depending on the consolidation and closure of sites and promotion of multi-site certifications, the number of certifications obtained varies each year.

Environmental information systems

In order to implement the PDCA cycle for environmental sustainability management, it is essential to collect a significant amount of environmental performance data on energy, waste, chemical substances, and water etc. at each business site in a prompt and accurate manner. Panasonic has developed and introduced an Environmental Performance System as a means of globally collecting and managing environmental data from all our manufacturing sites. With this system, progress of initiatives are checked and issues are identified to help achieve our targets.

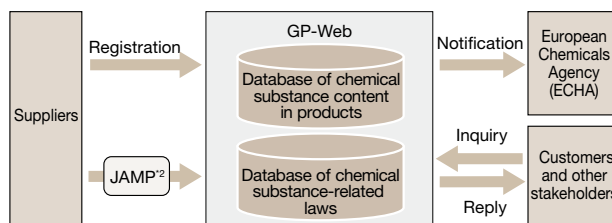
■ Operation of the environmental performance system



Panasonic has developed and implements its own chemical substance management system, GP-Web, which is compatible with industry standards for information disclosure in this area. Through this system, we gather information from about 10,000 suppliers of components and materials for our

products, both inside and outside Japan, concerning the chemical substances used. Additionally, in order to reinforce the foundations of environmental sustainability management, we are also working on developing a system to measure the size of contribution in reducing CO₂ emissions through products and the status of recycled resource usage.

■ Conceptual diagram of the GP-Web system



^{*2} Joint Article Management Promotion Consortium.

Measures against Environmental Risks

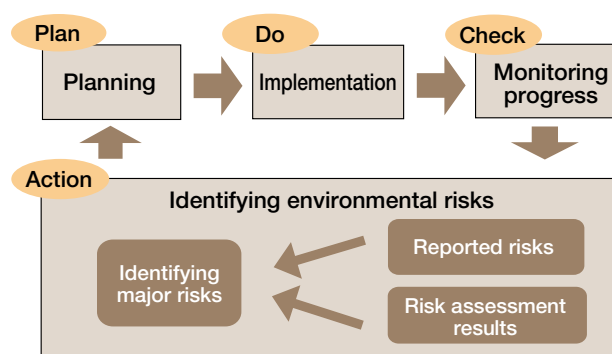
Company-wide systems to manage environmental risks

As a tool to continuously reduce environmental risks, Panasonic has established an Environmental Risk Management System specific to each business domain company and promotes (1) regular identification of environmental risks and company-wide management and (2) ensuring quick responses to reported environmental risks.

To identify environmental risks and implement the management system, the environmental risks that need to be managed are first determined based on the actual environmental risks reported from business domain companies and risk assessment results conducted across the entire company. These risks are then classified according to their occurrence frequencies and the degree of impact on business. Risks classified as major and thus require strict control are subject to, the PDCA approach, where countermeasures are established and implemented, and progress is checked and ensured.

If any environmental risk is reported, we work to promptly carry out emergency measures and countermeasures that meet the seriousness of the risk.

■ Classification of environmental risks and countermeasure implementation



Environmental compliance management at factories

Panasonic regularly measures emissions of gas, wastewater, noise, etc., and introduces preventative measures for cases that may lead to serious violations. Such information is shared both internally and externally to fulfill our corporate responsibility for information disclosure.

In fiscal 2012, there were two cases of legal violation in Japan and one outside Japan. In response, we made the necessary notifications to local governments and implemented countermeasures.

■ Cases of violation for fiscal 2012 (exceedance of legal standard level, etc)

Region	Air	Water quality	Noise	Odor	Waste	Total
Global	1	0	1	0	1	3
Japan	0	0	1	0	1	2

Managing waste management risks

Inappropriate disposal of waste can cause environmental problems, as well as inconvenience and concerns to the public. To address such situations, Panasonic utilizes, particularly in sites outside Japan, a waste checklist that is specifically tailored for its Japanese sites as standards for managing factory waste and selecting waste disposal operators. This checklist is first used to prepare in cooperation with a local expert a country-specific checklist based on the legislation of each relevant country, and then implemented. The Panasonic Group is also directing efforts in training in-house waste management experts by holding regular training sessions in Asian and European countries.

Initiatives for PCB pollution

Panasonic discontinued the production of equipment containing polychlorinated biphenyls (PCBs) in Japan in 1972 and has since been strictly managing its PCB waste. We are storing and making necessary notifications about such materials in compliance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Waste, which was enforced in Japan in July 2001. As for the PCB-containing capacitors buried at five of our factories which we voluntarily made public in January 2003, we have completed excavations. We also completed full scale treatment of the contaminated soil by commissioning it to Geosteam Corp., which has PCB contaminated soil purification facilities in Kitakyushu. By the end of June 2011, approx. 17,400 tons of contaminated soil have been transported to and treated at the facilities. We will continue to treat PCB waste in a prompt manner.

■ Numbers of PCB-containing items registered with JESCO* and those already decontaminated (as of March 31, 2012)

Type of waste	Registered with JESCO	Already decontaminated
Transformers, capacitors, etc	2,281 devices	1,508 devices
PCB and PCB-containing oil	about 4,700 kg	—

* Japan Environmental Safety Corporation (company engaged in PCB waste treatment).

Measures against soil and groundwater contamination

In the latter half of the 1980s, soil and groundwater contamination due to chlorinated organic solvents was detected at some of Panasonic's sites. In response, we have conducted anti-contamination activities across the company. In fiscal 2003 we began enhancing our surveys and measures to comply with relevant laws and regulations, including the Soil Contamination Countermeasures Act, which was enforced in Japan in 2003, and in fiscal 2004 started implementing measures to place all our bases across the globe under Panasonic's management supervision with regard to soil and groundwater.

Specifically, we conduct onsite inspections and interviews at the bases, in addition to surveying their use of VOCs and heavy metals. Furthermore, we implement surface soil surveys within the premises. For the sites where contamination was detected beyond the regulatory pollution standards, we conduct detailed borehole surveys to identify the boundaries of the contaminated areas and take remedial measures.

As a result of these efforts, we were able to place all our manufacturing and non-manufacturing sites in Japan under Panasonic's management supervision with regard to this issue in fiscal 2004, and also those outside Japan in fiscal 2006. Subsequently, Panasonic Electric Works and PanaHome joined our Group and in fiscal 2009 we again placed all our bases under management supervision. In fiscal 2011, the management supervision scheme was purpose-specifically reorganized and reinforced to establish a new management supervision scheme. With the highest priority given to preventing dispersion of pollution beyond our premises, this new scheme is implemented across all operating sites including SANYO Electric to further improve the risk management skills.

■ Soil and groundwater risk management policy

Conditions subject to management supervision	Procedure
Pollution dispersion prevention beyond Panasonic premises	<ol style="list-style-type: none"> 1. Conduct historical surveys 2. Determine and install monitoring wells at the premises' borders 3. Analyze groundwater at the borders 4. Check possibility of pollution from external sources 5. Report to management department 6. Determine the external pollution dispersion prevention methods 7. Install the external pollution dispersion prevention methods 8. Install assessment wells 9. Begin assessments (monitoring)
Thorough pollution source elimination	<ol style="list-style-type: none"> 10. Conduct brief status check 11-1. Horizontal direction detailed analysis 11-2. Vertical direction detailed analysis 12. Determine the magnitude of pollution 13. Discuss the areas and methods of purification 14. Conduct purification and install pollution dispersion prevention measures 15. Monitor pollution source (groundwater) after purification 16. Report purification completion to management department

■ Soil and groundwater pollution surveys and remedial measures for fiscal 2012

	Number of sites that completed remedial measures	Number of sites currently taking remedial measures
Global	10	56
Japan	8	50



Independent Assurance Report

To the Board of Directors of Panasonic Corporation

Purpose and Scope

We were engaged by Panasonic Corporation (the "Company") to provide limited assurance on its 'eco ideas' Report 2012 posted in the Company's website (http://panasonic.net/eco/env_data/back_number/pdf/panasonic_eiR2012e.pdf) (the "Report") for the fiscal year ended March 31, 2012. The purpose of our assurance engagement was to express our conclusion, based on our assurance procedures, on whether:

- 1) the environmental indicators listed in the table below, selected from "Green Plan 2018" indicators and other environmental indicators included in the Report, for the period from April 1, 2011 to March 31, 2012 (the "Indicators") are prepared, in all material respects, in accordance with the Company's reporting criteria; and
- 2) all the material environmental information defined by the Japanese Association of Assurance Organizations for Sustainability Information ("J-SUS") is included in the Report.

The content of the Report is the responsibility of the Company's management. Our responsibility is to carry out limited assurance engagement and to express our conclusion based on the work performed.

Table: The Indicators subject to independent assurance and corresponding page number in the Report

Indicators	Page No.	Indicators	Page No.
Percentage of sales for No.1 eco-conscious products	9	CO ₂ emissions from non-manufacturing sites	17
Size of contribution in reducing CO ₂ emissions through energy-creating products	12	Recycled resources used./Total resources used	19
Size of contribution in reducing CO ₂ emissions through energy-saving products	13	Waste recycling rate	23
Size of contribution in reducing CO ₂ emissions through production activities	15	Total wastes	23
CO ₂ emissions in production activities	15	Amount of water consumption	24
Emissions of GHGs other than CO ₂ from energy use in production activities	16	Human Environmental Impact	26
Year-on-year reduction rate of CO ₂ emissions per basic unit from international and domestic transportation	18	Result of environmental education and tree planting (environmental education)	28
		Result of environmental education and tree planting (tree planting)	28

Criteria

The Company applies its own reporting criteria as described in the page 42 and 43 of the Report. We used these criteria to evaluate the Indicators. For the completeness of material environmental information, we used the 'Criteria for Granting an Environmental Report Assurance and Registration Symbol' of J-SUS.

Procedures Performed

We conducted our engagement in accordance with 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information' issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines of Sustainability Information Assurance' of J-SUS. The limited assurance engagement on the Report consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviews with the Company's responsible personnel to obtain an understanding of its policy for the preparation of the Report.
- Reviews of the Company's reporting criteria.
- Inquiries about the design of the systems and methods used to collect and process the Indicators.
- Analytical reviews of the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and also a recalculation of the Indicators.
- Visits to factories and administrative offices of the Company and its affiliates selected on the basis of a risk analysis.
- Assessment of whether or not all the material environmental information defined by J-SUS is included in the Report.
- Evaluating the overall statement in which the Indicators are expressed.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that:

- 1) the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Report; and
- 2) all the material environmental information defined by J-SUS is not included in the Report.

We have no conflict of interest relationships with the Company that are specified in the Code of Ethics of J-SUS.

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Osaka, Japan
July 20th, 2012



On-site review at Panasonic Appliances Refrigeration Devices Singapore Co., Ltd.



On-site review at Panasonic Manufacturing Malaysia Bhd.

Outline of on-site review

- Period: From March to April in 2012
- Sites: Seven sites



This J-SUS imprint indicates that the environmental information contained in the 'eco ideas' Report satisfies the applicable provision of the code of the Japanese Association of Assurance Organizations for Sustainability Information.

► <http://j-sus.org/english.html>

Standards for Calculating Environmental Performance Indicators

■Reporting period

April 1, 2011 - March 31, 2012

■Scope of this report

Product-related: All products developed during the reporting period.

Factory-related: Manufacturing sites in and outside Japan that have established Environmental Management Systems.

Others: Scope according to individual initiatives.

■Environmental Performance Indicators

Item	Indicator	Calculation method
Reducing CO ₂ Emissions	Size of contribution in reducing CO ₂ emissions through energy-creating products	Solar panel: Size of contribution in reducing CO ₂ emissions = (Total power-generating capacity of panels shipped during the current fiscal year (kW) - Total power-generating capacity of panels shipped in FY2006 (kW)) x 20 (years) x Power generation of model per unit (1,193 kWh/kW) x CO ₂ emission factor (0.3145 kg-CO ₂ /kWh) Fuel cell: Size of contribution in reducing CO ₂ emissions = Power generation of the current fiscal year model per unit (1,143.9 kWh/year) x 10 (years) x Total shipping quantity of the current fiscal year x CO ₂ emission factor (0.410 kg-CO ₂ /kWh)
	Size of contribution in reducing CO ₂ emissions through energy-saving products	Size of contribution in reducing CO ₂ emissions = (Annual power consumption of FY2006 base model - Annual power consumption of the current fiscal year model) x Product life x Shipping quantity of the current fiscal year x CO ₂ emission factor CO ₂ emission factor: The value is 0.410 (kg-CO ₂ /kWh) for Japan. For outside Japan, a representative country in each region is selected, and the corresponding numerical values for respective countries listed in the Calculation Tools on the GHG Protocol website by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) are used.
	Size of contribution in reducing CO ₂ emissions through production activities	(FY2006 CO ₂ emissions per basic unit - CO ₂ emissions per basic unit of the current fiscal year) x Production of the current fiscal year
	CO ₂ emissions with the use of fuel	Used CO ₂ emission factors provided in the Guideline for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment.
	CO ₂ emission factor for purchased electricity	<Japan> CO ₂ emission factor for electricity purchased every fiscal year in Japan is fixed at 0.410 (kg-CO ₂ /kWh). <Outside Japan> Used numerical values for respective countries listed in the Calculation Tools in the GHG Protocol website by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI). The 2002 numerical values listed in the "Electricity-Heat SteamPurchase_tool1.0_final" are used as fixed values for all fiscal years.
	CO ₂ emissions per basic unit in production activities	<Global> Calculated with the weighted average of the improvement rate for CO ₂ emissions per basic unit of nominal production (= CO ₂ emissions / nominal production) for each factory. The amount of CO ₂ emissions for each factory based on the assumption that there was no improvement is used for weighting.
	Emissions of GHGs other than CO ₂ in production activities	Emissions of each gas were converted into CO ₂ emissions using the Global Warming Potentials specified in the Second Assessment Report (1995) of the Intergovernmental Panel on Climate Change (IPCC).
	CO ₂ emissions from non-manufacturing sites	Used 0.410 (kg-CO ₂ /kWh) as the CO ₂ emission factor for purchased electricity. As for CO ₂ emission factors of fuels, CO ₂ emission factors provided in the Guideline for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment. For sites that were included into the scope this fiscal year, figures of the past years are retroactively added under the assumption of reduction by 2% per annum.
	Energy consumption in transportation	Applied the concept specified in the Energy Conservation Law Guidebook for Consigners edited by the Agency for Natural Resources and Energy, Japan. (Applicable scope: transportation during which cargo is owned by the Panasonic Group) Energy consumption in international logistics is also tabulated by adopting the concept specified in the guidebook.
	CO ₂ emissions in transportation	Based on the energy consumption and other data calculated in the process specified above, the corresponding value was calculated in accordance with the Guideline for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment.
	Year-on-year reduction rate of CO ₂ emissions in transportation per basic unit	$1 - (\text{CO}_2 \text{ emissions of the current fiscal year} / \text{Weight of products (components) transported during the current fiscal year}) / (\text{CO}_2 \text{ emissions of the previous fiscal year} / \text{Weight of products (components) transported during the previous fiscal year})$
Resources Recycling	Total resources used	Amount of resources directly used in production activities of a product. Total resources used is calculated in the following two methods: (1) Method of calculating by identifying the amount of purchased materials (including sub-materials). (2) Method of calculating by identifying amount of: shipped products + sub-materials + waste*. *The figure used for amount of waste is that disclosed in the 'eco ideas' Report 2012 as waste or valuable items.
	Total recycled resources used	Sum of both intentionally and socially recycled resources - Intentionally recycled resources: Refer to: recycled resource materials where Panasonic independently manages the cycle of generation, collection, and recycling; recycled resource materials where Panasonic intentionally specifies and procures the resources; and biological materials such as controlled wood/bamboo and plant-oriented materials. - Socially recycled resources: Refer to: resources where its recycling system is generally present in the society regardless of Panasonic's intentions, for instance metals, paper and cardboards. For the purpose of calculation, the concentration of each recycled resources material is set according to a unique investigation by Panasonic.
	Total recycled resources used / Total resources used	Refers to the ratio of the total recycled resources used to the total resources used. *Calculated based on the same calculation standards during the midterm business plan GT12 period, for which fiscal 2013 is set as the target fiscal year.
	Recycled amount of four kinds of home appliances	Applies to the recycling defined in the Home Appliance Recycling Law in Japan, and refers to the weight of components and materials of separated products which can be used by oneself, or made into a state available for sale or free of charge.
	Amount of collected products subject to the EU WEEE Directive	Weight of collected products per collection system x Panasonic's weight-based share of products put on the market within the applicable collection system.

Standards for Calculating Environmental Performance Indicators

Item	Indicator	Calculation method
Resources Recycling	Amount of waste electronic equipment collected in the USA	Amount of equipment collected in accordance with state laws and through voluntary measures.
	Amount of total wastes including revenue-generating waste from factories	Total amount of generated industrial and general waste and revenue-generating waste.
	Revenue-generating waste	Waste that can be sold to recycling or disposal companies for profit.
	Recycling rate of total wastes including revenue-generating waste from factories	Amount of resources recycled / (Amount of resources recycled + Amount of final disposal) (The recycled amount does not include thermal recycling. The final disposal amount takes account of residue left after incineration).
Water	Amount of water consumption in production activities	Total water consumed for production (total amount of consumed municipal water, industrial water, river/lake water, and groundwater).
Chemical Substances	Substances subject to calculation of Human Environmental Impact from factories	Chemical substances specified in the Chemical Substances Management Rank Guidelines Ver. 4.
	Human Environmental Impact	Human Environmental Impact = Hazard factor* x (Amount of covered substances released + Amount of covered substances transferred) *Hazard factors: Given by Panasonic, after classification according to the impact on human health and the environment. Factors are set as A: 10,000, B: 1,000, C: 100, D: 10, and E:1, according to the hazardous level. - Emission amount of covered substances: Includes emissions to the atmosphere, public waters, and soil. - Transfer amount of covered substances: Includes transfer as waste and discharge to the sewage system (not including those recycled free of charge or charged under the Waste Management and Public Cleansing Law).
No.1 eco-conscious products	Eco-conscious Products	The basic concept is given below. Details are specified in the FY2012 Panasonic Group Green Product (GP) certification criteria. Meets at least one of the following requirements of (1) to (6): 1. Global warming prevention: The product is superior to former models and comparative evaluations with competitors' models showed that the product is ranked in the industry's top 30% (Energy-creating devices such as solar panels and fuel cells are considered as GP). 2. Chemical substance management: A is a mandatory criterion; product must meet any of the requirements of B to E; and B to E must have appealing points. A. PVC resin substitution has been completed for the internal wiring of all products for markets both in and outside Japan (excluding exempted products). B. PVC substitution for items other than internal wiring (only products that used PVC in FY2006). C. Substitution of components/materials that are exempted in the RoHS Directive and specified in the Chemical Substances Management Rank Guidelines (e.g. mercury-free back lights). D. Substitution of unspecified brominated flame retardants (only products that used PVC in FY2006). (e.g. Housings/cabinets and printed circuit boards of set products) E. Non-use of chemicals subject to authorization selected from SVHCs under the REACH Regulation (e.g. phthalates). 3. Efficient use of resources: Must Meet any of the following criteria A to D. C to D must have appealing points. A. Product mass is ranked in the industry's top 30% (Batteries may be evaluated by mass/volume). B. Volume of consumable material resources (e.g. detergent) is ranked in the industry's top 30%. C. Intentionally uses any one of the following: recycled resources or reused parts such as recycled metal, recycled glass, and recycled plastics; plant-oriented resin; or biological resources (bamboo, etc.), use of only one is acceptable. D. Reduction of rare metal use from the previous model (METI-specified 31 metal types). 4. Water: Water consumption is ranked in the industry's top 30% (e.g. Washing machines with little water consumption). 5. Biodiversity: Must have socially-accepted and reasonable grounds regarding the following: Products that are conscious of "Species Conservation," "Gene Conservation," and "Ecosystems Conservation." 6. Other: Must reduce the environmental impact that is difficult to evaluate in the above features 1 to 5, and is superior to products by competitors (Products such as NOx-removing equipment. Certified only at the time of business launch).
	Number of Superior GP models	Eco-conscious products that also satisfy the following Superior GP certification criteria: The product must have an environmental performance that can be externally claimed as being the industry's top within a designated period of time (most superior in the industry). If a popular zone is set, then make assessments within the zone.
	Percentage of sales for No. 1 eco-conscious products	Sales of Superior GP / Panasonic consolidated sales
Collaboration with Stakeholders	Number of environmental education program participants	Total number of participants of education programs provided at schools and through extracurricular activities, visits to showrooms and factories, eco picture diary programs, etc. (Cumulative figure from fiscal 2010)
	Number of trees planted	Total number of trees planted being linked to sales activities (campaign in FY2011: plant one tree for every ECONAVI product sold) and through tree planting initiatives on the company's premises and in local communities (Cumulative figure from fiscal 2008).
	CO ₂ emissions from suppliers	CO ₂ emissions of 84 suppliers in their production activities. As for fuels, CO ₂ emission factors provided in the Guideline for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment were used. CO ₂ emission factor for electricity purchased in Japan is fixed at 0.410 (kg-CO ₂ /kWh) for electricity purchased every fiscal year.
Management of Factory Environment	NOx emission amount	Total weight of nitrogen oxide emitted from smoke-generating facilities regulated by the Air Pollution Control Law (similar facilities outside Japan) calculated as NO ₂ .
	SOx emission amount	Total weight of sulfur oxide emitted from smoke-generating facilities regulated by the Air Pollution Control Law (similar facility outside Japan) calculated as SO ₂ .
	COD pollution load	Total weight of the chemical oxygen demand of waste water discharged from a business unit regulated by law, ordinance or agreement, to public waters.
	Nitrogen pollution load	Total weight of nitrogen in nitrogen oxide of waste water discharged from a business unit regulated by law, ordinance or agreement, to public waters.
	Phosphorous pollution load	Total weight of phosphorous in phosphorus compound of waste water discharged from a business unit regulated by law, ordinance or agreement, to public waters.

Awards and Honors

■ Major awards in the environmental field (Fiscal 2012)

* Company names are given as of the time of the award.

Category	Presenter and awards	Specific prize	Recipient company and details
Environmental sustainability management	Business Next, Taiwan Eco Brand Ranking	Super Green Brand Grand Award	Panasonic Taiwan Co., Ltd.
Products & services	Energy Conservation Center, Japan (sponsored by the Ministry of Economy, Trade and Industry, Japan) Energy Conservation Grand Prize 2011 (Products and Business Models category)	Minister's Prize of Ministry of Economy, Trade and Industry Excellent Power Saver	Panasonic Corporation, Appliances Company Magic VIN Vending Machine (Vending machine with power-reduction function during peak times)
		Director General's Prize of Agency for Natural Resources and Energy Prize (Product (Household) category)	Panasonic Corporation, Appliances Company Refrigerator with ECONAVI Functionality (Electric refrigerator)
		ECCJ Chairman's Prize	Panasonic Electric Works Co., Ltd. Akaluma LED Security Light (High-illumination lamp)
			Panasonic Corporation, Appliances Company Tilted-Drum Washing Machine with Eco Heat Pump Engine (Drum washing machine)
	U.S. Environmental Protection Agency (EPA) Energy Star Awards	Sustained Excellence Prize	Panasonic Home & Environment Company Continuous efforts in production of highly efficient household ventilation fans
Energy conservation activities	Energy Conservation Center, Japan (sponsored by the Ministry of Economy, Trade and Industry, Japan) Energy Conservation Grand Prize 2011 (Energy-Saving Activities category)	Minister's Prize of Ministry of Economy, Trade and Industry (CGO, Corporation, etc. category)	Panasonic Corporation Corporate-wide energy saving (CO ₂ emission reduction) activities to integrate environmental contribution and business growth
		ECCJ Chairman's Prize	Panasonic Corporation, Appliances Company Energy-saving manufacturing for air-conditioner heat exchangers
	Green IT Promotion Council (sponsored by the Ministry of Economy, Trade and Industry, Japan) Green IT Award 2011	Energy Conservation by IT category: Minister's Prize of Ministry of Economy, Trade and Industry	Panasonic Corporation (SANYO Electric Co., Ltd.) Efforts in energy conservation through IT coordinated control over energy creation, storage, and conservation devices Site-scale field trial in the Kasai Green Energy Park
	Nikkei Inc., Japan 21st Nikkei Global Environmental Technology Awards	Award of excellence	Panasonic Corporation (SANYO Electric Co., Ltd.) Site-scale field trial of efficient energy usage in the Kasai Green Energy Park
Logistics	Ministry of Economy, Trade and Industry, Japan 10th Excellent Green Logistics Commendation Program	Ministry of Economy, Trade and Industry Minister Award	Panasonic Corporation, Panasonic Logistics Co., Ltd. (Honored together with the Asahi Shimbun Company and ASAHI Industry Co., Ltd.)
	Ministry of the Environment, Japan Model Environmental Measure Commendation Program 2011	Ministry of the Environment Minister Award	Panasonic Logistics Co., Ltd.
Environmental Communication	Ministry of the Environment and Global Environmental Forum, Japan 15th Environmental Communication Awards	Prize of Excellence for Environmental Reporting (Minister of the Environment Prize)	Panasonic Corporation Panasonic Group 'eco ideas' Report 2011 & Sustainability Report 2011
	Dentsu Inc., Japan 64th Dentsu Advertising Award	Prize for Excellence in Newspaper Advertising (Industry Category)	Panasonic Corporation Panasonic household solar power system, "This size of solar panel generates power to run a TV and drives the future of energy."
		Prize for Excellence in Magazine Advertising (Serial Advertising Category)	Panasonic Corporation Environmental technology series including "Craftsmanship in Honey Storage."
		Prize for Excellence in TV Advertising (Home Equipment Category)	Panasonic Corporation EVOLTA, "Fifty-three stations on the Tokaido"
		Prize for Environmental Advertising	Panasonic Corporation Panasonic household solar power system (Newspaper)
	Fuji Sankei Business i., Japan 50th Business Advertisement Awards	Double-page advertisements: Silver Award	Panasonic Corporation Solar power technology, "Creating the Future of the Earth from Rooftops."
	The Nikkan Kogyo Shimbun, Ltd. Japan Industry Advertisement Awards	Newspaper: Category 1, 2nd prize Category 2, 1st prize	Panasonic Corporation "Cool Building." Panasonic Electric Works Co., Ltd. Power saving solution, "There is an energy saving method by adjusting the entire building."
		Newspaper serial advertising: Category 1, 2nd prize	Panasonic Corporation Power storage technology, "Always, as usual."
	Nikkei Business Daily, Japan 38th Nikkei Business Daily Advertising Awards	Nikkei Business Daily Advertising Award	Panasonic Corporation "Cool Building"
	Ministry of Economy, Trade and Industry 1st Career Education Award	Grand award	Panasonic Corporation Social and Environmental Learning Program, Eco Monogatari (Eco Story), an educational program for the next generation

■ Major honors in the environmental field (Fiscal 2012)

- Selected in the Dow Jones Sustainability Indexes World by Dow Jones & Company
- Selected in the FTSE4 Good Global Index Series by FTSE Group
- Awarded Gold Class distinction in the CSR category by SAM (Sustainable Asset Management)
- Ranked 10th in Best Global Green Brands 2011 by Interbrand
- Ranked 1st in the Manufacturer category of 15th Nikkei Environmental Management Survey
- Selected for the Global 500 Carbon Disclosure Leadership Index by the Carbon Disclosure Project
- Ranked 4th in the 12th Environmental Brand Survey by Nikkei BP Eco Management Forum

History of Environmental Activities

As of March 31, 2012

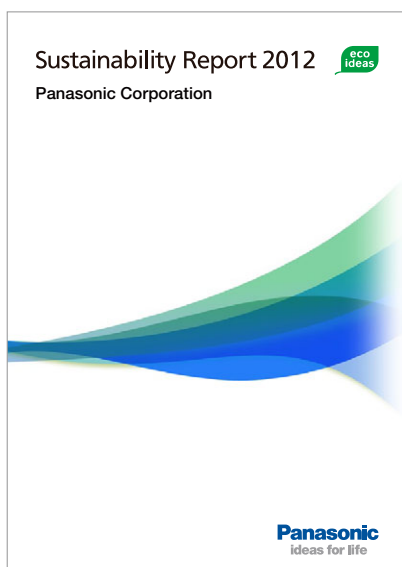
Era	Panasonic Group	World	Japan
1980s	1970 •Pollution Survey Committee established 1972 •Environmental Management Office established 1975 •Environmental Management Regulations enacted 1988 •CFC-reduction Committee established 1989 •Environmental Protection Promotion Office established	1972 •U.N. Conference on Human Environment held in Stockholm (Declaration of Human Environment adopted) 1973 •First oil shock occurred 1979 •Second oil shock occurred 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	1970 •Water Pollution Control Law enacted •Waste Disposal and Public Cleansing Law enacted 1971 •Environment Agency established 1979 •Energy Conservation Law enacted 1988 •Ozone Layer Protection Law enacted
1990s	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		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 •COP3 held in Kyoto and adopted the Kyoto Protocol	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 •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
2000s	1999 •Green Procurement launched •Chemical Substances Management Rank Guidelines established •Acquired ISO14001 Certification in all manufacturing business units		1999 •PRTR (Pollutant Release and Transfer Register) Law enacted
	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 and Freiburg, Germany •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 Tokyo opened	2002 •Johannesburg Summit (Rio+10) held	2002 •Kyoto Protocol ratified •Vehicle Recycling Law enacted •Law for Countermeasures against Soil Pollution enacted
	2003 •Declared 'Coexistence with the Global Environment' 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 •Super GP Accreditation System launched •Achieved zero waste emissions in Japanese manufacturing business sites (ongoing program) •Held Environmental Forum in Tokyo	2003 •EU's WEEE Directive was enacted	
	2004 •Environmental Vision and Green Plan 2010 revised •PCB Management Office established •Superior GP Accreditation System launched		2004 •Prohibited manufacturing and use of products containing asbestos in principle
	2005 •Continued with the nationwide Lights-out Campaign •3R Eco Project launched •Completed the elimination of specified substances (6 substances) in products •Panasonic Center Osaka Opened •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	2005 •Kyoto Protocol entered into force	2005 •Expo 2005 Aichi, Japan held •National campaign against global warming "Team -6%" launched •Marking for the presence of the specified chemical substances for electrical and electronic equipment (J-Moss) established
	2006 •Environmental specialist position established •ET Manifest introduced into all Panasonic's manufacturing sites in Japan •Realized lead-free plasma display panels and introduced them to the market •Full-fledge introduction of biodiesel fuel in logistics	2006 •Restriction of Hazardous Substances (RoHS) Directive took effect in EU	2006 •Relief Law for Asbestos Victims enacted •Energy Conservation Law revised: new cargo owner obligations, widened product scope of its application, and top runner standard revision
	2007 •Energy conservation activities at our factories in Malaysia approved as CDM project by the U.N. •A new environmental mark introduced •Panasonic Center Beijing opened •Environmental Forum in China held •"Declaration of Becoming an Environmentally Contributing Company in China" announced •Panasonic 'eco ideas' Strategy announced	2007 •The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) released •Registration, Evaluation, Authorisation and Restriction of Chemicals entered into force in EU •Framework for CO ₂ reduction agreed at Heiligendamm Summit (G8) •The Bali Road Map for the post Kyoto Protocol agreed at COP13 •Administration on the Control of Pollution Caused by Electronic Information Products (China RoHS) came into effect	2007 •'Cool Earth 50' announced by Prime Minister Abe •'21st Century Environment Nation Strategy' formulated •'The Third National Biodiversity Strategy of Japan' formulated •'Ministerial ordinance partially amending the Enforcement Regulation of the Waste Management and Public Cleansing Law' promulgated •'Domestic Emissions Trading Scheme Review Committee' established •'The Second Fundamental Plan for Establishing a Sound Material-Cycle Society' formulated
	2008 •Established the Corporate CO ₂ Reduction Promoting Committee •Held environmental exhibitions, 'eco ideas' World •Home Appliances Company announced environmental statement in which named its Kusatsu site as 'eco ideas' Factory •Announced 'eco ideas' Declaration in Europe •Established Environmental Strategy Research Center	2008 •G20 (conference of key countries' environmental and energy ministers) held •Hokkaido Toyako Summit held	2008 •Cool Earth Promotion Program announced by Prime Minister Fukuda •Mislabeling incident of waste paper pulp percentage •Long-term Energy Demand and Supply Outlook announced •Japan's Voluntary Emission Trading Scheme started
	2009 •Opened the 'eco ideas' House to demonstrate a lifestyle with virtually zero CO ₂ emissions throughout the entire house •Announced the Asia Pacific 'eco ideas' Declaration •Announced 'eco ideas' factories (in Czech, Malaysia, Thailand, and Singapore)	2009 •China WEEE law promulgated •New framework for countermeasures against global warming on and after 2013 (post-Kyoto Protocol), the Copenhagen Accord, was adopted at the COP15 (Copenhagen conference)	2009 •Energy Conservation Law amended: Covered area expanded from factories to commercial sector facilities •Flat-panel TV and clothes dryer added as covered products under the Home Appliance Recycling Law •'Eco point' system started
	2010 •Announced "Vision looking to the 100th anniversary of our founding in 2018" •Started the entire factory energy-saving support service •Held 'eco ideas' Forum 2010 in Ariake, Tokyo •Established Green Plan 2018 •Launched Panasonic ECO RELAY for Sustainable Earth •Kasai Green Energy Park eco-friendly factory completed	2010 •COP10 held in Nagoya—Nagoya agreement made •APEC meeting held in Yokohama •Ruling party lost in US midterm election—changes in anti global warming policy •Cancun agreement made in COP16—Post-Kyoto framework still to be discussed	2010 •Draft legislation of Basic Law of Global Warming Countermeasures submitted but remained in deliberation •Obligatory greenhouse gas emissions reduction started as a part of Tokyo Emissions Trading Scheme •Waste Management and Public Cleansing Law amended: self treatment regulations tightened •Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL) and Law concerning Pollutant Release and Transfer Register (PRTR) amended
2010s	2011 •Announced North America & Taiwan 'eco ideas' Declarations •Announced establishment of Panasonic DADI DOWA Summit Recycling Hangzhou Co., Ltd. •Announced the Fujisawa Sustainable Smart Town Project •Established Corporate Electricity Saving Division that bridges functions across the organization	2011 •Rare earth prices soared •Revised RoHS directives enforced in EU •COP17 (Durban Climate Conference): Agreement made on long-term future of the scheme, and the second commitment period for the Kyoto Protocol (Japan announced non-commitment)	2011 •Home appliance eco-point incentive program finished •The Great East Japan Earthquake •Revised Air Pollution Control Act and Water Pollution Control Act enforced •Act on Special Measures Concerning Procurement of Renewable Electric Energy by Operators of Electric Utilities enacted (feed-in tariff system to be enforced July 2012)
	2012 •Business reorganization due to full acquisition of Panasonic Electric Works and SANYO Electric •Commenced sales of Resources Recycling-oriented Product series		2012 •The Recycle Resource Project, national campaign by Ministry of the Environment, commenced

Reports on Business Activities of Panasonic

Publications related with business activities of Panasonic comprise three reports: this 'eco ideas' Report; the Sustainability Report, which details information on our CSR initiatives; and the Annual Report, which contains business strategies and financial data for shareholders and investors.

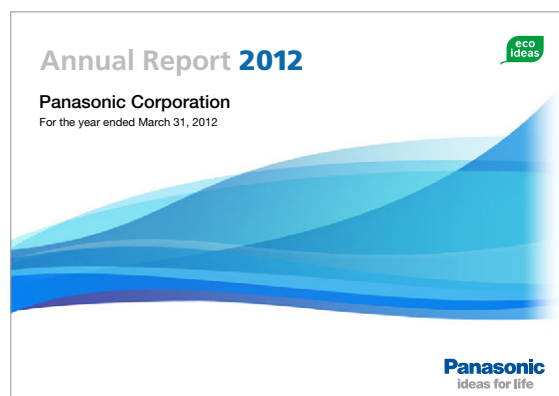
Sustainability Report [PDF]
Available on our CSR website.

► <http://panasonic.net/csr/>



Annual Report [PDF]
To be available at the end of August on our IR website.

► <http://panasonic.net/ir/>





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