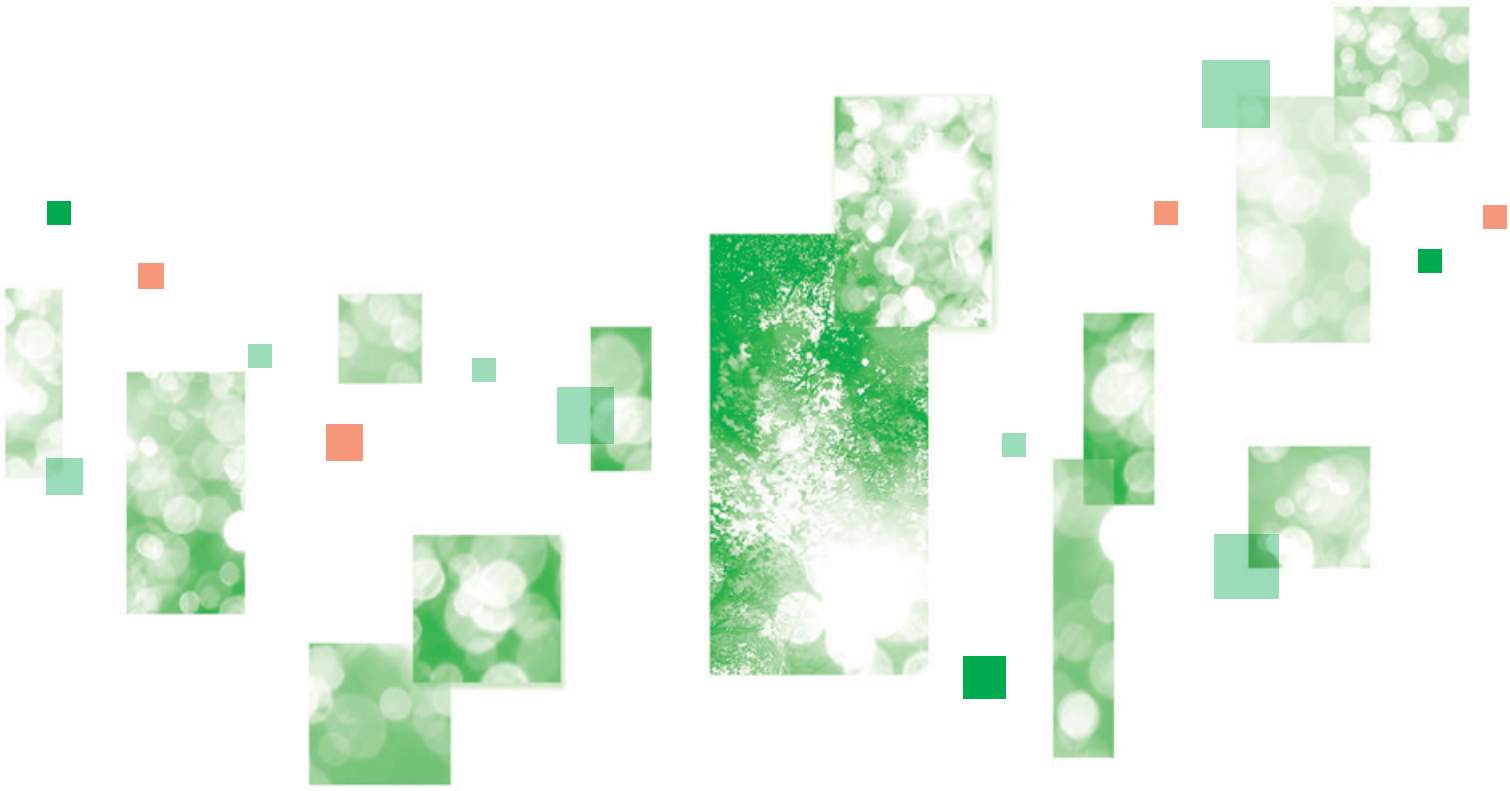
2011/10/21

for a greener tomorrow

CSR | Corporate Social Responsibility Environmental Report 2011



MITSUBISHI ELECTRIC

Changes for the Better

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Mitsubishi Electric Group Environmental Sustainability Report

Each year Mitsubishi Electric produces a printed "Environmental Sustainability Report" that provides an overview of the major topics found in the Environmental Report and Environmental Topics sections of this website.

Latest Issue:
Environmental Sustainability Report 2011 (PDF: 3.03MB)

Back Issues

Environmental Report

Group Environmental Policy

Learn more about our environmental policy, which forms the basis of the Mitsubishi Electric Group's environmental management system.

Environmental Statement: Eco Changes

Read about the Mitsubishi Electric Group's environmental statement, launched globally in July 2010.

Environmental Vision 2021

Find out about Mitsubishi Electric's long-range vision, with specific targets to be achieved by the year 2021, the centennial of the company's founding.

Aiming to Become a Global, Leading Green Company

Read about the Mitsubishi Electric Group's efforts to become a global, leading green company through its energy- and resource-efficient manufacturing and environment-related businesses.

6th Environmental Plan (Fiscal 2010-2012)

Learn more about our current environmental plan, including its background and focus, points of emphasis and specific activities.

Evolution of the Environmental Plan

Our environmental plan is reformulated every three years. Follow the evolution from initial development to the current 6th Environmental Plan.

Group Environmental Policy

Mitsubishi Electric Group Environmental Policy

The Mitsubishi Electric Group recognizes that our planet needs to be protected for future generations. Limiting our impact on the environment is thus one of our top management priorities. While respecting social norms, we shall endeavor in our business activities to realize a sustainable society through technology and action.

We will apply our technological expertise and new innovations to reduce the environmental impact of our business and to help preserve biodiversity. The Mitsubishi Electric Group will also strive to make positive contributions through the continuous improvement of our products and services, focusing on size and weight reduction, high performance, resource savings and energy efficiency.

We encourage employees and their families to take part in environmental activities with their communities, and thereby foster environmental awareness. As a responsible corporate citizen, we will also inform the public about our environmental initiatives to promote mutual understanding.

In addition to abiding by the law and respecting social norms, we shall remain sensitive to societal changes and make environmental consideration a permanent part of our activities.

As represented by our corporate statement "Changes for the Better", our ultimate aim is to improve the quality of people's lives while making positive contributions to the Earth's environment.

May 2010
President & CEO
Kenichiro Yamanishi

Environmental Statement: Eco Changes

家庭から宇宙まで、エコチェンジ。

Announced in June 2009 in Japan.

for a greener tomorrow

Announced in June 2010 overseas.

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses for homes, offices, factories, infrastructure and even outer space, we are helping contribute to the realization of a sustainable society.

In line with the Mitsubishi Electric Group's corporate statement, "Changes for the Better," which reflects our drive to always seek improvement and make changes accordingly, Eco Changes represents our efforts to work together with our customers to change the global environment for the better. Behind these multifold improvements is our wish for each employee in the Group to instigate positive changes, and our strong desire to bring about a variety of changes in product development, production and shipping, in product, system and service usage, and in recycling.

Eco Changes is the Mitsubishi Electric Group's commitment to continuously strive for a greener tomorrow through cutting-edge global environmental technologies and outstanding strength in manufacturing.

Eco Changes was announced in June 2009 in Japan and in June 2010 overseas. This statement expresses to those inside and outside of the company Mitsubishi Electric's thinking that products must be created with due consideration for the environment and business operations must contribute to society from an environmental perspective. We go forth with this as our mission as a global leading green company. Eco Changes does not represent mere words or image-building; rather, through its business activities, the Mitsubishi Electric Group will enact Eco Changes around the world in pursuit of environmental consideration and environmental contribution that are grounded in reality.

Eco Changes Logo Design Concept

The logo's vivid green sphere represents the world of changes for the better, from in the home to outer space. The "movement" design expresses the improvements made by employees, and the taking of immediate action along with our customers to bring positive changes to society.

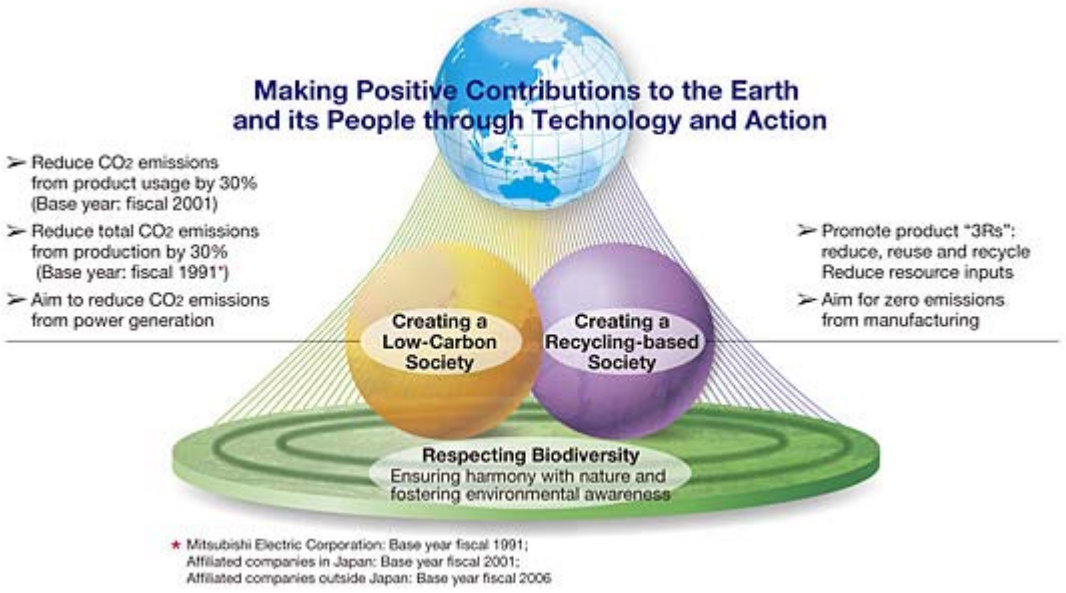
News Releases

June 30, 2010
Mitsubishi Electric Introduces "Eco Changes" Statement Outside Japan (28KB)

Learn more about Eco Changes and the activities related to it.

Environmental Vision 2021

Environmental Vision 2021 is the long-term environmental management vision of the Mitsubishi Electric Group. With the guideline of making positive contributions to the earth and its people through technology and action, the Company is working toward the realization of a sustainable society utilizing wide-ranging and sophisticated technologies as well as the promotion of proactive and ongoing actions by our employees. The Vision sets 2021 as its target year, coinciding with the 100th anniversary of Mitsubishi Electric's founding.



Creating a Low-Carbon Society

To help create a low-carbon society, we will:

- Work to create and popularize innovative energy-saving products to achieve the goal of reducing CO_2 emissions from product usage by 30% compared to fiscal 2001
- Strive to reduce CO_2 emissions from product production by 30% (520,000 tons) across the entire Mitsubishi Electric Group as a prerequisite for sustainable growth
- Reduce CO_2 emissions from power generation and contribute to the creation of a low-carbon society by supplying the power industry with products and systems that do not emit CO_2, including solar power and nuclear power systems

Creating a Recycling-Based Society

To help create a recycling-based society, we will:

- Develop sustainable resource cycles by reducing waste output, reusing resources and recycling resources to give them new life
- Strive for zero waste output from production processes

Respecting Biodiversity: Ensuring Harmony with Nature and Fostering Environmental Awareness

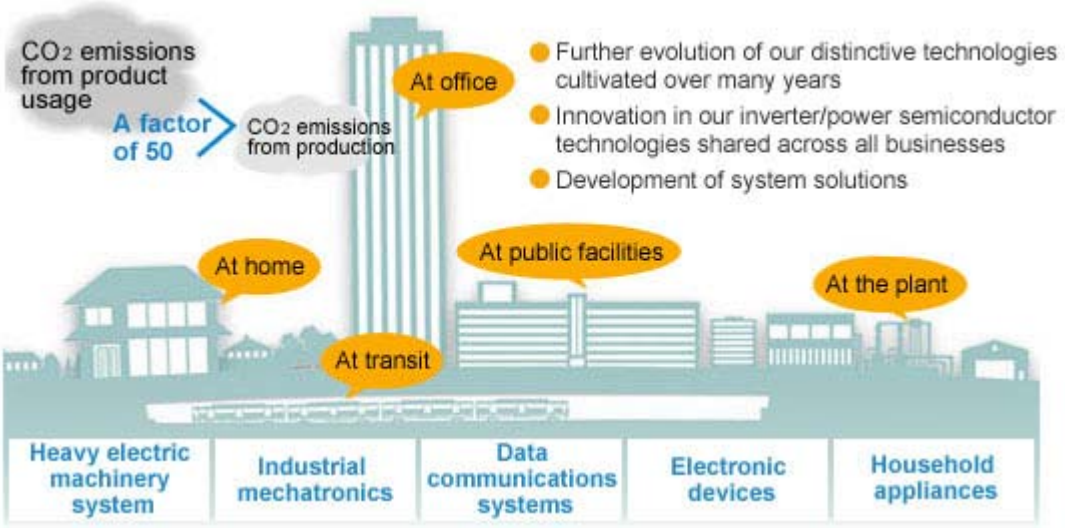
To help ensure harmony with nature and cultivate greater environmental awareness, we will:

- Strive to respect biodiversity in our business activities
- Teach employees the importance of maintaining harmony with nature by providing opportunities for nature observation and direct participation in conservation activities to inculcate autonomous actions for the sake of the environment
- Engage in nature conservation activities to restore damaged woodland environments

Efforts Focused on the creation of a Low-Carbon Society

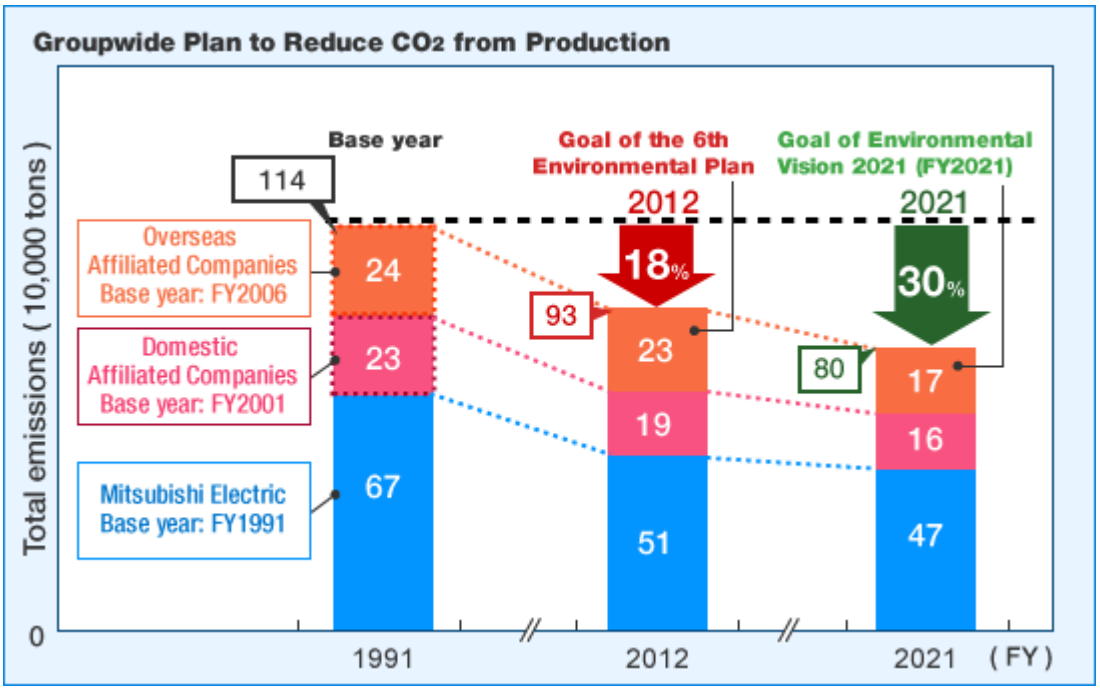
Aiming to Reduce CO2 Emissions from Product Usage by 30%

Contributing to the creation of a low-carbon society through the provision of a wide variety of energy-saving products.



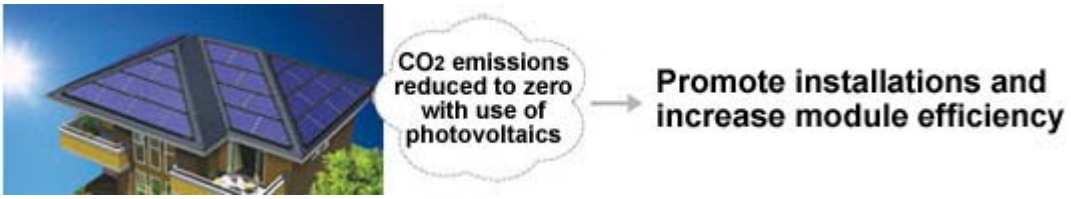
Aiming to Reduce Total CO2 Emissions from Production by 30%

Raising the efficiency and performance of air conditioning, lighting and other utility equipment, as well as improving production lines to reduce the amount of CO2 emitted during production and contributing to the creation of a low-carbon society.



Helping to Reduce CO2 Emissions from Power Generation

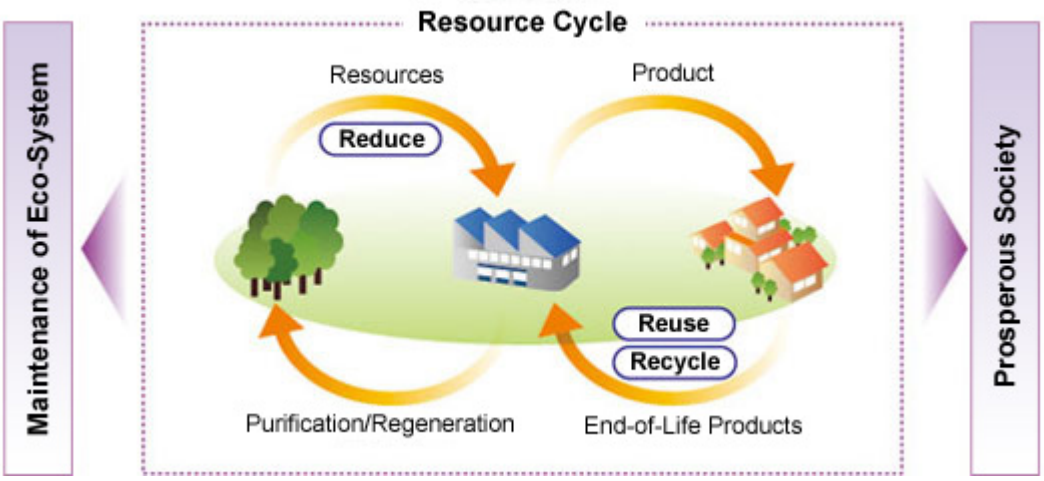
We will help reduce CO2 emissions from power generation and contribute to the creation of a low-carbon society by supplying the power industry with products and systems that do not emit CO2, including photovoltaic power and nuclear power systems.



Initiatives to Help Create a Recycling-Based Society

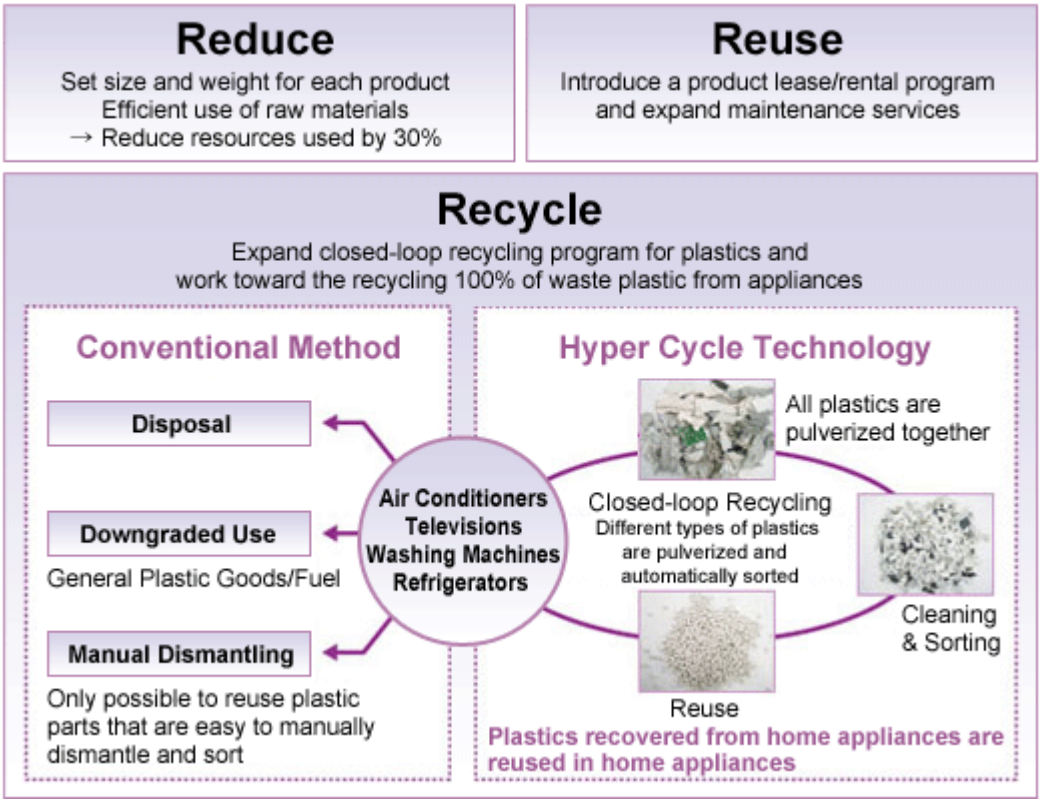
Making Use of DfE and LCA Technologies to Promote the 3Rs

Creating products that contribute to the 3Rs (reduce, reuse and recycle) throughout the product lifecycle.



Zero Emissions (Eliminating Waste that Heads Directly to Landfill)

Restricting the generation of waste and promoting the efficient reuse and resource reconversion of waste.



Respecting Biodiversity:
Ensuring Harmony with Nature and Fostering Environmental Awareness

Mitsubishi Electric Outdoor Classroom and Leadership Training

We provide education for children and leadership training for 1,000 people in the promotion of nature observation and conservation.

Forest Development

Reforestation aids in the creation of a low-carbon society, protects against natural disasters, and contributes to the preservation of biodiversity.

Woodland preservation activities involve local residents, employees, families, and nearly one million people from all over the world join forces to engage in this nature conservation activity.

Aiming to Become a Global, Leading Green Company

The Mitsubishi Electric Group established Environmental Vision 2021 to contribute to the development of a sustainable society, and is advancing initiatives to achieve a low-carbon, recycling-based society. While this Vision represents the company we aim to become by the 100th anniversary of our founding in 2021, our ultimate goal is to make lasting social contributions as a leading green company.

To this end, we are working to strengthen our corporate constitution and to contribute to society. Strengthening our corporate constitution refers to disciplining ourselves to use less energy and fewer resources in our manufacturing, and increasing production efficiency to the highest level possible. Specifically, this means reducing waste generated during production and thoroughly implementing the "3Rs" of resources: reduce, reuse and recycle.

Contributing to society refers to our commitment to ensure that some sort of environmental benefit or improvement is delivered when people use our products. As CO_2 emissions from product usage can be as high as 40 to 50 times the emissions from production, offering energy-saving products can make a tremendous contribution toward reducing CO_2 emissions in society as a whole. For this reason, we must always improve as well as optimize our technologies with a focus on creating and offering energy-efficient products. The same holds true for the development and diffusion of renewable energy systems and equipment, such as photovoltaic power generation.

Thinking about the future of the global environment and sincerely continuing these initiatives worldwide will make our actions more environmentally compatible and will make society more environmentally conscious. Eco Changes, our environmental statement, is what we must practice globally. By continuing to put Eco Changes into practice around the world, the Mitsubishi Electric Group aims to become a global leading green company.

For details, please see the Environmental Vision 2021.

- Environmental Statement: Eco Changes
- Environmental Vision 2021
- Environmental Topics: From the President

6th Environmental Plan (Fiscal 2010–2012)

Background

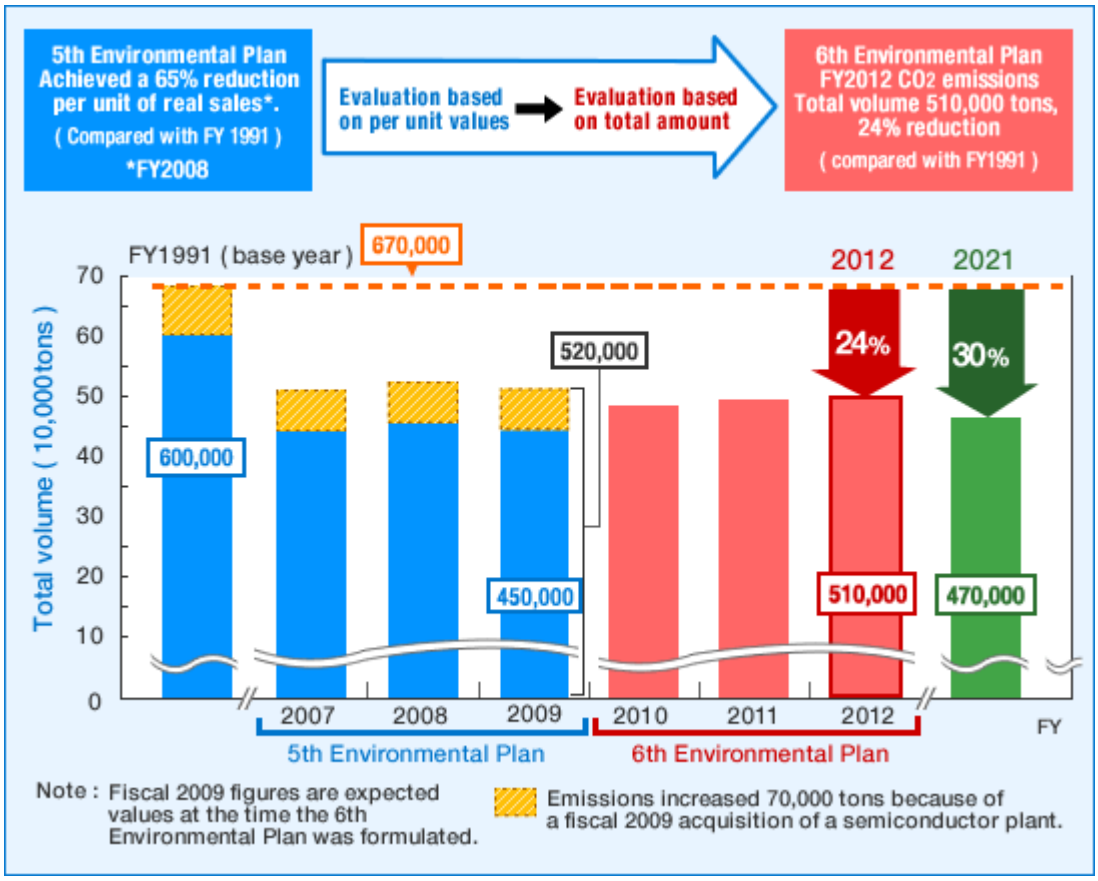
The 6th Environmental Plan outlines the actions and objectives to be achieved during the three years from fiscal 2010 to fiscal 2012, on the way to realizing our Environmental Vision 2021. After carefully reviewing the achievements and issues surrounding the 5th Environmental Plan (fiscal 2007 to fiscal 2009), as well as the changes in the social environment, we formulated three areas of focus and identified three points of emphasis.

Focus of the 6th Environmental Plan

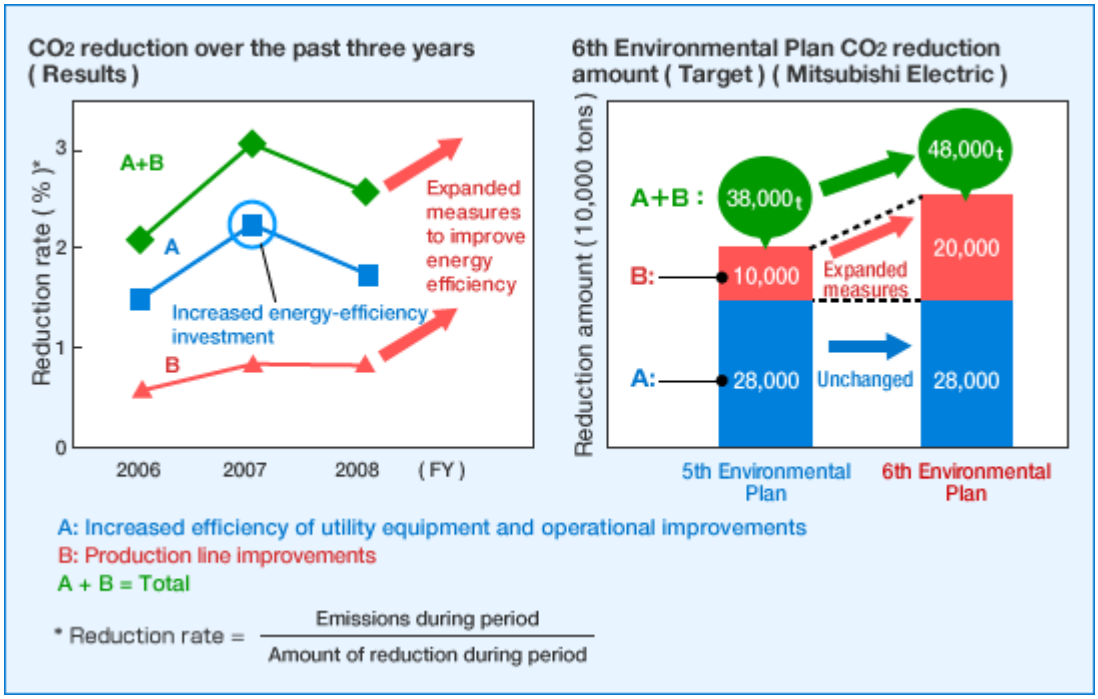
Establish targets and action plan for environmental performance to realize Environmental Vision 2021	Respond to social changes and imperatives surrounding environmental issues	Contribute to the creation of a sustainable society through the expansion of environment-related business

Click here for more details

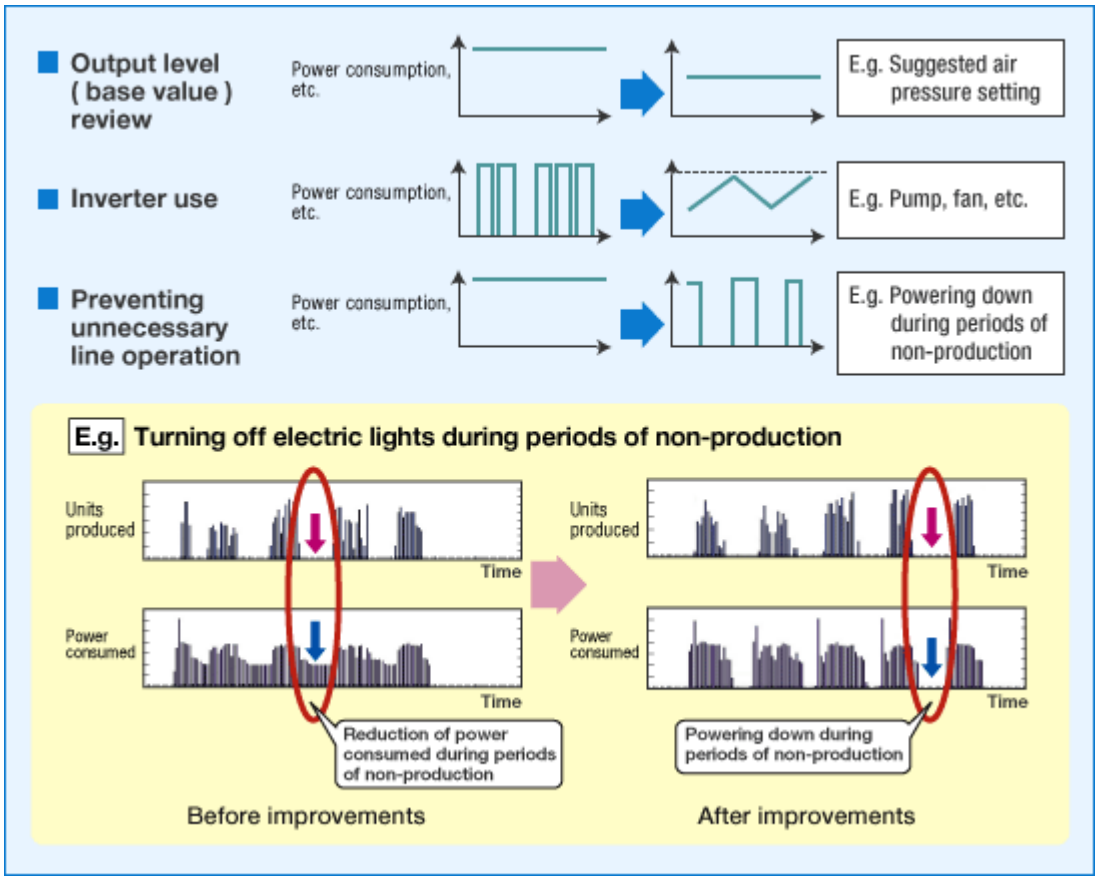
Plans to Reduce CO_2 from Production under Environmental Vision 2021 (Non-consolidated)



Accelerated CO_2 Reduction through Expansion of Production Line Improvements

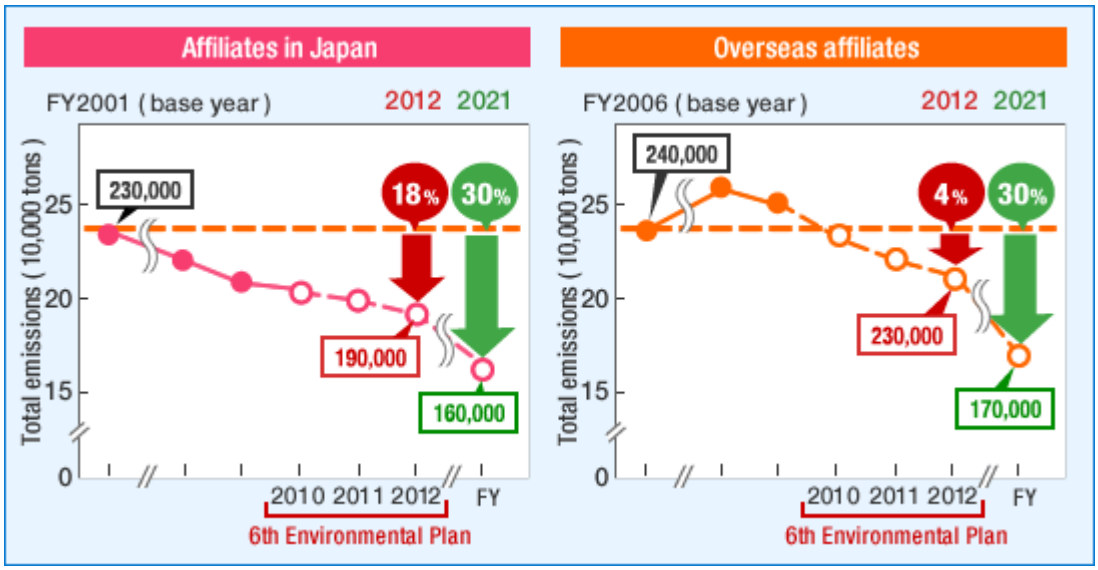


CO_2 Reductions from Production Line Improvements

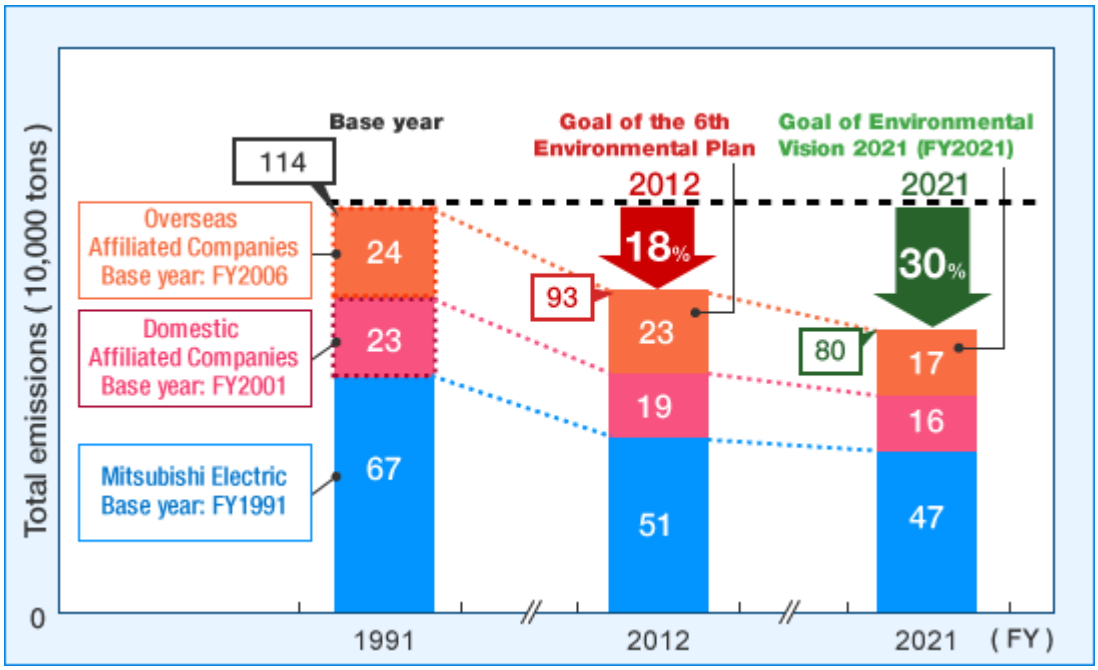


Plans to Reduce CO_2 from Production Under Environmental Vision 2021 (Affiliates in Japan and overseas)

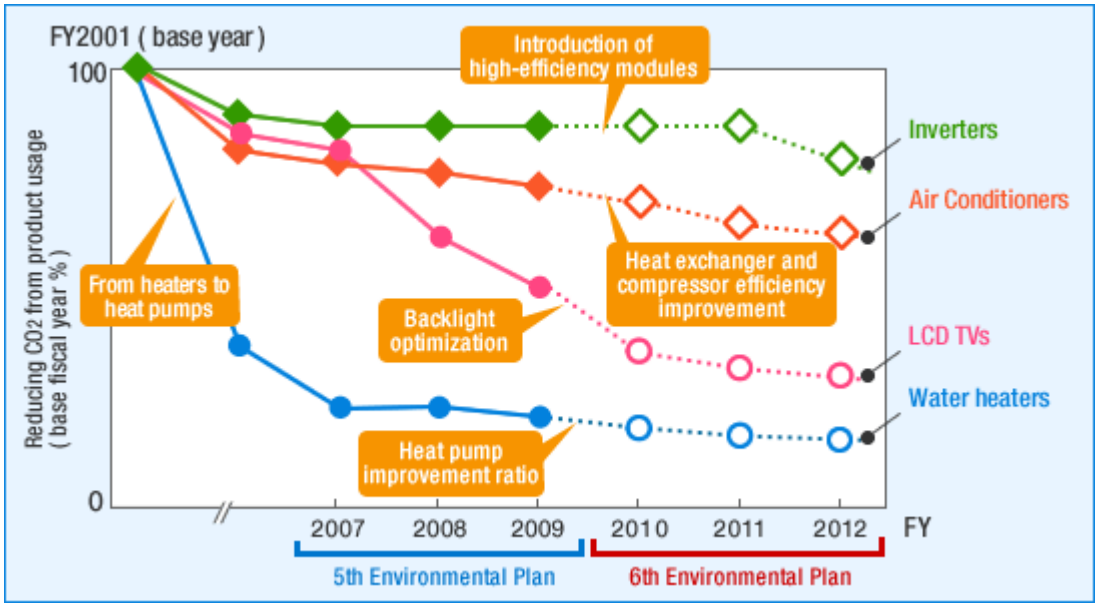
Promote CO_2 reductions among affiliates in Japan and overseas based on the same ideas as Mitsubishi Electric Corporation



Group-wide Plan to Reduce CO_2 from Production

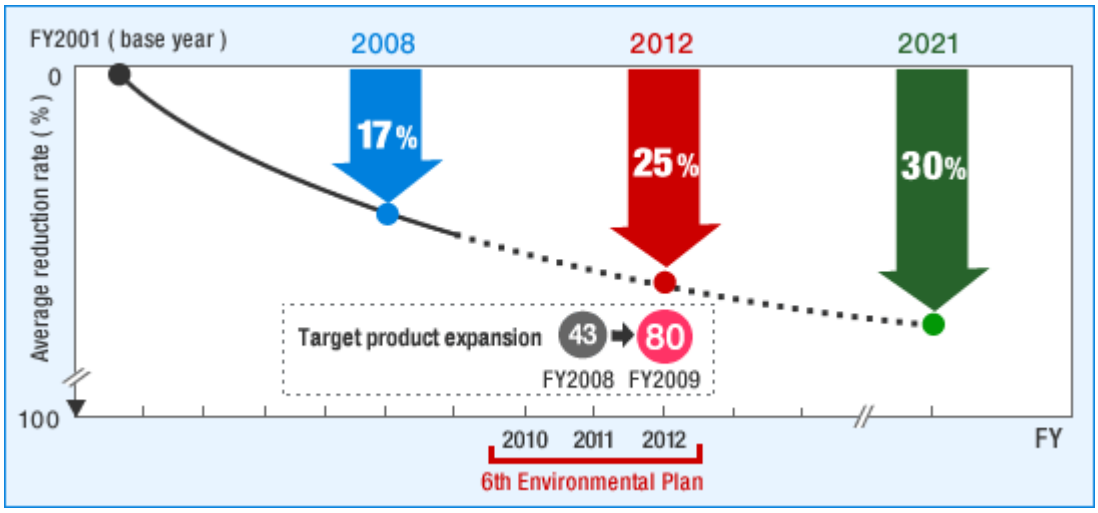


Reducing CO_2 from Product Usage through Eco-Technology



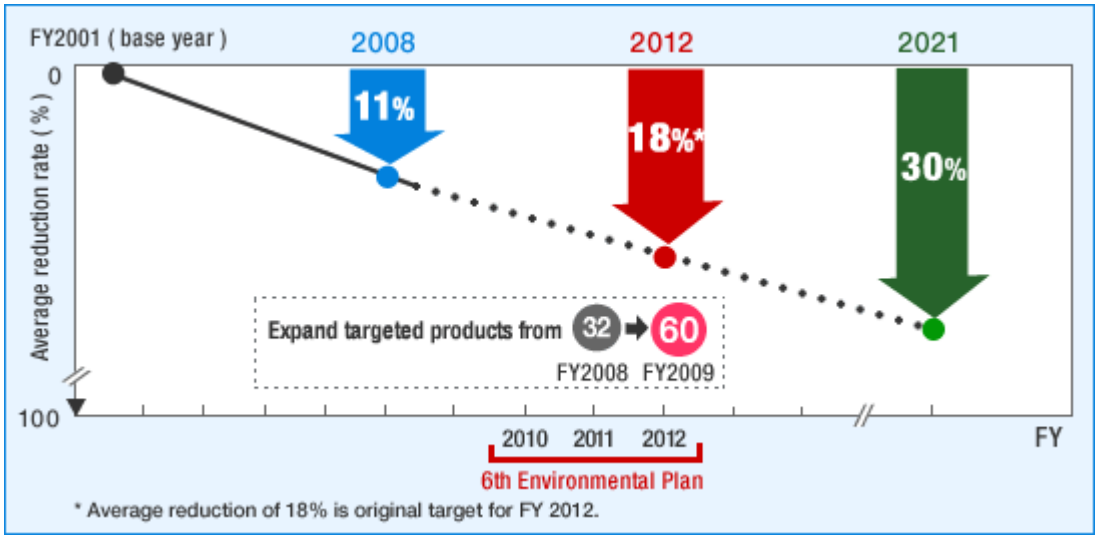
Plans to Reduce CO_2 from Product Usage under Environmental Vision 2021

Aiming to achieve a 25% average reduction in CO_2 from product usage in fiscal 2012 through performance improvements.



Reduction of Resource Inputs under Environmental Vision 2021

Aiming to achieve an 18% average reduction in total weight of products in fiscal 2012 through size and weight reductions



Reducing Resource Inputs through Plastic Recycling

Reduction of virgin resource inputs through large-scale, high-purity closed-loop recycling of plastics

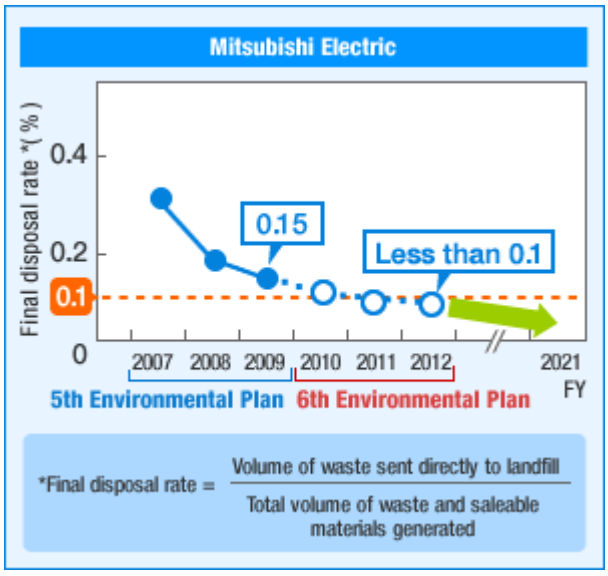
Large-scale
- Started up recycled materials factory
- Closed-loop recycling: expansion from 600 tons to 7,000 tons per year

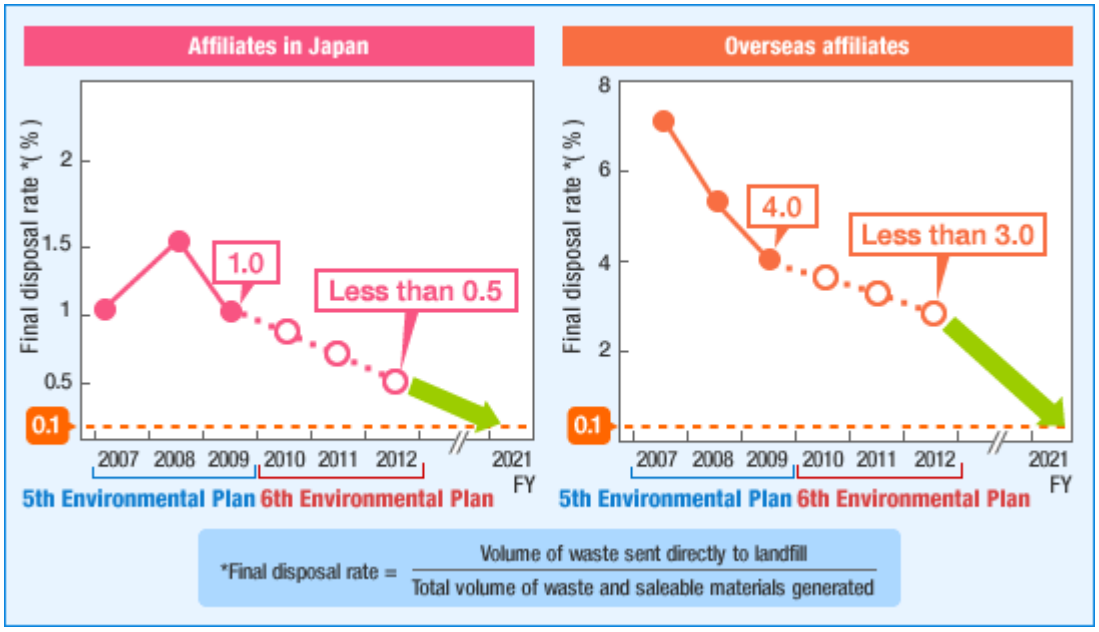
High-purity
- Separates three types of plastic (Poly-Propylene, Poly-Styrene, Acrylonitrile-Butadiene-Styrene) from shredded mixed plastic
- Recovers high-purity (more than 99%) recycled plastic

Closed-loop
- Makes up approximately 18% of the plastic used in our home electronics products

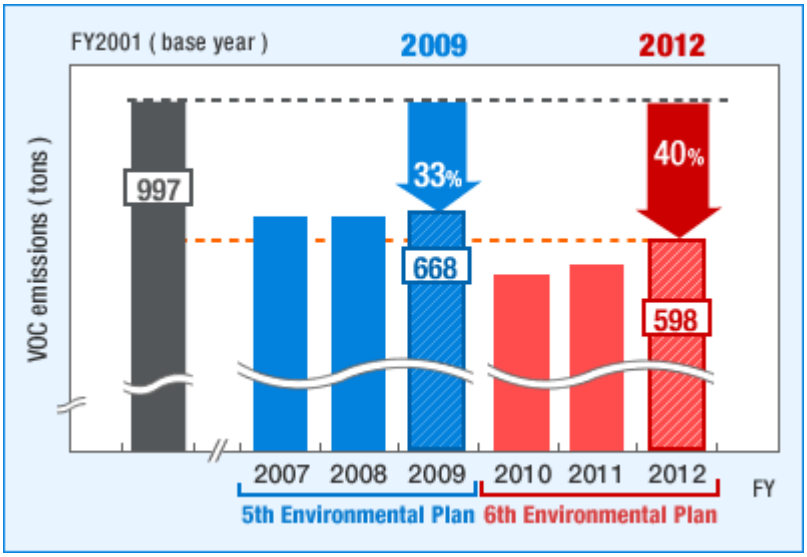
Lowering the Final Waste Disposal Ratio in Pursuit of Zero Emissions

Aiming for a final waste disposal ratio of less than 0.1% at all Group sites





Reducing VOC Emissions through Expanded Use of Alternative Materials



- Targeting 40% reduction by fiscal 2012
- Examples of alternative material applications
  - Switching to water-based paint
  - Switching to powdered paint
  - Switching to low-volatility solvents
  - Alternatives to metal plating

Improving Level of Environmental Management as a Group Company

Increasing the number of companies compliant with ISO 14001

Mitsubishi Electric:	Obtained certification at all bases
Affiliates in Japan :	Increase number of compliant companies from 77 to **99**
Overseas affiliates :	Increase number of compliant companies from 36 to **64**

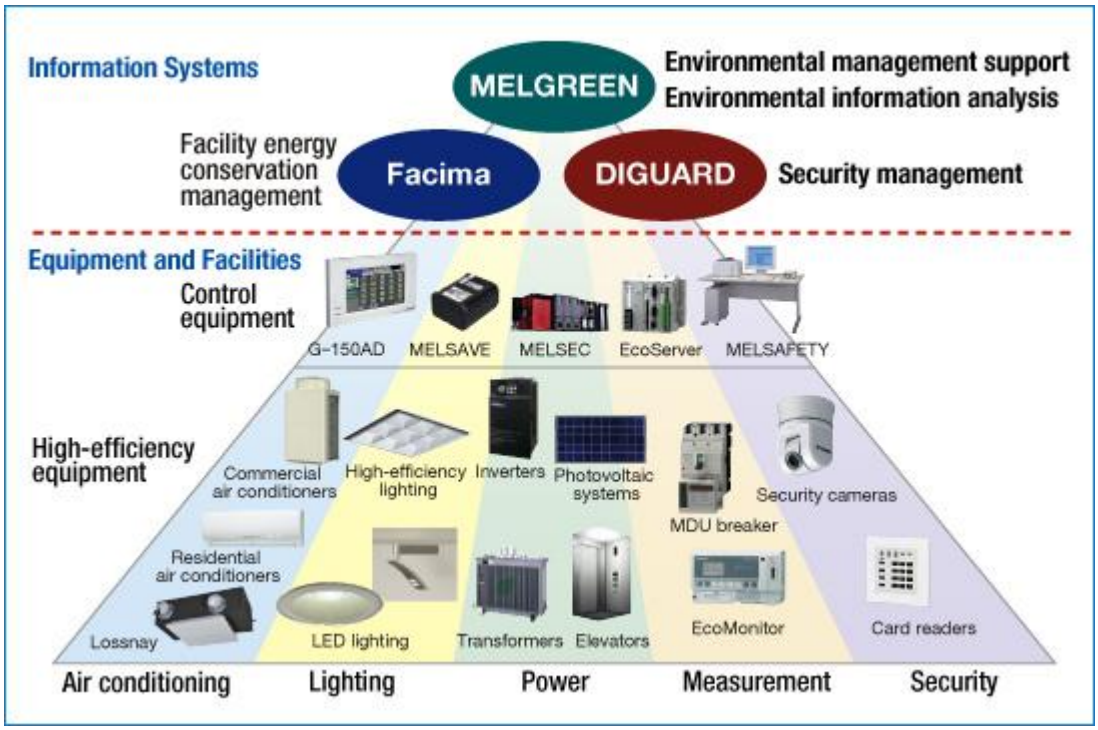
Assigning and Training of Key Environmental Personnel at Overseas Sites

Sites in Japan

We are currently conducting skill enhancement training for key environmental personnel assigned to each factory

Overseas Sites

We are planning to assign key environmental personnel in China, Asia, Europe and the United States, and conduct training activities


Information Systems
MELGREEN
Environmental management support
Environmental information analysis
Facility energy conservation management
Facima
DIGUARD
Security management
Equipment and Facilities
Control equipment
G-150AD
MELSAVE
MELSEC
EcoServer
MELSAFETY
High-efficiency equipment
Commercial air conditioners
High-efficiency lighting
Inverters
Photovoltaic systems
MDU breaker
Security cameras
Residential air conditioners
Lossnay
LED lighting
Transformers
Elevators
EcoMonitor
Card readers
Air conditioning
Lighting
Power
Measurement
Security

Activities	Fiscal 2012 Targets		
Creating a low-carbon society			
(1) Reduce CO_2 from production		[CO_2 emissions]	[Required reduction amount]
	Mitsubishi Electric	510,000 tons	48,000 tons
	Affiliates in Japan	190,000 tons	21,000 tons
	Overseas affiliates	230,000 tons	26,000 tons
(2) Reduce CO_2 from product usage	Average reduction rate by target products	25% (compared to base year FY2001)	
	Expand number of target products	43 products → 80 products	
Creating a recycling-based society			
(1) Reduce resource inputs	Average reduction rate by target products	18% (compared to base year FY2001)	
	Expand number of target products	32 products → 60 products	
(2) Zero emissions	Mitsubishi Electric	Final disposal rate of less than 0.1%	
	Affiliates in Japan	Final disposal ratio of less than 0.5%	
	Overseas affiliates	Final disposal ratio of less than 3.0%	
(3) Reduce the use of disposable packaging materials (eco-logistics)	Mitsubishi Electric	10% reduction per shipment (base year FY2009)	
	Affiliates in Japan	10% reduction per shipment (base year FY2009)	
	Overseas affiliates	Assessment of the amount of packaging materials used and product shipment	
(4) Reduce emissions of volatile organic compounds (VOCs) into the atmosphere	Mitsubishi Electric	40% reduction (from FY2001 levels)	
Expanding global environmental management			
(1) Increase the number of companies conforming with ISO 14001	Affiliates in Japan	77 companies certified → expand to 99 companies	
	Overseas affiliates	36 companies certified → expand to 64 companies	
(2) Strict compliance with environmental regulations	Ensure compliance with European REACH Regulation and individual countries' RoHS Legislation		
(3) Assign and train key environmental personnel	Assign and train key environmental personnel at factories in China, Asia, Europe and America		
Respecting biodiversity			
"Satoyama" Woodland Preservation Project	Expand by one region each year		
Mitsubishi Electric Outdoor Classroom	Increase by five areas each year		
	Outdoor classroom leaders	Train 50 people each year	

Evolution of the Environmental Plan (1st through 5th)

Approximately every three years since fiscal 1994, the Mitsubishi Electric Group has formulated an environmental plan with specific targets. We have made many positive changes in the 15 years since the first plan went into action.

The 6th Environmental Plan (fiscal 2010-2012) was announced in October 2007 as a further step toward the realization of Environmental Vision 2021. Specific objectives were established after a careful review of accomplishments and issues stemming from the 5th Environmental Plan (fiscal 2007-2009) from the perspective of achieving the vision.

Main Points of Previous Environmental Plans

Environmental Plan	Main Point(s)
1st Environmental Plan (FY1994–1996)	Environmental measures at factories
2nd Environmental Plan (FY1997–2000)	Introduction of ISO14001, product-related environmental measures
3rd Environmental Plan (FY2001–2003)	Reinforcing the management base, thorough compliance, disclosure of environmental information
4th Environmental Plan (FY2004–2006)	Conducting initiatives to integrate environmental considerations into all corporate activities, beyond factories and products, expand the scope of corporate information disclosure and assessment, reinforce legal compliance and discover and prevent potential risks
5th Environmental Plan (FY2007–2009)	Taking ISO14001 (FY2005 version) as an opportunity to strengthen environmental management (synergies between defensive/proactive activities)

Environmental Report

Targets and Achievements of the 6th Environmental Plan (Fiscal 2010–2012)

About data compilation: Data for our Communication Network Center, Koriyama Plant, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date.

Click here for an overview of fiscal 2011 activities

Very good Good Almost there More effort needed

Creating a Low-carbon Society

Reducing CO_2 from Production

6th Environmental Plan (Fiscal 2010–2012)		Fiscal 2010	Fiscal 2011			Fiscal 2012
		Target	Results	Target	Results	Self-evaluation	Target
CO_2 emissions	Mitsubishi Electric	510,000 tons	472,000 tons	493,000 tons	508,000 tons		510,000 tons
	Affiliates in Japan	190,000 tons	166,000 tons	165,000 tons	191,000 tons		190,000 tons
	Overseas affiliates	*230,000 tons	217,000 tons	215,000 tons	267,000 tons		260,000 tons
	Total	*930,000 tons	855,000 tons	873,000 tons	966,000 tons		960,000 tons
Required reduction amount (three years)	Mitsubishi Electric	*48,000 tons	19,000 tons	16,000 tons	22,000 tons		16,000 tons
	Affiliates in Japan	*21,000 tons	7,000 tons	7,000 tons	5,000 tons		8,000 tons
	Overseas affiliates	26,000 tons	8,000 tons	10,000 tons	8,000 tons		10,000 tons
	Total	*95,000 tons	34,000 tons	33,000 tons	35,000 tons		34,000 tons

***About Targets for Fiscal 2012:**
Upon examining our targets in consideration of production plans and changes in the business environment, we have revised fiscal 2012 target values based on our projections for the year.

Reducing CO_2 from Product Usage						
6th Environmental Plan (Fiscal 2010–2012) [Fiscal 2012 Targets]		Fiscal 2010	Fiscal 2011			Fiscal 2012
		Results	Target	Results	Self-evaluation	Target
Average Reduction Rate for Target Products	25% (Base year: Fiscal 2001)	23%	24%	25%		25%
Expansion of Target Products	43 Products → 80 Products	70 Products	75 Products	84 Products		80 Products

About data compilation of average reduction rate:
Data for our Communication Network Center, Koriyama Plant, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date.

Creating a Recycling-based Society

Reducing Resource Inputs						
6th Environmental Plan (Fiscal 2010–2012) [Fiscal 2012 Targets]		Fiscal 2010	Fiscal 2011			Fiscal 2012
		Results	Target	Results	Self-evaluation	Target
Average Reduction Rate for Target Products	*30%	34%	30%	43%		30%
Expansion of Target Products	32 Products → 60 Products	51 Products	60 Products	64 Products		60 Products

* 30%: While the 6th Environmental Plan initially called for a target of 18%, the target was reached in fiscal 2010, the first year of the Plan, and was subsequently reset to 30%.

About data compilation of average reduction rate:
Data for our Communication Network Center, Koriyama Plant, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date.

Zero Emissions				
6th Environmental Plan (Fiscal 2010–2012) Fiscal 2012 Targets		Fiscal 2010	Fiscal 2011	
		Results	Results	Self-evaluation
Mitsubishi Electric	Final disposal ratio of less than 0.1%	0.04%	0.002%	
Affiliates in Japan	Final disposal ratio of less than 0.5%	0.2%	0.04%	
Overseas affiliates	Final disposal ratio of less than 3.0%	3.6%	1.76%	

Reducing the use of disposable packaging materials				
6th Environmental Plan (Fiscal 2010–2012) Fiscal 2012 Targets		Fiscal 2010	Fiscal 2011	
		Results	Results	Self-evaluation
Mitsubishi Electric	10% reduction per volume of shipment (base year Fiscal 2009)	(3.3%)	(1.7%)	
Affiliates in Japan	10% reduction per volume of shipment (base year Fiscal 2009)	4.8%	5.0%	
Overseas affiliates	Assessment of packaging material volume and product shipment volume	Completed assessment of packaging material volume in 22 companies and product shipment volume in 19 companies	Completed assessment of packaging material volume in 22 companies and product shipment volume in 19 companies	

Reducing VOC Emissions					
6th Environmental Plan (Fiscal 2010–2012) Fiscal 2012 Targets	Fiscal 2010	Fiscal 2011			Fiscal 2012
	Emissions target	Emissions target	Results	Self-evaluation	Target
40% reduction (base year Fiscal 2001) Emissions: 598 tons	Emissions: 498 tons	Emissions: 528 tons	Emissions: 548 tons		Emissions: 598 tons

Increase number of companies conforming with ISO 14001						
6th Environmental Plan (Fiscal 2010–2012) [Fiscal 2012 Targets]		Fiscal 2010	Fiscal 2011			Fiscal 2012
		Results	Targets	Achievements	Self-evaluation	Targets
Affiliates in Japan	Increase number of conforming from 77* to 101	Mitsubishi Electric confirmed ISO14001 conformity for 15 out of the 22 uncertified companies. We assisted acquisition of third-party certification for the remaining 7 companies; and confirmed acquisition for 2.	Confirm ISO14001 third party certification or self-declaration of conformance for 5 uncertified companies.	Mitsubishi Electric confirmed ISO14001 certification for 2 companies as well as the self-declaration of conformance for 3.	☺	Continue confirming compliance.
Overseas Affiliates	Increase number of conforming from 36* to 66	Mitsubishi Electric confirmed ISO14001 conformity for 17 out of the 28 uncertified companies.	Investigate ISO14001 conformity status for 11 uncertified companies.	Mitsubishi Electric confirmed ISO14001 certification for 3 companies and determined conformity confirmation is unnecessary for 8.	☺	Continue confirming compliance.

* Numerical targets: The number of companies acquiring ISO certification since the announcement of the 6th Environmental Plan, and the number of companies which should achieve compliance, have been revised to accommodate for changes in the number of affiliates and detailed investigations of the scope of individual companies' environmental management systems.

Number of certified companies
Affiliates in Japan: At time of announcement of 6th Environmental Plan: 63 → At time of starting activity: 77
Overseas affiliates: At time of announcement of 6th Environmental Plan: 31 → At time of starting activity: 36

Targets for the end of the last fiscal year of the 6th Environmental Plan
Affiliates in Japan: Target set at the end of fiscal 2010: 99; Revised target set in fiscal 2011: 101
Overseas affiliates: Target set at the end of fiscal 2010: 64; Revised target set in fiscal 2011: 66

Environmental Report: Expanding ISO 14001 Conformity

Complying with environmental regulations	
6th Environmental Plan (Fiscal 2010–2012) [Annual Targets]	Ensure compliance with European REACH regulations and individual countries' RoHS directives

Environmental Report: Complying with Environmental Regulation

Assigning and Training Key Environmental Personnel	
Targets of the 6th Environmental Plan (Fiscal 2010–2012)	Assign and train key environmental personnel at factories in China, Asia, Europe, and America

Environmental Report: Training Key Environmental Personnel

Respecting Biodiversity

Forest Cultivation and "Satoyama" Woodland Preservation					
6th Environmental Plan (Fiscal 2010–2012) Targets by fiscal year	Fiscal 2010	Fiscal 2011			Fiscal 2012
	Results	Target	Results	Self-evaluation	Target
Expand by one or more regions per year	Activities in 5 regions (including 1 new)	Activities in 6 regions (including 1 new)	Activities in 8 regions (including 3 new)	☺	Activities in 9 regions (including 1 new)

Environmental Report: "Satoyama" Woodland Preservation

Mitsubishi Electric Outdoor Classroom					
6th Environmental Plan (Fiscal 2010–2012) Targets by fiscal year	Fiscal 2010	Fiscal 2011			Fiscal 2012
	Results	Target	Results	Self-evaluation	Target
Increase by five regions per year Train 50 outdoor classroom leaders per year	30 classrooms in 19 regions (including 9 new); training of 46 Outdoor Classroom leaders	35 classrooms in 24 regions (including 5 new)	36 classrooms in 26 regions (including 7 new); training of 43 Outdoor Classroom leaders	☺	38 classrooms in 28 regions (including 2 new)

Environmental Report: Mitsubishi Electric Outdoor Classroom

Overview of Fiscal 2011 Activities

The 6th Environmental Plan (Fiscal 2010–2012) addresses three areas: (1) improving environmental performance; (2) corporate social responsibility (expanding global environmental management and respecting biodiversity); and (3) expanding environment-related business. While taking concrete actions toward these, in fiscal 2011 (year ended March 31, 2011) we introduced our environmental statement "Eco Changes" overseas, which communicates the aim of our environmental management to become a global leading green company through the strengthening of our corporate constitution and through social contribution.

Improving Environmental Performance

As the economy regained its footing after the collapse of Lehman Brothers, production increased significantly and environmental impact began to rise as well. We responded with even greater efforts to reduce negative impact.

In order to help create a low-carbon society through the reduction of CO_2 from production, in our production divisions we moved ahead with production line improvements and higher-efficiency utility equipment, while also pursuing greater energy conservation in our office areas. Total CO_2 emissions in fiscal 2011 increased for Mitsubishi Electric as well as its affiliates in Japan and overseas, and exceeded the Group-wide target of 873,000 tons, reaching 966,000 tons. At the same time, the Group-wide CO_2 reduction was 35,000 tons, which beat the target of 33,000 tons.

In order to help create a recycling-based society, for two consecutive years our zero emissions activities have achieved the final disposal ratio targets for fiscal 2012, the last year of the 6th Environmental Plan, at Mitsubishi Electric and its affiliates in Japan . At overseas affiliates, too, we achieved significant reductions and have met the final fiscal year's targets ahead of schedule. Moreover, in April 2010 we began operation of Japan's first system for large-scale, high-purity plastic recycling. This system enables the recycling of large quantities of plastics that can subsequently be reused in home appliances. Through this system, the recycling ratio of plastic that is available for reuse in new products has increased more than tenfold—from 6% to a maximum of 70%.

In terms of our product-centered initiatives to achieve a 30% reduction in CO_2 from product usage, and reduced resource inputs, as set forth in Environmental Vision 2021[add link to this section], we have exceeded our fiscal 2011 targets for average reduction ratios in both of these areas. We also achieved the 6th Environmental Plan's final year target for expanding the number of target products, doing so ahead of schedule.

Corporate Social Responsibility

- **Expanding global environmental management**
  The Mitsubishi Electric Group is working to promote a uniformly high level of quality in environmental management. Of the five affiliates in Japan that had yet to acquire ISO 14001 certification, two received third-party certification in fiscal 2011. For the remaining three companies, we confirmed our self-declaration of conformance with ISO 14001 standards. Of eleven overseas affiliates that had not acquired ISO 14001 certification, we confirmed our self-declaration of conformance with ISO 14001 standards for three. We re-examined the activities of each of the remaining eight companies and determined that individual checks on ISO 14001 conformity are not necessary for these companies.

  Based upon this result, we determined that we have achieved the 6th Environmental Plan's target to increase the number of companies conforming with ISO 14001.

- **Complying with the REACH Regulation**
  To reliably respond to European REACH regulation on chemical substances and their use, which has had a major impact around the world, in December 2009, the Mitsubishi Electric Group launched the Chemical Substance Information Management System to enable the collection and sharing of legally-required information on substances among our business partners. In fiscal 2011, we continued to input and accumulate substance data in the system, readying it for purposes such as submitting notifications to authorities. Moreover, Group companies in Japan and overseas prepared common rules to integrate administrative procedures required for compliance with the REACH regulation.

- **Respecting Biodiversity**
  In May 2010 we established the Mitsubishi Electric Group Biodiversity Action Guidelines to guide the entire Group in contributing to the preservation of biodiversity. As supporting activities, in the Chubu region, our Chubu Branch Office as well as Inazawa Works, Nakatsugawa Works, and Nagoya Works conducted a program titled "Living Creature Studies" at factories, collected findings into a publication, "Field Guide to Living Creatures," and made the results public. In addition, we expanded the scale and location of our activities to foster environmental awareness, including our ongoing initiatives—the Mitsubishi Electric Outdoor Classroom and Satoyama [link to this article for context] Woodland Preservation Project.

Expanding Environment-related Business

The Mitsubishi Electric Group positions environment-related business as one of the pillars of its growth businesses, and aims to contribute to the creation of a low-carbon, recycling-based society through its advanced proprietary technologies and extensive range of businesses.

- **Launching Eco Changes, the Mitsubishi Electric Group's Environmental Statement in Japan and Overseas**
  Under Environmental Vision 2021, in June 2009 Mitsubishi Electric introduced an environmental statement expressing the stance and initiatives of the company's environmental management: "Eco Changes – from in the home to outer space." In June 2010, the statement "Eco Changes – for a greener tomorrow" was rolled out overseas. Both within and outside of the company, the Eco Changes statement gives voice to how the Mitsubishi Electric Group aims to become a leading green company that can meet the continuing demands of a global society. This also means we will pursue the strengthening of our corporate constitution (regulating ourselves to use less energy and fewer resources in our manufacturing as well as increasing production efficiency to its highest level) and social contributions (striving to ensure that some sort of environmental benefit or improvement is delivered when people use our products and services.).

Environmental Report

Aiming to Achieve Environmental Vision 2021

Advancing environmental management to achieve the high goals we have set for the future.

Expanding Global Environment Management of the Mitsubishi Electric Group

An overview of the systems to advance environmental management within the entire Mitsubishi Electric Group.

Expanding ISO 14001 Conformity

Expanding certification and "self-declaration of conformance" to further raise the level of our environmental management.

Complying with Environmental Regulations

Efforts towards Compliance

Environmental Risk Management

Environmental Audits

Overview of our multifaceted auditing system combining internal environmental audits, third-party compliance assessments, and audits by the head office.

Environmental Education

Examples of initiatives and programs aimed at environmental education within the entire Mitsubishi Electric Group.

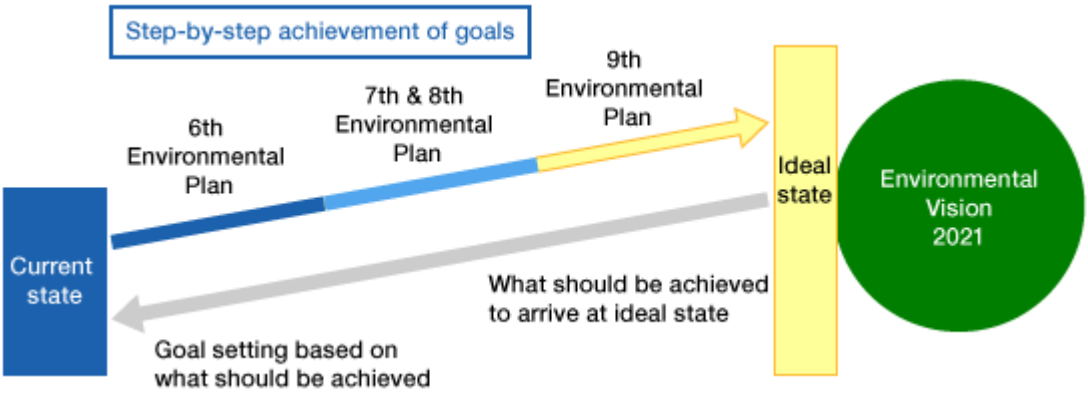
Training Key Environmental Personnel

The significance of our key environmental personnel training, and the structure of our training programs.

Environmental Communication

Examples of conversations with stakeholders and dissemination of information through multiple opportunities and media.

Aiming to Achieve Environmental Vision 2021



The Mitsubishi Electric Group conducts environmental management under an annual Environmental Implementation Plan, which in turn follows a broader Environmental Plan formulated every three years. Through a cycle of scrutinizing and summarizing achievements each year and reflecting those results in plans for the next year, the Group steadily achieves the goals of the Environmental Plan.

In addition, we recognize the need to establish clear and long-term goals for environmental management in response to today's calls for sustained efforts toward resolving environmental issues. In October 2007, we released our long-term vision, "Environmental Vision 2021," with its target year of 2021 marking the 100th year since the company's establishment. We have incorporated its content into environmental planning starting with our 6th Environmental Plan (fiscal 2010–2012), asking ourselves what measures we need to take to achieve our ideal vision.

Environmental Report : Environmental Vision 2021

Environmental Report : Evolution of the Environmental Plan

Environmental Report : 6th Environmental Plan (Fiscal 2010 - 2012)

Expanding Global Environment Management of the Mitsubishi Electric Group

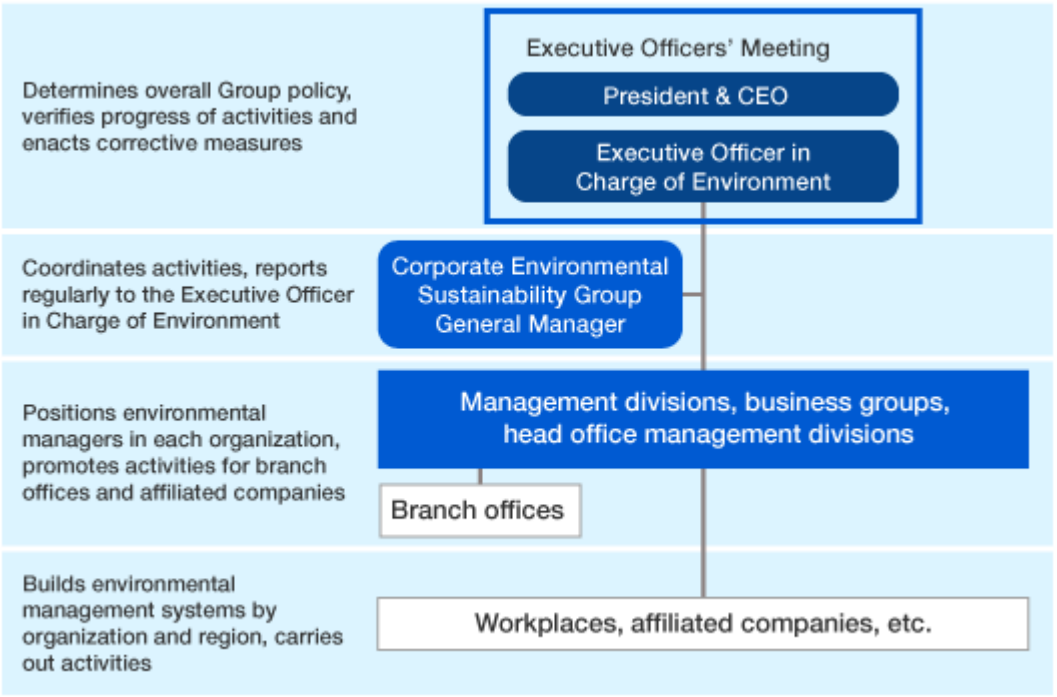
In order to fulfill its responsibilities as a corporate group carrying out business globally, the Mitsubishi Electric Group aims in its 6th Environmental Plan (fiscal 2010–2012) to establish and continuously improve a uniformly high level of quality in environmental management across all organizations within the Group.

Environmental Governance and Environmental Management

Mitsubishi Electric positions environmental governance as an essential component of corporate governance. The scope of our environmental governance extends to our company and our major subsidiaries and affiliates accounted for by the equity method (totaling 102 companies in Japan and 66 overseas, or 168 overall, as of March 31, 2011).

In our environmental management, we work purposefully to carry out environmental conservation activities in applicable organizational divisions. From the head office's administrative divisions to all administrative and business groups, workplaces and affiliated companies, each organization works within the scope of its management and supervisory responsibilities to develop a structure that manages the planning, execution of plans, and environmental performance of its respective downstream divisions. As the Mitsubishi Electric Group's environmental management structure is an integral part of the corporate body, all employees in applicable divisions participate in our environmental activities.

A full-participation environmental management promotion structure integrated with the corporate organization

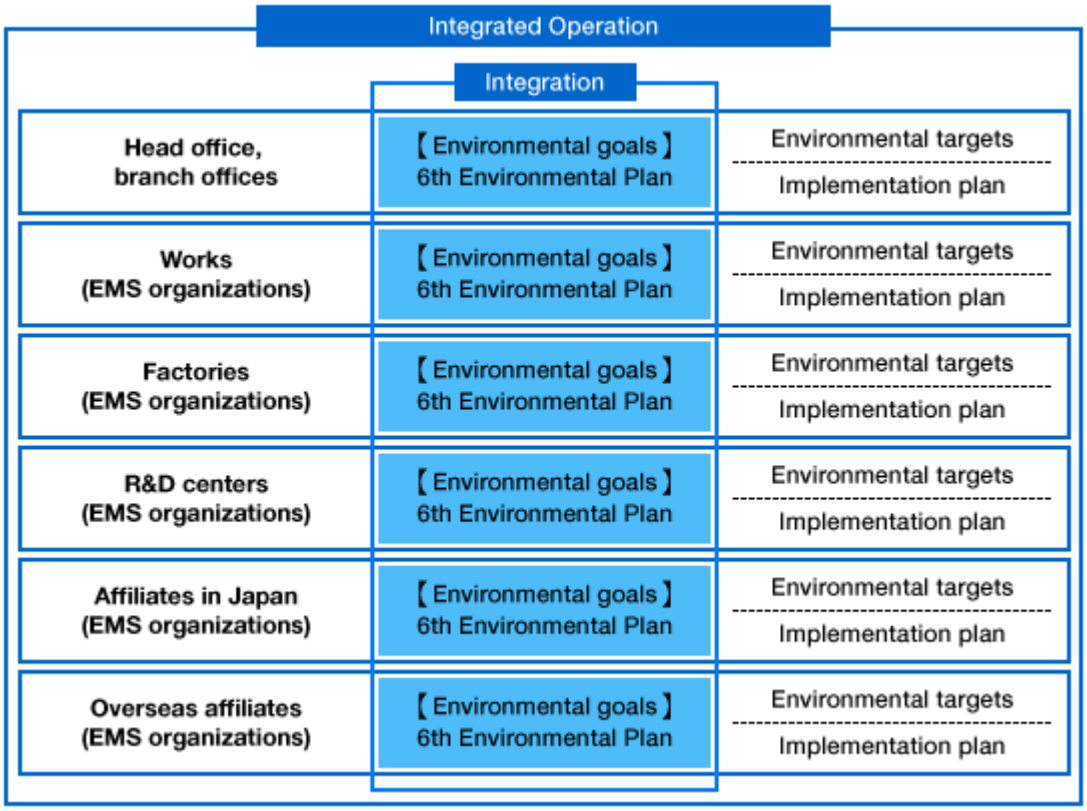


The Mitsubishi Electric Group has established a full-participation environmental management promotion structure integrated with the corporate organization. This structure is the responsibility of the Executive Officer in Charge of Environment and is assisted by the General Manager of the Corporate Environmental Sustainability Group, all under the Executive Officers' Meeting chaired by the President. The structure places environmental managers within all business groups, management divisions, branches, business units, works, and affiliated companies, to establish and operate environmental management systems (EMS) at the corporate organization and regional level, promoting environmental activities throughout the Group.

Integrated operation of management systems around the shared goal of the Environmental Plan

In its 5th Environmental Plan (fiscal 2007–2009), the Mitsubishi Electric Group established a structure aimed at the group-wide integrated operation of Environmental Management Systems (EMS), launching operations from fiscal 2009.

Environmental management, an aspect of business management based on the Mitsubishi Electric Group's Environmental Policy, is executed according to the requirements of the international standard ISO 14001. Each organization takes the achievement targets for the year from the Environmental Plan (currently the 6th Environmental Plan) and sets those as its environmental goals. In this way, environmental management vectors are aligned and the EMS of the Mitsubishi Electric Group is implemented in an integrated fashion, while specific environmental targets and implementation plans are set by each organization.



Increasing the Number of Companies Conforming with ISO14001

Operating programs for ISO14001 certification and self-declaration of conformance will continuously enhance the level of our environmental management

The Mitsubishi Electric Group promotes the acquisition of ISO14001 certification, particularly at production facilities; Mitsubishi Electric Corporation has completed certification at all production facilities and corporate offices. For non-production sites and at small-scale production sites of affiliates, we also promote acquisition of third-party certifications such as ISO14001 and Japan's Ministry of the Environment's Eco Action 21 certification. On the other hand, Mitsubishi Electric applies its program of self-declaration of conformance to sites that are not yet third-party certified but whose management level is recognized as compliant to the ISO14001 standard.

Environmental Report: Expanding ISO 14001 Conformity

Environmental Audits

Conducting three types of environmental audits in Japan and Overseas

To verify the status of environmental management systems (EMS) and environmental regulatory compliance at its offices, the Mitsubishi Electric Group carries out three types of environmental audits: internal environmental audits conducted by works, R&D centers, and affiliated companies; environmental audits led by the head office to verify legal compliance and the progress of the Mitsubishi Electric Group's environmental planning; and management system audits conducted by certification bodies in accordance with ISO14001. Through these three types of audits conducted by different entities, we are able to inspect our activities from diverse perspectives.

Environmental Report: Environmental Audits

Activity Flow (Management Cycle)

Continual verification of activity results

Setting a cycle (management cycle) of one year, the flow of our environmental activities is as follows:

(1) Fiscal year planning
(2) Environmental implementation planning
This plan determines the achievement targets and action plan for the fiscal year, based on the Environmental Plan

(3) First-Half Managers' Conference (Companywide Environmental Managers' Conference)
At this conference, environmental managers from all Group companies confirm and

familiarize themselves with information and policies on particularly vital themes.

(4) Confirmation of half-year progress and achievements
The Corporate Environmental Sustainability Group collects data on topics such as environmental performance, and reports to the Executive Officer in Charge of Environment. The Executive Officer conducts reviews and revisions of plans as required, such as in the case of major changes in the work environment of the Group overall.

(5) Second-Half Managers' Conference (Companywide Environmental Managers' Conference)
At this conference, environmental managers from all Group companies make progress reports and recommend directions to consider in planning for the next fiscal year.

(6) Annual environmental results report
The Corporate Environmental Sustainability Group collects data on environmental performance for the fiscal year and reports to the Executive Officer in Charge of Environment.

(7) Management review
The Executive Officer in Charge of Environment reviews activity results, revising the Environmental Plan and Environmental Implementation Plan for the next fiscal year as necessary.

Repeating the cycle of planning (or revision in the second half), implementation, inspection of results, and revision every half year, we improve the level of our activities. In addition, we conduct on-the-spot audits and inspections to verify that appropriate actions are being performed.

Information Sharing in Conferences

Sharing information in conferences to improve overall management level

In addition to issue-specific technical committees and EMS Organization Managers' Conferences, the Mitsubishi Electric Group holds conferences in Japan and overseas, bringing together environmental managers from all divisions. These sessions help to regularly and continuously share useful information, including best practices and cautionary items taken from division activities, while confirming key points that require coordination. The conferences play a vital role in improving the overall level of management.

- **In Japan**
  Every six months, environmental managers from all of our offices and affiliates in Japan come together at our Company-Wide Environmental Managers' Conference. The Conference involves the Executive Officer in Charge of Environment providing notices regarding policies, all divisions reporting on the progress of their initiatives, and sharing of information among environmental managers. In addition the Company-Wide Managers' and Practitioners' Conference that brings together environmental managers and practitioners from affiliated companies in Japan and overseas is held at the business group level. Participants confirm progress regarding policies, share information and deliberate over improvement measures.
- **Outside Japan**
  We hold the Overseas Regional Environmental Conference once a year in the U.S., Europe, China and Asia. Convened by the Corporate Environmental Sustainability Group, the conferences gather environment managers from our overseas affiliates. With added participation from business groups and mother factories in Japan, the conferences strengthen coordination with the head office and among overseas affiliates, and enhance the level of environmental management at each site.

Complying with International Environmental Regulations

Ensuring compliance with environmental regulations

While local companies closely comply with laws and regulations that differ by country and region, the Group as a whole enacts corrective measures based on audits led by the head office, thereby ensuring its compliance with international regulations such as RoHS, REACH, CLP, and WEEE.

Environmental Report : Complying with Environmental Regulations

Personnel Training for Environmental Activities

Training key environmental personnel

We conduct training of "key environmental personnel" to reduce environmental risks and improve management capability and performance. The program targets personnel who shoulder environmental management duties at factories, and the managers who supervise such practitioners.

- **In Japan**
  We conduct education for applicable persons to enhance the knowledge and practical abilities required of key environmental personnel.
- **Outside Japan**
  We have begun studying programs geared to conditions in each region.

Environmental Report : Training Key Environmental Personnel

Respecting Biodiversity and Fostering Environmental Awareness

Hosting Mitsubishi Electric Outdoor Classrooms and expanding the "Satoyama" woodland preservation project

The Mitsubishi Electric Group positions the fostering of environmental awareness as a part of its biodiversity conservation activities. Working under this policy, each of our offices in Japan and overseas develops activities locally.

- **In Japan**
  We continue environmental conservation activities centered on two initiatives: the Mitsubishi Electric Outdoor Classroom for learning about ecosystems, and the "Satoyama" woodland preservation project that joins hands with communities to protect the natural environment. Our plans call for training 50 employees every year as new Outdoor Classroom leaders.
- **Outside Japan**
  In addition to continuing our tree-planting activities, in fiscal 2011 we also launched the Mitsubishi Electric Outdoor Classroom overseas.

Environmental Report : Fostering Environmental Awareness

Environmental Report: Mitsubishi Electric Outdoor Classroom

Environmental Report: "Satoyama" Woodland Preservation

Promoting Understanding of the Relationship between Business Activities and Biodiversity

In May 2010, we established Biodiversity Action Guidelines that lay out a path for employees to understand and think about biodiversity through the products they create. We also launched activities that focus on the process of manufacturing familiar to employees, to help them better

understand the relationship between factories and the surrounding natural environment.

Environmental Report: Business Activities and Biodiversity

Improving Environmental Performance

Increasing products created based on "Design for Environment" principles

We are promoting "Design for Environment" design based on the assessment of products from three standpoints: effective use of resources, efficient use of energy, and avoidance of emissions of environmentally risky substances.

Environmental Report: Design for Environment

Systematically Reducing CO_2 in Targeted Products

In Environmental Vision 2021, we established the goal of cutting CO_2 emissions during the use of our products by 30%. Toward that end, we are specifying products that can contribute to CO_2 reductions and purposefully carrying out reductions, as we aim to reduce fiscal 2012 emissions by an average of 25% compared with fiscal 2001.

Environmental Report: Reducing CO_2 from Product Usage

Making Targeted Products Smaller and Lighter and Promoting Recycling

To lessen inputs of resources, we are working to make products smaller and lighter, while also promoting their recycling. By the end of fiscal 2012 we will expand the number of targeted products to over 60 (from 32 in fiscal 2009), with the aim of reducing emissions by an average of 30% compared with fiscal 2001.

Environmental Report: Reducing Resource Inputs

Promoting the Recycling of Four Household Appliances

In accordance with the Law for the Recycling of Specified Kinds of Home Appliances (Home Appliance Recycling Law), we are working to advance the recycling of four household appliances: air conditioners, television sets (CRT, LCD and plasma), refrigerators, freezers, washers and dryers.

Environmental Report: Recycling End-of-Life Products

Expanding Business by Offering Products that Contribute to Realizing a Low-Carbon Society

We aim to contribute to the realization of a low-carbon society by providing a variety of energy-saving products and businesses. These include photovoltaic systems, power devices, high-efficiency vehicle equipment, energy conservation equipment, high-efficiency lighting, energy-saving building equipment, home appliance recycling, the heat pump application business and clean energy.

Environmental Report: Environment-Related Business

Two Measures to Achieve 30% Reduction in Total CO_2 Emissions from Production

One of the targets of Environmental Vision 2021 is a 30% reduction in total CO_2 emissions from production. To meet this target, we are making hidden wastage of energy in production processes transparent and addressing them through production line improvements, while raising

the efficiency and performance of air conditioning, lighting and other utility equipment.

Environmental Report: Reducing CO_2 from Production

Reducing Non-CO_2 Greenhouse Gases through Improving and Renewing Equipment and Switching to Alternative Substances

Through improvement and renewal of equipment and replacement of substances with alternatives, we are cutting our emissions of SF6 (sulfur hexafluoride; used as an electrical insulator gas in insulated switchgear), HFC (hydrofluorocarbons; used as a refrigerant in air conditioners and refrigerators) and PFC (perfluorocarbons; used as an etching gas for semiconductors and LCDs).

Environmental Report: Reducing Emissions of Non-CO_2 Greenhouse Gases

Developing Zero-Emissions Measures Matched to Waste Generation and Disposal Conditions at Each Site

One of the targets of Environmental Vision 2021 is a final disposal rate of less than 0.1% across all Group locations. Toward that end, we have set targets of less than 0.1% for Mitsubishi Electric, less than 0.5% for domestic affiliates, and less than 3.0% for overseas affiliates, and are developing measures accordingly that take into account waste generation and disposal conditions at each site.

Environmental Report: Zero Emissions

Promoting the Effective Use of Water Resources from a 3R Perspective

We are working toward the effective use of public water, industrial water, ground water and other precious water resources from a 3R perspective.

Environmental Report: Using Water Effectively

Managing Targeted Chemical Substances under Our Own Chemical Substance Management System

We make comprehensive use of our Chemical Substance Management System to manage 2,097 substances, both substances we voluntarily manage and those targeted by the revised PRTR law.

Environmental Report: Managing Chemical Substances

Reducing CO_2 Emissions by Making Logistics Transparent and Understandable

Through quantitative evaluation of our logistics activities, we are working to make logistics transparent and understandable. We aim to achieve transport efficiency, improve economics and realize an environmentally low-impact "Eco-Logistics" (Economy & Ecology Logistics).

Environmental Report: Reducing CO_2 from Logistics

Reducing the Use of Disposable Packaging Materials from a 3R Perspective

Under a basic policy of reducing the amount of transport packaging to deliver products safely to customers, we are working to simplify packaging (Reduce), expand applications for returnable containers and packaging (Reuse) and convert used packaging materials into reusable materials (Recycle).

Expanding ISO 14001 Conformity

6th Environmental Plan (fiscal 2010–2012) Targets and Progress in Fiscal 2011

Expanding Global Environmental Management

Increase number of companies conforming with ISO 14001						
6th Environmental Plan (Fiscal 2010–2012) [Fiscal 2012 Targets]		Fiscal 2010	Fiscal 2011			Fiscal 2012
		Results	Targets	Achievements	Self-evaluation	Targets
Affiliates in Japan	Increase number of conforming from 77* to 101	Mitsubishi Electric confirmed ISO14001 conformity for 15 out of the 22 uncertified companies. We assisted acquisition of third-party certification for the remaining 7 companies; and confirmed acquisition for 2.	Confirm ISO14001 third party certification or self-declaration of conformance for 5 uncertified companies.	Mitsubishi Electric confirmed ISO14001 certification for 2 companies as well as the self-declaration of conformance for 3.	☺	Continue confirming compliance.
Overseas Affiliates	Increase number of conforming from 36* to 66	Mitsubishi Electric confirmed ISO14001 conformity for 17 out of the 28 uncertified companies.	Investigate ISO14001 conformity status for 11 uncertified companies.	Mitsubishi Electric confirmed ISO14001 certification for 3 companies and determined conformity confirmation is unnecessary for 8.	☺	Continue confirming compliance.

* Numerical targets: The number of companies acquiring ISO certification since the announcement of the 6th Environmental Plan, and the number of companies which should achieve compliance, have been revised to accommodate for changes in the number of affiliates and detailed investigations of the scope of individual companies' environmental management systems.

Number of certified companies
Affiliates in Japan: At time of announcement of 6th Environmental Plan: 63 → At time of starting activity: 77
Overseas affiliates: At time of announcement of 6th Environmental Plan: 31 → At time of starting activity: 36

Targets for the end of the last fiscal year of the 6th Environmental Plan
Affiliates in Japan: Target set at the end of fiscal 2010: 99; Revised target set in fiscal 2011: 101
Overseas affiliates: Target set at the end of fiscal 2010: 64; Revised target set in fiscal 2011: 66

In order to continuously improve the level of environmental management, the Mitsubishi Electric Group has focused on acquiring ISO 14001 certification at its production sites. Mitsubishi Electric acquired certification for all its production sites by 1999, and the head office and branch locations were certified in 2004. The 6th Environmental Plan (fiscal 2010–2012) expands these initiatives to non-production sites and the small-scale production sites of affiliated companies. Efforts are being redoubled throughout the group to improve our environmental management level.

For this purpose and in addition to continuing the acquisition of ISO 14001 and Japan's Ministry of the Environment Eco-Action 21 third-party certification for each site, Mitsubishi Electric has also established a "self-declaration of conformance" system. We can use this system to confirm that the environmental management level of the site which has not yet acquired third party certification is in accordance with ISO 14001 standards.

This self-declaration of conformance is described in ISO 14001: 2004 [1. range of application c) 1] and allows businesses to determine for themselves if an Environmental Management System conforms to ISO 14001, and based on this certification mechanism they can forgo inspections by a certification body. It is imperative to bring the level of environmental management up to complete conformance with ISO 14001 standards.

Of the five domestic affiliates that had not acquired ISO14001 certification, two received third-party certification in fiscal 2011. For the remaining three companies, we confirmed our self-declaration of conformance with ISO14001. Of eleven overseas affiliates that had not acquired ISO14001 certification, we confirmed our self-declaration of conformance with ISO14001 for three. We re-examined the activities of each of the remaining eight companies and determined that individual checks on ISO14001 conformity are not necessary for these.

Based upon this result, we determined that we achieved the 6th Environmental Plan's target to increase the number of ISO14001-compliant companies. From fiscal 2012 onward, we will confirm ISO14001 conformity for new affiliates joining the Group as well as strive for ongoing conformity.

Complying with Environmental Regulations

Efforts towards Compliance

Basic policies regarding compliance with environmental laws and regulations, and initiatives taken in fiscal 2011.

Environmental Risk Management

Policies and initiatives related to handling of groundwater and soil contamination, prevention of environmental accidents, proper storage and treatment of PCBs, and handling of transformers with low-concentration PCBs.

Complying with Environmental Regulations

Efforts towards Compliance

Basic Policies and Initiatives Relating to Legislation in Fiscal 2011

Sharing information and continuing self-audits/inspections

Ensuring a proper response to environmental regulations that vary by country or region requires a proper understanding of the details of each regulation, such as its scope of application and any actions to revise it. The Mitsubishi Electric Group collects and shares the latest information on regulations, and takes ongoing corrective action based on self-audits and inspections.

Our main initiatives for 2011 that relate to environmental regulations were as follows.

- **Initiatives Concerning REACH[1], CLP[2], RoHS[3], the PRTR Law[4] and the Chemical Substances Control Law[5]**
  In December 2009, Mitsubishi Electric launched the Chemical Substance Information Management System to enable the collection and sharing of legally-required information on substances among our business partners. In fiscal 2011, we continued to input and accumulate substance data in the system, readying it for purposes such as submitting notifications to authorities in Europe. Moreover, Group companies outside Europe, including in Japan, prepared common rules in fiscal 2011 to integrate administrative procedures required for compliance with EU REACH and CLP regulations.

  In addition to this, we are working to study the direction of RoHS revisions in the European Parliament and European Council, and to promulgate information on the requirements of draft revisions as well as consider appropriate responses.

  With respect to revisions to Japan's PRTR Law and ordinances, we undertook construction of a new MSDS database conforming to the revised list of targeted substances, and upgraded our PRTR data collection system. In addition, with respect to the Chemical Substances Control Law, we reflected changes in exceptional use of Class 1 specified chemical substances into our management system.

  Under our Green Certification system, our company evaluates suppliers' management of chemical substances contained in delivered products. In fiscal 2011, we continued to maintain a 100% Green Certification rate.

- **Initiatives Concerning the Energy Conservation Law**
  The revised Energy Conservation Law was enacted in April 2010, calling for reporting and management of energy usage at the company level. To fulfill our responsibility under our designation as a "specified business operator," we reorganized our energy management structure headed by the Executive Officer in Charge of the Environment as the supervising energy manager, as we are setting and implementing policies as well as rules for energy management.

- **Initiatives Concerning ErP Directives[6]**
  For each of our product groups, we worked to address the energy conservation requirements that have been incorporated into international standards.

- **Initiatives Concerning the Soil Contamination Countermeasures Law**
  In accordance with the revised law enacted in April 2010, we conducted assessments in conjunction with land redevelopment and ensured appropriate legal compliance.

- **Initiatives Concerning the Waste Management and Public Cleansing Law**

  In fiscal 2011, one legal violation occurred due to a domestic affiliate's improper understanding of the Waste Management and Public Cleansing Law. The company misjudged the classification of wastes and valuable resources when outsourcing processing of unwanted materials, and subsequently contracted the processing of wastes to an unauthorized handler with no contract for industrial waste treatment outsourcing. To prevent the recurrence of such an incident, we renewed our education for parties connected with waste processing. We also reworked our processing flow for unwanted materials so as to allow discovery of any mistake in judgment before outsourcing to external parties. Furthermore, we repositioned items related to processing of unwanted materials as priority inspection items in systems such as environmental audits, and are taking steps to prevent the occurrence of similar problems.

  In addition, to ensure compliance with the amended Waste Management and Public Cleansing Law enacted in fiscal 2011, we are undertaking briefings and other educational instruction to call attention to key points throughout the Group.

1 REACH: REACH is a regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals, which went into effect in the EU in 2007. The regulation mandates registration and risk evaluation for chemical substances in chemicals amounting to 1 ton or more per year that are manufactured in or imported into the EU, as well as provision of information concerning chemical substances to customers and consumers, and notification to the European Chemical Agency for articles such as electrical and electronic products that contain specific chemicals.

4 CLP: A regulation concerning the Classification, Labeling, and Packaging of chemical products (and their compounds).

3 RoHS: This legislation, which went into effect in July 2006, limits the use of six specified substances in electrical and electronic products.

4 PRTR Law: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to their Management.

5 Chemical Substances Control Law: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

6 ErP Directive: This directive, phased in from 2008, specifies energy-saving/eco-designs for products that use electricity.

Complying with Environmental Regulations

Environmental Risk Management

Handling Groundwater and Soil Contamination

Investigations and Measures Accompanying Changes in Land Use

Mitsubishi Electric's internal regulations call for investigating whether groundwater or soil contamination is present in cases such as land redevelopment, with environmental assessments and countermeasures to be conducted as required.

Based on these internal regulations, when land redevelopment or other such changes take place, we conduct assessments at company and affiliated company sites (including factories and offices) based on investigative procedures outlined by directives including the Soil Contamination Countermeasures Act, and then enact countermeasures appropriate to the contamination scenario.

In fiscal 2011 we evaluated the findings and countermeasure proposals from groundwater and soil surveys accompanying 17 cases of changes in land use (9 in Mitsubishi Electric, 8 in affiliated companies), and verified that appropriate responses were conducted in all cases.

Moreover, for the 12 districts in which groundwater or soil contamination have been found in the past, we are carrying out ongoing remediation measures according to laws and regulations while continually reporting the results of monitoring to the appropriate authorities.

Prevention of Environmental Accidents

Using 5-Why analysis to identify causes of incidents and prevent reoccurrence

To guard against incidents with severe impact on the environment (i.e., environmental accidents), the Mitsubishi Electric Group employs measures such as early replacement of aging equipment and cross-inspections among production sites.

Furthermore, in the event of environmental accident or of incidents that could lead to such, we research causes using 5-Why analysis and work toward prevention of reoccurrence by sharing the information gained. 5-Why analysis is the method of determining causes by asking "Why did this occur?" and with regard to each reason found, asking "Why did that happen?" The questioning enables discovery of the true causes behind incidents, as well as related hidden factors. Added analysis from third parties leads to further effective solutions from different viewpoints.

In fiscal 2010, two incidents occurred that carried with them the possibility of an environmental accident. By looking into causes through 5-Why analysis and working with the guidance of administrative authorities, we took corrective actions to prevent reoccurrence.

In fiscal 2011, we strengthened environmental patrols and held briefings to disseminate causal analysis methods used in our 'Why' Analysis Guide Sheet to all domestic and overseas production sites. We also utilized the same Guide Sheet in education for key environmental personnel.

Appropriate Storage and Processing of PCBs

Completed processing of 111 units in fiscal 2011

At least once per year we inspect and check stored PCB waste and in-use devices that contain PCBs, at each site at which these are stored. Personnel responsible for supervising or carrying out work involving PCBs are trained to ensure that storage conditions are properly managed.

We currently dispose of PCB waste in a systematic manner on the basis of a contract signed in fiscal 2007 with the Japan Environmental Safety Corporation (a fully owned government body that conducts PCB waste disposal under government supervision).

In fiscal 2011, we completed processing of 111 units. Based on the JESCO plan for priority processing of units held by small- and medium-sized enterprises, we plan to process 102 units in fiscal 2012.

Our affiliates in Japan are also moving ahead with processing in a systematic fashion.

Customers can determine whether they have any electrical devices that use PCBs and were manufactured by the Mitsubishi Electric Group by referring to a list posted on the Group website.

Handling Transformers with Trace PCBs

Launching Appropriate Waste Treatment in Fiscal 2011 at Minister of the Environment-Authorized Facilities

With respect to the possibility of trace amounts of PCBs contaminating transformers and other devices, Mitsubishi Electric has investigated scenarios including the possibilities of contamination during the manufacturing process, contamination after delivery, and contamination through insulating oil. However, unable to identify the causes, devices involved, or time of manufacture, our conclusion is that we cannot negate the possibility of trace PCB contamination in electrical devices that use electrical insulating oil and that were manufactured prior to 1989.

Regarding devices manufactured from 1990 onward, given the strengthening of quality control for insulating oil, we have determined that there has been no contamination by trace PCBs at time of product shipment.

Together with ongoing quality control for insulating oil, we are working to provide technical information via our website, and are responding to individual inquiries via a customer service desk already in place.

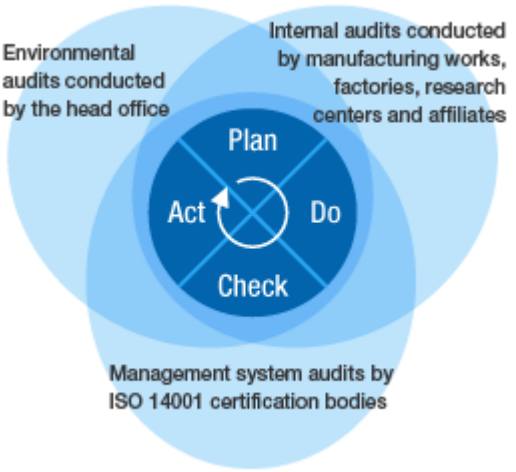
Mitsubishi Electric also participates in the PCB Disposal Committee of the Japan Electrical Manufacturers' Association, cooperating with the industry group to disseminate information and evaluate disposal policies.

Among the trace PCB wastes retained by the Company, in fiscal 2011 we began treatment of oils containing PCBs (i.e., electrical insulating oil with traces of PCB) at Minister of the Environment-authorized incineration facilities. We intend to continue this processing in fiscal 2012. Pursuant to the expansion of authorization by the Minister of the Environment for treatment facilities and treatable items, we plan to proceed with treatment of stored trace PCB wastes going forward.

Environmental Audits

Multi-faceted Monitoring of Activities with Three Types of Environmental Audits

The Mitsubishi Electric Group works to improve the quality of its environmental management in a diversified manner by utilizing three different types of audits with differing administrators and standards.



The first type is internal environmental audits, conducted by works, R&D centers, and affiliated companies once or twice a year to check on compliance with local and other laws and regulations and conformance with ISO standards at the organization level.

The second type, aimed at branches, works, R&D centers, and affiliates, is environmental audits to verify initiatives to reduce environmental risk, compliance with environmental laws and environment-related corporate rules, and the progress of the Mitsubishi Electric Group's environmental planning. These audits are led by the head office and are generally carried out once every two years. The results of audits are reported to the President by the Executive Officer in Charge of Environment, and are conveyed throughout the Mitsubishi Electric Group via reports and the Environmental Managers' Conference. The audits aid in improving the content of activities at all offices. Outside Japan, we primarily carried out "environmental site inspections" until the end of fiscal 2011, but in order to further raise the level of environmental activities at our overseas sites, we have reworked common inspection items for use worldwide so as to align the quality of our environmental activities as a Group. Under this reworking, we plan to conduct audits starting in fiscal 2012 that are based on a common set of standards and inspection items both in Japan and overseas.

The third type is management system evaluations conducted by certification bodies under ISO 14001.

As properly conducted audits call for a high level of specialized knowledge and communication abilities, we carry out ongoing education for the purpose of training and improving the skills of auditors. We also conduct cross-audits among sites, dispatch instructors to sites from the head office, draw up auditing guidelines, offer training courses over our intranet, and share relevant information across the Group.

Through these three types of audits and the training of auditors who perform them, Mitsubishi Electric will continue to work to qualitatively improve our environmental management.

Overview of the Three Types of Environmental Audits

	Internal audits conducted by works, factories, R&D centers, and affiliated companies	Environmental audits conducted by the head office	Management system evaluations conducted by ISO certification bodies
Auditing Standards	● Laws and regulations ● ISO standards ● Site-specific regulations ● Progress on the Environmental Plan	● Laws and regulations ● Company regulations related to the environment ● Environmental Plan	● ISO standards
Frequency	Once a year or once every half year	Every two years	Once a year

Environmental Audits and Site Inspections by the Head Office

Environmental audits by the head office involve interviewing the management of our branches, works, R&D centers, and affiliated companies. These audits look into the implementation of the Environmental Plan on paper and on-site, covering areas that include the status of legal compliance and environmental risk management (including disaster prevention and safety measures), the use of internal environmental audits, the handling of chemical substances used in products and manufacturing processes, and the status of product assessments and green procurement.

Furthermore, to ensure full compliance with revisions to environmental laws and regulations, we audit the status of compliance at each site in detail and order prompt remedial measures when areas of non-conformance are discovered. Examples of improvement measures for areas of non-conformance are compiled into a booklet and distributed within the Group. We also hold classes to ensure thorough understanding of environmental laws and regulations and raise awareness of compliance-related issues. In fiscal 2011 we held such classes five times, with a total of 513 participants.

Overseas, the head office conducts on-site environmental inspections at production sites, based upon a common global checklist. These diagnoses are aimed at risk management and involve discussions to solve problems at the sites.

In fiscal 2011 we performed environmental audits and inspections at 103 sites (13 at our works, 14 at head office divisions, 5 at branches, 60 at affiliates in Japan, and 11 at overseas affiliates), followed by appropriate remediation and preventative measures to address areas of non-conformance.

In fiscal 2012, our audits will cover 104 locations worldwide (12 company works, 15 head office divisions, 5 branches, 60 affiliates in Japan, and 12 affiliates overseas). We will also conduct follow-up with offices that undertook corrective measures in fiscal 2011, as well as identify cases where corrections or improvements were made concerning measures to prevent environmental problems. In turn, this information will be disseminated across our entire organization.

On an environmental audit in Japan

On an environmental audit in Asia

Environmental Education

Enhancing Environmental Education Programs in Specialized and General Education

One feature of Mitsubishi Electric's environmental education is the depth of its specialized programs offered to all employees.

In fiscal 2011, we implemented the Environmental Management System Professional Course to train internal environmental auditors for performing rigorous audits; Key Environmental Personnel Education to train personnel who take the overall lead in environmental management activities in our factories; and the Waste Course to teach waste handling practices in compliance with the Waste Disposal and Public Cleansing Act of Japan. We are also putting efforts into educating energy conservation leaders who form the heart of our measures to reduce CO_2 emissions at production sites. We plan to expand the scope of this Energy Conservation Promotion Leadership Training to cover affiliated companies in fiscal 2012. In addition, as an educational activity to raise environmental awareness outside the company, we hold the Mitsubishi Electric Outdoor Classroom in regions around the country to foster environmental awareness.

We also incorporate appropriate environmental education programs into the general education implemented by the Mitsubishi Electric Group. This general education provides education matched to milestones of working life, such as when first joining the company, receiving promotion to manager, reaching 30 years of age or receiving an overseas assignment. As an example of the environmental education content included in this curricula, education for newly promoted managers includes reasserting the company's environmental policies and addressing matters concerning environmental activities that managers need to note. As another example, education for Japanese employees posted overseas covers introductions to legal issues and the company's international activities.

We plan to continue enriching our environmental education, empowering employees with the skills and knowledge necessary for environment activities across the entire Group.

Environmental Education Programs in Specialized Education

Name	Content/features
Key Environmental Personnel Training	● At home and abroad, risks accompany our actions that involve the environment and environmental laws. Seminar participants systematically acquire the environmental management knowledge and skills necessary to understand and reduce these risks.
Energy Conservation Promotion Leadership Training	This training program develops human resources for strengthening improvement activities at our factory production lines. ● Participants develop their leadership ability to take the initiative in production line and equipment improvement activities. ● In addition to learning examples of improvements and acquiring the skills needed to promote energy conservation, participants improve their ability to summarize results and conduct presentations.
Environmental Management System Professional Education Course	● Using actual case studies, participants learn how to apply ISO14001 standards and how to put environmental management to practical use.
Design for Environment	● Acquisition of knowledge and basic concepts surrounding design for environment, the ability to design for separation and disassembly through hands-on experience at appliance recycling plants
Waste Management Education / Regulatory Education	● Overview of recent legal revisions, courses in waste management ● Carry out education on waste management, regulations, etc. at dispatch locations in response to requests by Mitsubishi Electric workplaces and Group companies
Training Course for Mitsubishi Electric Outdoor Classroom Leaders	The program trains leaders to firmly establish and expand the Mitsubishi Electric Outdoor Classroom, a program which works to foster environmental awareness. ● Acquisition of knowledge and skills required to operate Classrooms, including points for communication with children and response measures in the event of injury

Environmental Education Programs in General Education

Name	Content/features
New Employee Orientation	● Participants learn the company's environmental policies and activities, and how to apply these in the workplace.
Newly-appointed Manager Training	● Participants reaffirm the company's environmental policies, and learn the company's achievements and plans. Participants also confirm the environmental activities involved in the scope of manager responsibilities in manufacturing and design.
Age 30 Training	● Having accumulated some level of experience at the milestone age of 30, participants reaffirm the business activities of the Mitsubishi Electric Group, including its environmental activities.
Overseas Assignee Orientation	● The company conducts environmental education as a part of the educational curriculum for employees assigned to an overseas posting. Participants gain the knowledge and skills needed to lead activities abroad, from the standpoint of carrying out requests for cooperation with environmental planning. ● Participants learn about the policies of the Mitsubishi Electric Group and overseas regulatory developments, etc. ● Participants learn about the company's activities internationally so as to assist in environmental improvement activities at their overseas posting.

Key Environmental Personnel Training

Employees with extensive experience in pollution and waste management act as instructors to transfer their skills and experience.

MELCO Seminar

Remote attendance at courses is possible over the Internet.

Waste course

Nearly 500 persons participate every year.

Training Key Environmental Personnel

Targets of the 6th Environmental Plan (Fiscal 2010–2012)

Expanding Global Environmental Management

Targets of the 6th Environmental Plan

Training Key Environmental Personnel	
Targets of the 6th Environmental Plan (Fiscal 2010–2012)	Assign and train key environmental personnel at factories in China, Asia, Europe, and America

To develop personnel who will carry on the skills and experience of experts who have shouldered environmental management over many years, and who will accurately execute environmental management duties at our production sites, Mitsubishi Electric established "Key Environmental Personnel Training" in fiscal 2005, and has since trained over 20 persons every year. Our key environmental personnel training instills required capabilities under the guidance of employees with extensive practical experience in pollution and waste management.

As we have now secured a certain number of such personnel in Japan, from fiscal 2011 we have expanded the target of the education beyond environmental management practitioners to encompass the managers who supervise them. Through this, we have embarked on the training of personnel who will comprehensively lead environmental management activities.

Outside Japan, too, we are working to put personnel in place to shoulder environmental management on an ongoing basis. To improve the level of environmental management, in fiscal 2011 we explored the implementation of key environmental personnel training overseas through our Regional Environmental Conferences in China, Asia, Europe, and the USA. In China, we are looking at the outcomes of the key environmental personnel training we conducted in fiscal 2009, as we conceptualize our next steps. In Asia, we are considering rolling out the personnel training we have implemented in Japan. In Europe and the USA, we need to continue considering what sort of educational methods are required locally. From fiscal 2012, we will gradually plan and implement education programs appropriate for each region.

Initiatives in fiscal 2011

In Japan: Trained 25 key environmental personnel

Overseas: Training not implemented; plans reviewed

In Japan, we conducted group training sessions 5 times that included 25 manager-level key environmental personnel.

Overseas, we did not implement training in fiscal 2011. Instead we reviewed training plans in accordance with the status of environmental activities at each site.

Planned Initiatives for fiscal 2012

In Japan: Train over 20 key environmental personnel, and enhance curriculum

Overseas: Begin planning and executing training methods geared to regional characteristics

In Japan, we plan to train over 20 persons, targeting manager-level staff involved in environmental management. In addition, we plan to raise the bar for training, enhancing the curriculum in areas such as gauging the ability to identify on-site risks.

Overseas, we are planning and executing training programs geared to regional characteristics in China, Asia, Europe, and the USA.

Key environmental personnel training

Under instructors with extensive experience in pollution and waste management, employees learn practical methods including the basics of environmental laws and regulations, analytical technology, risk prediction and management, environmental audits and more.

Environmental Communication

Disclosing Environmental Information Online and through Corporate Publications

Since 1998, Mitsubishi Electric has continuously reported on its environmental objectives and achievements through a combination of detailed data and case studies.

Environmental Report Website

Japanese language website

English language website

Environmental Action Report

Japanese language version

English language version

Chinese language version

"Eco Changes" Statement

In June 2009, we announced the environmental statement for the Mitsubishi Electric Group in Japan: "Eco Changes – from in the home to outer space." This statement expresses the Group's stance on environmental management. We also launched a dedicated website to introduce a variety of Eco Changes initiatives. For overseas markets, we established the statement "Eco Changes – for a greener tomorrow" in June 2010, and have begun gradually rolling out environmental communications in areas around the world.

eco Changes 家庭から宇宙まで、エコチェンジ。　for a greener tomorrow eco Changes

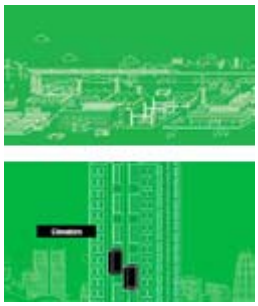
Eco Changes website

Japanese language website

Global website (In Global Environment Portal)

Environmental Statement Booklet

Examples of communications in other countries: Common concept, with communications tailored to each country



In the USA, a TV commercial was produced.

In Europe, an educational poster for in-house use was produced, as was a New Year's card and a uniquely shaped insert ad for specialty magazines.

In Asia, a billboard ad was placed along a major roads, the logo embossed on Polo shirts, and a tree-planting event held under the Eco Changes theme.

In Taiwan, an internal event called "Eco Changes Family Day" was held as part of the company's environmental education activities.

In China: "Jing Yu Jie Neng, Jin Xin Huan Bao" Statement

精于节能 尽心环保

In China, we are carrying out environmental communications under the catch-phrase "Jing Yu Jie Neng, Jin Xin Huan Bao," which translates roughly as "experts in energy conservation, devoted to environmental protection." The leaves decorating the logo represent the way in which Mitsubishi Electric is planting the seeds of technology, and fostering the growth of energy conservation and environmental protection.

7th Eco-Products International Fair

Mitsubishi Electric participated in the Eco-Products International Fair, held from February 10-12, 2011, in India's capital city of New Delhi. One of the largest international environmental exhibitions in Asia, the fair has been held in the Philippines, Indonesia and other Asian countries, and celebrated its 7th convening. This year's theme of "Green Productivity for Sustainable Energy and Environment" can be seen to also represent India's stance of focusing on economic development along with environmental initiatives. The Mitsubishi Electric Group displayed its environmental statement "Eco Changes" at the front of its booth. Through exhibits and video presentations on products and services that make use of environmental technologies, we indicated our stance of considering the environment and making positive contributions to the development of Indian society.

Indian government officials, businesspersons, local middle school students and many other visitors showed great interest in our booth's exhibits.

Placing Eco Changes balloons to declare Eco Changes in India


With challenges facing its power sector, India has shown strong interest in photovoltaic power


Middle school students listen attentively to an explanation of the principles behind the Lossnay total heat exchanger

Eco-Products 2010

Mitsubishi Electric exhibited at the Eco-Products 2010 Exhibition held at Tokyo Big Sight from December 9 to 11, 2010. Defining our booth theme as "Play. Learn. Mitsubishi Electric's Eco Changes," we offered fun and easy-to-understand encounters with various aspects of ecology for children and adults alike. With a growing number of schools making this exhibition a part of their educational curriculum in recent years, crowds of elementary and middle school children visited the booth each day. At our Hands-on Recycling Classroom, the centerpiece of the exhibit, we incorporated experiments into an introduction to recycling processes for used home appliances, and used 3D video to present an overview of recycling in our Home Appliance recycling plant. The ability to actually touch a piece of recycling technology, and to experience recycling processes that normally cannot be seen, proved to be very popular. Moreover, the "low-carbon" section of the exhibit used before-and-after illustrations in an easy-to-follow presentation showing how our many products, spanning the range "from in the home to outer space," are making Eco Changes possible.

Giant banner ads surrounding the venue

The Eco Changes monument, symbol of the booth

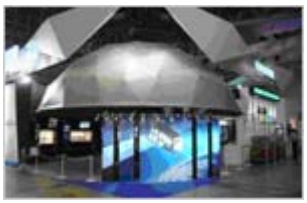
Hands-on Recycling Classroom

CEATEC JAPAN 2010

The CEATEC JAPAN 2010 exhibition was held at Makuhari Messe from May 5 to 9, 2010 under the theme "Digital Harmony – Technology for comfortable and eco living." In line with this theme, many exhibitors put forth displays with an environmental focus – including Mitsubishi Electric's booth, which introduced our smart grid business, used appliance recycling business, energy-saving home appliances, and other topics under the heading "Environment and Energy Business."

On the press-only first day of the event, Mitsubishi Electric Chairman Setsuhiro Shimomura gave the keynote speech as a representative of the industry. Under the title "Toward a Prosperous Low-carbon Society," his speech presented our company's initiatives to balance the creation of a low-carbon society with that of a prosperous society in such areas as personal safety, security, health and comfort.

Calling attention to our "Images, Environment, and Space" business using large and small Diamond Vision screens



Exhibiting our satellites in the dome-roofed Space Zone

Environmental Advertising

Mitsubishi Electric advertises its broad range of environmental technologies and products through a variety of media around the world.

Examples of environmental advertising in Japan and overseas

Eco Changes website (Japanese)

A number of advertisement examples can be found at the "Videos & Advertising" section of our Eco Changes website.

Key Technologies website (Japanese)

The Key Technologies website highlights Mitsubishi Electric's environmental technologies using easy-to-understand animations and images.

Dialogue with Stakeholders

Every year, the Mitsubishi Electric Group communicates with educational institutions and local residents through activities such as factory tours and environmental classrooms.

We also hold dialogue with various experts. In fiscal 2011, we invited Professor Toshihiko Takamura of Tokyo Denki University for an environmental management dialogue on the theme of "The Past and Future of Reducing CO_2 from Production."




Environmental Forum

On August 31, 2010, we held the 2010 Shanghai Energy Conservation and Environment Forum[1] in Shanghai, China. For this forum, following on from the Environment and Energy Conservation Private Forum held in August 2009, we teamed up with a major local media company, China Business News, to put together lectures and discussions by senior government officials and our company's executives, business-specific workshop sessions conducted by local companies, product exhibits, and more, in one venue.

The morning session featured a number of themed speeches about the future on a global scale, with a focus on China. Business-specific[2] technical workshop sessions were held in the afternoon. Experts in air conditioning, visualization of energy-savings, power devices, water treatment and elevators revealed the latest technologies and discussed future prospects.

Furthermore, as a cooperative project we employed China Business News' network to gain exposure across multiple media channels, including the broadcast of speeches as television programs, linked articles and ads in newspapers, and collaboration between our website and leading local portal sites.

1 Organized by China Business News, with planning and operation by Mitsubishi Electric and Mitsubishi Electric (China) Co., Ltd. as co-organizers.

2 Local companies (Mitsubishi Electric & Electronics (Shanghai) Co., Ltd., Mitsubishi Electric Shanghai Electric Elevator Co., Ltd., Guandong Ryoden Lift & Escalator Co., Ltd., Shanghai Mitsubishi Elevator Co., Ltd., Shanghai Mitsubishi Electric & Shangling Air-Conditioner and Electric Appliance Co., Ltd., Mitsubishi Electric Air-Conditioning & Visual Information Systems (Shanghai) Ltd., Mitsubishi Electric Automation (China) Ltd.) participated in exhibits and in planning and operating the workshop sessions.



Product-Related Initiatives

Design for Environment

Basic Stance
Factor X

Reducing CO_2 from Product Usage

Introducing objectives and results of fiscal 2011 initiatives to promote energy-saving products that are helping to create a low-carbon society.

Reducing Resource Inputs

Introducing objectives and results of fiscal 2011 initiatives to reduce the size and weight of products while promoting product recycling in an effort to realize a recycling-based society.

Complying with Chemical Substance Regulations

Green Accreditation System
Status of RoHS Compliance
The Status of Compliance with REACH Regulation

Recycling End-of-Life Products

Objectives and progress of initiatives to collect and recycle home appliances and ongoing development of advanced recycling technologies.

Environmental Technology R&D Achievements

SiC Power Devices
Photovoltaic (PV) Inverter
Smart Grid Demonstration Project
Office Building Energy Savings Simulation Technology
Automotive Motor Systems

Design for Environment

Basic Stance

Promoting Design for Environment activities based on product assessments that take into consideration three perspectives—effective use of resources, efficient use of energy and avoiding emissions of substances with potential environmental risk.
Promoting on a priority the reduction of CO_2 from product usage and resource inputs, two key product objectives under the Company's Environmental Vision.

Factor X

Pursuing products with a low environmental footprint and high performance using Factor X, an index that quantifies the idea of maximizing product value while minimizing impact on the environment.

Design for Environment

Basic Stance

Aiming for More Advanced Design for Environment

Reducing CO_2 Emissions and Resource Inputs in line with Environmental Vision 2021

Since fiscal 2005, the Mitsubishi Electric Group has promoted design for environment based on product assessments made from a MET[1] perspective, and has conducted evaluations using LCA[2]. In pursuing design for the environment, we have determined targets for individual products by utilizing the Factor X environmental efficiency improvement index. Products whose factor had improved over the previous fiscal year were designated as Eco-Products, while products whose factor had improved by more than two were designated as Hyper Eco-Products.

From fiscal 2005 to fiscal 2010, we aimed to improve our Eco-Products ratio, which measures the ratio of Eco-Products to total production output. Since targets had been almost achieved[3] as of fiscal 2010, however, we determined that design for environment had been sufficiently incorporated into our activities. As a result, we no longer use Eco-Products ratio to measure related progress and targets.

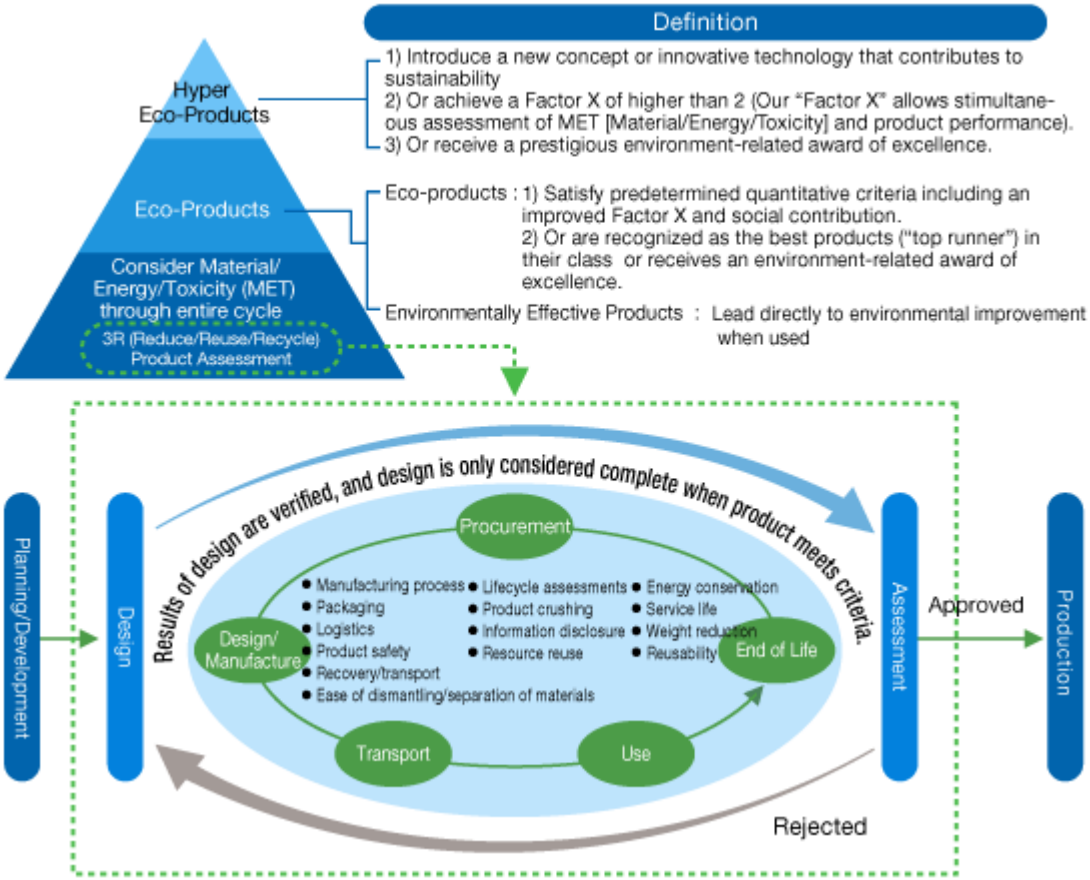
Given this positive result, moving forward Mitsubishi Electric plans to strengthen initiatives in the two categories of reducing CO_2 from product usage and reducing resource inputs as stipulated in the 6th Environmental Plan (fiscal 2010 to fiscal 2012), while continuing to manage targets using Factor X.

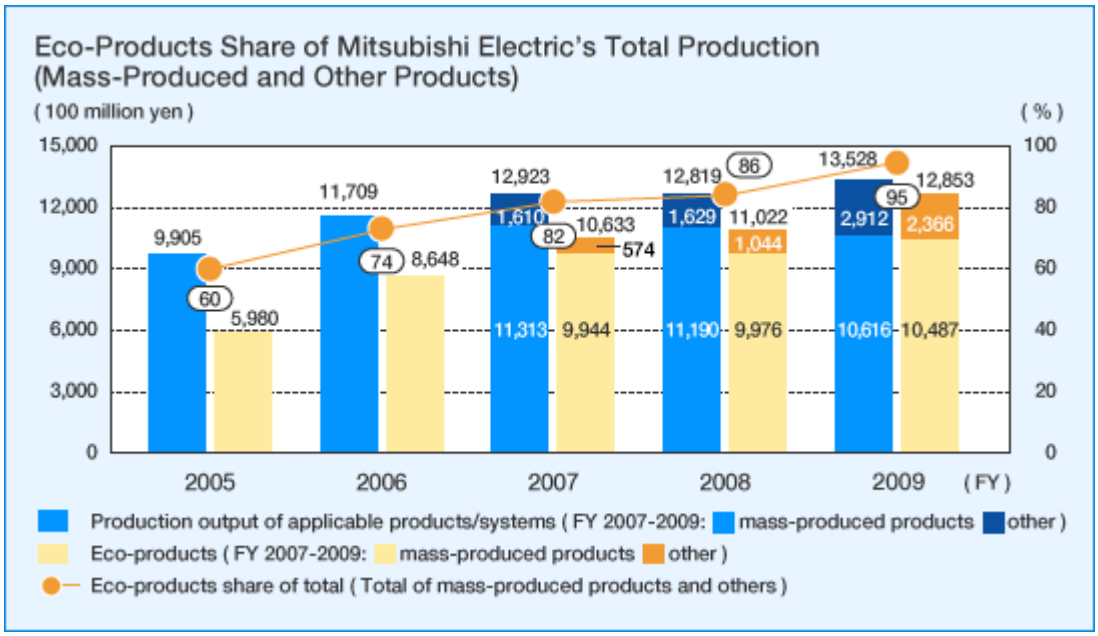
1 "MET" stands for Material (the effective use of material resources), Energy (the efficient use of energy), and Toxicity (avoiding emissions of toxic substances with potential environmental risk).

2 LCA stands for Life Cycle Assessment. This product assessment approach seeks to quantitatively and comprehensively evaluate the environmental impacts of products beginning with the collection of resources and continuing through design, manufacturing, transportation, usage, and end-of-life processes.

3 A 100% target was set for mass-produced products, including home electronics and mass-produced industrial mechatronics, while an 80% target was set for other products, which includes individual production and built-to-order production. At the end of the term, mass produced products had achieved 99%, while other products had achieved 81%, both in line with original targets.

The Concept of Design for the Environment





Design for Environment

Factor X

Factor X:
Measuring Improvements in the Environmental Efficiency of Products

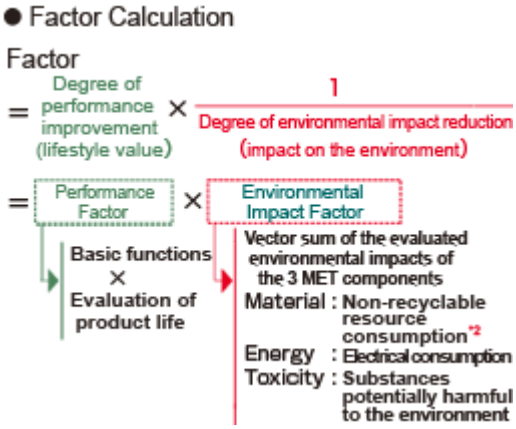
Index Based on the Product Value and Environmental Impact

Factor X is an index that quantifies the idea of maximizing product value while minimizing impact on the environment. "X" is a value that compares a new product to a baseline product. The larger the X value, the greater the improvement in product performance and the lower the environmental impact. For example, a factor of 4 indicates a fourfold improvement in environmental consideration. Our calculation of Factor X is based upon 3 elements: reduction of resource inputs, reduction of the amount of energy used in production, and avoidance of emissions of substances with potential environmental risk. To these three we also add level of product performance improvement.

While we continue to use Factor X, Mitsubishi Electric is also investigating better ways of assessing product value, so that we may produce superior products with a lower environmental impact, and help achieve Environmental Vision 2021.

Basic Concepts to Calculate Factor X

- Comparison between a new product and a baseline product (in principle, we use Mitsubishi Electric products and a base year of 1990).
- Evaluations of the performance factor (improvement in product performance) and the environmental impact factor (degree of environmental impact reduction) are multiplied together to produce the rating.
- The performance index is evaluated by basic functions (product functions, performance, quality, etc.) multiplied by product life[1].
  The environmental impact of a product is evaluated using a sub-index for 1) non-recycled materials[2], 2) energy consumption, 3) toxicity ("MET," where M is the consumption of non-recycled resources, E is the amount of energy or power consumption, and T is the presence of substances with potential environmental risk), from which the environmental impact is calculated for the new product (using a value of 1 for the baseline product), and the final environmental impact index is represented by the length of the vector that combines the three sub-indexes.



1 The performance index is defined separately for each product.

2 Sub-index for the consumption of non-recycled resources=virgin resource consumption + non-recyclable volume (i.e. the volume disposed of without being recycled) = [weight of product - volume of recycled materials and parts] + [weight of product - recyclable volume]

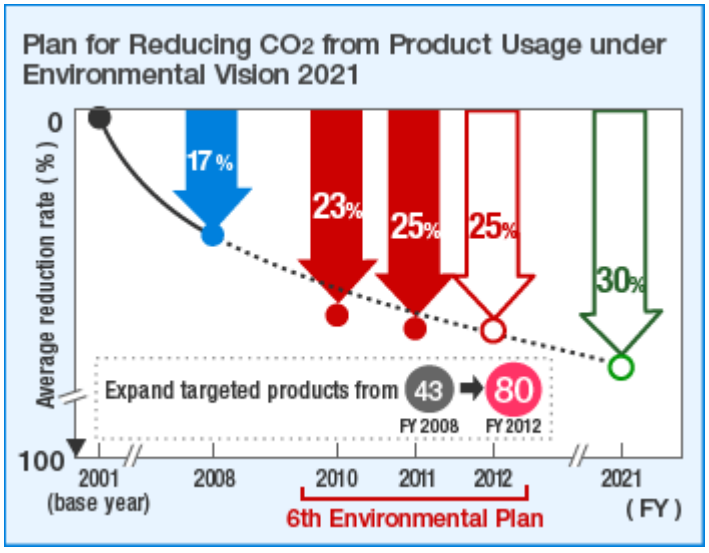
Reducing CO_2 from Product Usage

Progress in Fiscal 2011

Reducing CO_2 from Product Usage						
6th Environmental Plan (FY2010-FY2012) (FY2012 Targets)		FY2010	FY2011			FY2012
		Results	Target	Results	Self Evaluation	Target
Average Reduction Rate for Target Products	25% (Base year: FY2001)	23%	24%	25%	☺	26%
Expansion of Target Products	43 Products → 80 Products	70 Products	75 Products	84 Products	☺	80 Products

About average reduction rate data compilation: Data for our Communication Network Center, Koriyama Factory, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date. The number of target products includes subject plant data.

CO_2 emissions resulting from product usage can, by our calculations, total between 40 to 50 times more than the amount emitted during the production process. That means we can greatly contribute to the creation of a low-carbon society by striving to make our products more energy efficient. In aiming to achieve our target of reducing CO_2 emissions from product usage by 30% as outlined in our Environmental Vision 2021, Mitsubishi Electric has been systematically selecting key target products and finding ways to reduce their CO_2 emissions, with the ultimate goal of improving the average CO_2 reduction rate in fiscal 2012, the final year of the 6th Environmental Plan, by 25% compared to fiscal 2001 levels.



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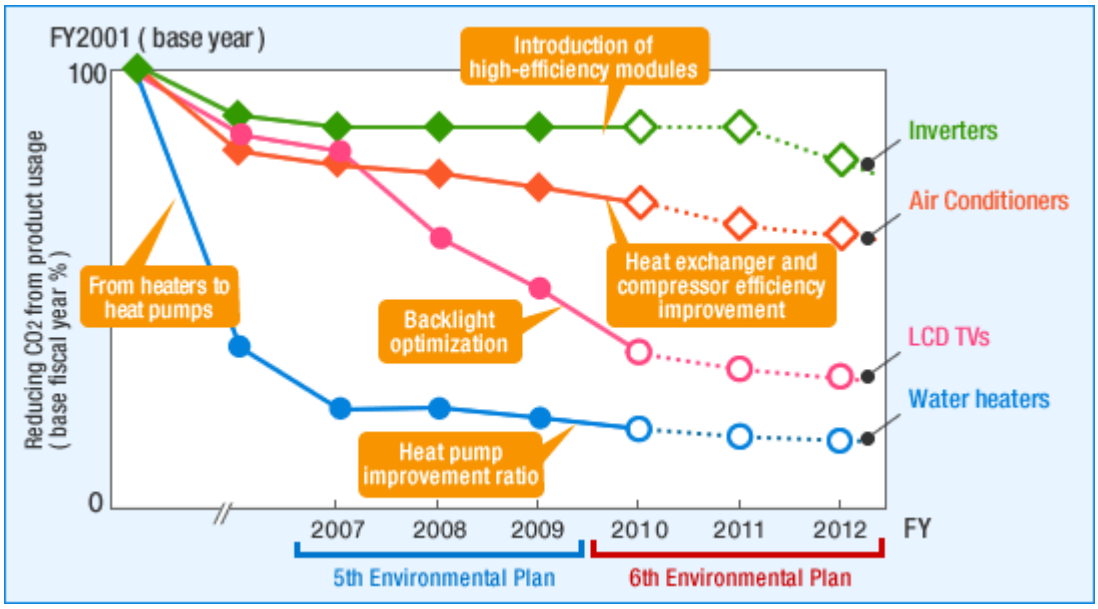


Mitsubishi Electric Action Plan and Fiscal 2011 Results

Steady Trends in the Number of Products Targeted by the Company's CO_2 Reduction Initiatives, which Expanded to 84, and the Average CO_2 Reduction Rate, which Improved to 25%

In fiscal 2011, Mitsubishi Electric achieved the number of products targeted by its CO_2 reduction initiatives, 84, up from 70in the previous fiscal year. At the same time, the average CO_2 reduction rate reached 25% compared with 23% in fiscal 2010.

Taking these results into account, the Mitsubishi Electric Group is making steady progress toward achieving its targets. In order to ensure that these target products are more energy efficient, the Mitsubishi Electric Group also instructs each business group to include in its annual development plan products to be focused on in that year, as well as clearly defined numerical targets for reducing energy consumption. In fiscal 2011, reductions were targeted in such household products as refrigerators and room air conditioners and such office- and factory-use products as liquid crystal display monitors and laser processing machines.

One effective way to reduce CO_2 emissions from product usage is to make power source components more efficient to reduce energy loss. In this regard, power semiconductors are key devices in the efficient control of electric power. Recognizing that the majority of the energy consumed by electrical products is used to drive motors, successful efforts to enhance the reduction rate of drive products can be expected to contribute significantly to lowering CO_2 emissions from product usage. Mitsubishi Electric is well positioned to support energy savings through its fundamental technologies including inverters used to control motors and power semiconductors used in inverters. We continue to leverage our expertise in these technologies and advance further innovations to produce more energy-saving products with the goal of reducing CO_2 emissions from the use of target products by an average of 30% in the year 2021.

Quite naturally, there are one-off individually manufactured products as well as products manufactured to specific customer specifications that are difficult to incorporate into annual development plans and that fall outside the scope of reduction parameters. While these products are not targeted for CO_2 reduction from product usage, efforts are made by employing the Design for Environment (product assessment) mechanism.

Reducing Resource Inputs

Progress in Fiscal 2011

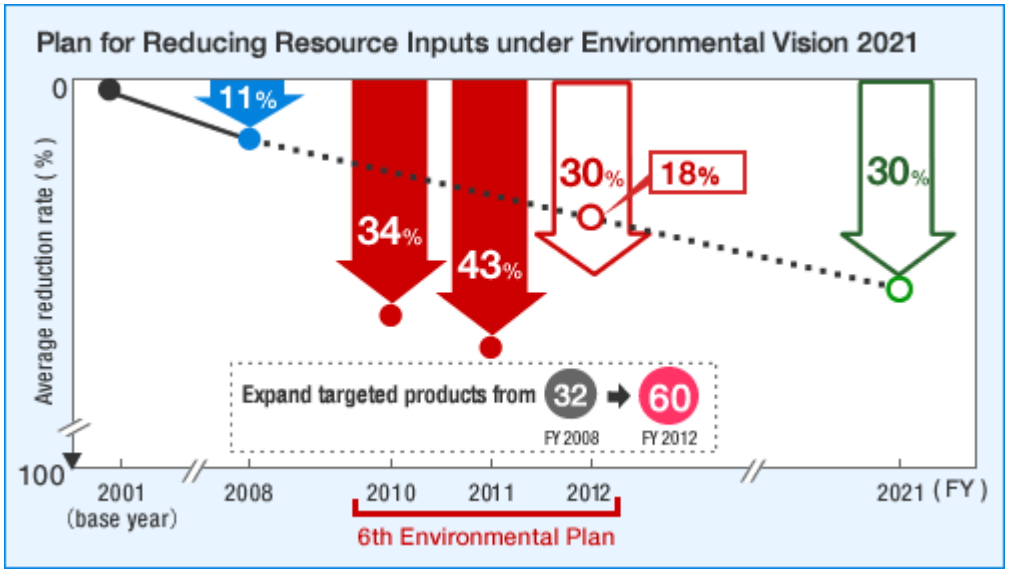
Reducing Resource Inputs						
Targets of the 6th Environmental Plan (Fiscal 2010–2012)		FY2010	FY2011			FY2012
		Results	Target	Results	Self Evaluation	Target
Average Reduction Rate for Target Products	30%[1]	34%	30%	43%	☺	30%
Expansion of Target Products	32 Products → 60 Products	51 Products	60 Products	64 Products	☺	60 Products

About average reduction rate data compilation: Data for our Communication Network Center, Koriyama Factory, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date. The number of target products includes subject plant data.

Mitsubishi Electric is committed to reducing resource inputs through the promotion of plastic recycling and size and weight reduction. After a careful review of product families from all business groups2 in fiscal 2010, the Mitsubishi Electric Group has determined target products to be included in this initiative for the period until fiscal 2021. As a result, every effort will be made to expand the number of target products to 60 or more by fiscal 2012 and to cutback the average reduction rate by 30% compared with fiscal 2001 levels.

Notes:

1. 30%: While the 6th Environmental Plan initially called for a target of 18%, the target was reached in fiscal 2010, the first year of the Plan, and was subsequently reset to 30%.
2. All business groups: Energy & Electric Systems, Industrial Automation Systems, Information & Communication Systems, Electronic Devices, Home Electronics and Other (the six business groups appearing in the Company's annual report)



About average reduction rate data compilation: Data for our Communication Network Center, Koriyama Factory, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date. The number of target products includes subject plant data.

Expanding the Number of Target Products to 64 in Fiscal 2011
Successfully Exceeding Established Targets for the Average Reduction Rate for the Second Consecutive Fiscal Year

Both the number of target products and the average reduction rate in fiscal 2011 significantly exceeded results recorded in fiscal 2010. In specific terms, the number of target products for reduction in the fiscal year under review totaled 64, up from 51 compared with the previous fiscal year and the average reduction rate climbed from 34% in fiscal 2010 to 43% in fiscal 2011. In fiscal 2012, we plan to maintain an average reduction rate of 30% or more.

In order to steadily promote the reduction of resource inputs used in target products, steps are taken to include products set to be introduced under this initiative, and clear numerical targets for reducing resource inputs in annual development plans are compiled by each business group. Products where reductions were particularly prominent in fiscal 2011 were room air conditioners and ventilators. Moreover, the Group recorded significant success in reducing the size and weight of power semiconductors, a key device in lowering CO_2 emissions, and high-frequency components mounted in mobile handsets.

Recognizing that there are instances where it is difficult to assess efforts aimed at reducing resource inputs used by weight per unit product, consideration is being given to other appropriate target management methods. Individually manufactured products as well as products that are manufactured to specific customer specifications fall outside the scope of this category. Notwithstanding, every effort is made to improve these products from a 3R perspective by employing the Design for Environment (product assessment) mechanism.

Complying with Chemical Substance Regulations

Green Accreditation System

Minimizing environmental risks through the Green Accreditation system based on the Green Procurement Standards Guide.

Status of RoHS Compliance

Complying with contamination prevention and traceability control for the specified substances.

The Status of Compliance with REACH and CLP Regulations

A Chemical Substance Information Management System to obtain and furnish information required by laws and regulations.

Complying with Chemical Substance Regulations

Green Accreditation System

Introducing a Green Accreditation System to Reduce Environmental Risk

Green Accreditation Rate for Business Partners is 100% for the Third Consecutive Year.

In April 2006 the Mitsubishi Electric Group introduced a Green Accreditation System based on the Green Procurement Standards Guide established in September 2000. The purpose of this system is to assess the environmental initiatives and status of chemical substance management for each supplier that provides components/materials used in our company's products, or secondary materials used in product manufacturing. By certifying business partners that comply with our company standards, we ultimately minimize environmental risks.

To date, Mitsubishi Electric has held conferences for our business partners about green procurement, and proposed improvements to enhance their environmental initiatives. As of the end of fiscal 2009, the Company had achieved a 100% Green Accreditation rate for its business partners. Carrying on from the previous fiscal year, Mitsubishi Electric again achieved a 100% rate in fiscal 2011. This represents three consecutive fiscal years of accomplishment. Aiming to maintain this 100% accreditation rate, we are currently carrying out a variety of activities including certification renewals.

Towards our goals related to respecting biodiversity, in September 2009 Mitsubishi Electric added Appendix I to the Green Procurement Standards Guide, explaining the connection between green procurement and the preservation of biodiversity. Copies of this appendix were published in both English and Chinese in October 2010. Through these means, the Company is endeavoring to ensure that all Group companies including those located overseas are fully aware of Mitsubishi Electric's stance towards green procurement. Complementing this initiative, in fiscal 2011 the Company incorporated respecting biodiversity as an item in the evaluation criteria of Green Accreditation based on the Mitsubishi Electric Group Biodiversity Action Guidelines. Moving forward, we will continue to ensure that the Group as a whole is familiar with these guidelines.

Environmental Report: Group Biodiversity Action Guidelines

Procurement: Green Procurement

Green Procurement Standards Guide, Appendix I,

English Edition (PDF: 766 KB)
Chinese Edition (PDF: 5.0 MB)

Complying with Chemical Substance Regulations

Status of RoHS Compliance

Complying with the EU's RoHS Directive and China's Administrative Measure on the Control of Pollution Caused by Electronic Information Products

Continuing Contamination Prevention and Traceability Control for the Six Specified Substances

The Mitsubishi Electric Group is constantly revising its chemical control systems to conform to current regulations. When new developments arise we respond promptly.

As of December 2005, we have stopped using the six specific substances[1] restricted by the EU's RoHS Directive, which went into effect in July 2006. China's Administrative Measure on the Control of Pollution Caused by Electronic Information Products[2] went into effect in March 2007. The first stage makes it mandatory for labeling to include information on the six specified substances. Product labels must include the environmental period of validity (the period during which the product can be used without causing serious environmental pollution) and the manufacturing date. In fiscal 2007, we achieved compliance with these requirements.

In fiscal 2011, we continued our contamination prevention and traceability controls for specified substances from a compliance perspective, acquiring information from suppliers on the inclusion of chemical substances in parts and materials, as well as non-usage certificates to ensure reliability. In cases when a possible contamination risk is suspected, we carry out an analysis ourselves to confirm the presence or absence of the substances.

In November 2010, proposed revisions to the RoHS Directive were adopted at a plenary session of the EU Parliament. After gaining consensus at the Council of the European Union, details were published in the Official Journal of the European Union in May 2011. In the wake of adoption of the proposed revisions, the Company is now taking steps to ensure that all Group companies are fully versed in the revised requirements. In addition, in fiscal 2012, plans are in place to investigate the status of compliance of all of our product brands with the application exemptions listed under the proposed revisions. Mitsubishi Electric will endeavor to undertake all appropriate measures as required.

1 The six substances are lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE).

2 Administrative Measure on the Control of Pollution Caused by Electronic Information Products is a Chinese version of the RoHS Directive. These regulations were developed jointly by Chinese Industry and the Ministry of Industry and Information Technology, together with central government agencies, including China's National Development and Reform Commission and the Ministry of Commerce. The regulations make it mandatory to provide information and labeling for the six substances specified by the EU's RoHS Directive.

Complying with Chemical Substance Regulations

The Status of Compliance with REACH and CLP Regulations

The REACH Regulation[1] established by an agreement at the World Summit on Sustainable Development held in September 2002, states as its objectives, "that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment by 2020." The EU enacted this regulation in June 2007. This regulation requires that data be gathered on the types and amounts of chemical substances used in not only chemical products such as paints and adhesives but also electronic and electric products.

In Japan, both the upstream chemical manufacturing industries and downstream product manufacturing industries cooperated to launch JAMP (Joint Article Management Promotion-consortium)[2] in September 2006. JAMP created a common labeling system to disseminate information about the chemical substances present in raw materials, parts, and consumer products. At the end of June 2009, the Joint Article Management Promotion-consortium's Global Portal (JAMP-GP) began operations, in order to facilitate access to this information.

In fiscal 2010, Mitsubishi Electric, as a member of JAMP, held an explanatory meeting for its affiliates in Japan and overseas (Asia, China, and Europe) and business partners that are required to control chemical substances contained in the products. Every effort is being made to promote a growing awareness of the JAMP labeling systems and to better grasp and understand chemical substance information.

In December we began operating the Chemical Substance Information Management System, which allows us to provide and receive information from our business partners regarding the substances contained in product materials. This system stores information on substances contained in procured items and our products; the data is stored on the company's application server (MelcoAS), allowing us to exchange information with our business partners through JAMP-GP. We are going to utilize this system to comply with REACH and other regulations. In fiscal 2011, Mitsubishi Electric took steps to input information on substances contained in procured items and the Company's products into this system and build its reservoir of data. The system was further configured to facilitate the use of this information in filings and other submissions to public authorities in Europe.

Furthermore, we are promoting compliance with the CLP Regulation[3], an additional set of rules introduced throughout the EU. Effective from January 2009, the CLP Regulation is a European regulation on the classification, labeling and packaging of chemical substances and mixtures. Prior to January 2009, EU directives were aligned with the UN's GHS[4]. In addition to substances that are not subject to these criteria, companies are required to classify and label a wide range of chemical substances including those scheduled for registration under REACH. Furthermore, requirements extend to the appropriate filing of classification and labeling notifications.

Several aspects of CLP Regulations including the export control of chemical substances and mixtures are closely related to the REACH Regulation. With that, the Mitsubishi Electric Group formulated a set of common rules to ensure compliance with these regulations. Making it easier for Group companies outside of Europe including Japan to comply, these rules provide a uniform code of operating procedures required to adhere to the REACH and CLP regulations.

1 REACH Regulation: EU regulations requiring the Registration, Evaluation, Authorisation and Restriction of Chemicals. Under REACH, companies must register and evaluate the safety of the approximately 30,000 types of chemical substances sold in the EU. Information on regulated chemical substances[5] contained in electronic, electrical, and all other products (articles) covered by requirements must be provided to customers and reported to the European Chemicals Agency.

2 JAMP: The Joint Article Management Promotion-consortium. JAMP is a volunteer organization with 380 member companies (as of May 31, 2011) from the chemical, electronic and electrical equipment, automobile, and other industries. JAMP's activities are overseen by the Japan Environmental Management Association for Industry.

3 CLP Regulation: The Regulation on Classification, Labeling and Packaging of Substances and Mixtures

4 The United Nations Globally Harmonized System (GHS) operates under a set of globally unified rules and addresses the classification of chemicals by types and degrees of hazard. To better ensure that information is understood at a glance, the UN's recommendations stipulate the use of a common set of labels for products, packaging and data sheets.

5 Regulated chemical substances include carcinogens, chemicals that persist in the environment, and bio-accumulative substances. At the first announcement in October 2008, 15 substances were presented; at the second notification in January of 2010, 14 types were added; and at the third announcement in March 2010 there was one more addition, for a total of 30 items as of April 2010. Going forward, this list will be updated with additional substances up to twice a year, and could ultimately exceed 1,000 items.

Recycling End-of-Life Products

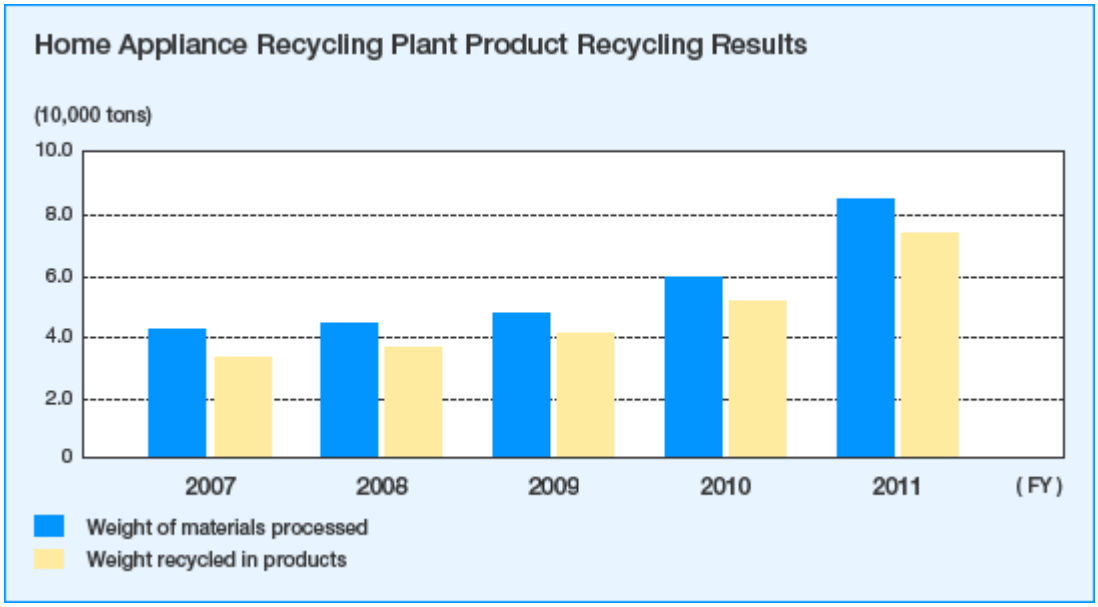
Recycling Four Kinds of Home Appliances

Japan's Home Appliances Recycling Law* makes the collection and recycling of four kinds of appliances mandatory: air conditioners, television sets, (CRT, LCD and plasma models), refrigerators/freezers and washing machines/tumble dryers.

In 1999, Mitsubishi Electric commenced operations at a recycling plant (operating company: Hyper Cycle Systems Corporation. (HCS)), the first in the industry. By the end of fiscal 2011, HCS had recycled 490,000 tons of material. The results for the collection and recycling of four kinds of home appliances at HCS are shown in the accompanying graph.

Each year Mitsubishi Electric organizes a program of technical seminars covering environmentally conscious design in conjunction with HCS, in an effort to promote the design of products that are easier to recycle. While serving as a forum to impart and share disassembly and separation information gained through the onsite disassembly of end-of-lifecycle home appliances, these seminars also provide product designers with practical training at a home appliance recycling plant. Through these seminars, concepts relating to recycling design are disseminated throughout our Group companies with efforts to promote closed-loop recycling (i.e., new products made using recycled plastics), especially the use of recyclable plastics in the manufacture of products. For example, high purity plastic recovered from shredded mixed plastics are recycled for use in the main components of the motors in the Kirigamine ZW series of room air conditioners. This allows Mitsubishi Electric to significantly reduce its consumption of virgin materials.

* Home Appliance Recycling Law: This law obliges stakeholders to collect and recycle home appliances like air conditioners, television sets, refrigerators, washing machines, etc. (April 2001). Manufacturers and importers must recycle steel, copper, aluminum, glass, plastic and other materials and they are also responsible for setting up a system to recycle their products. The law was amended in December 2008 to also include LCD and plasma televisions as well as tumble dryers.



The Collection and Recycling of Four Kinds of Home Appliances at Home Appliance Recycling Plants (Fiscal 2011)

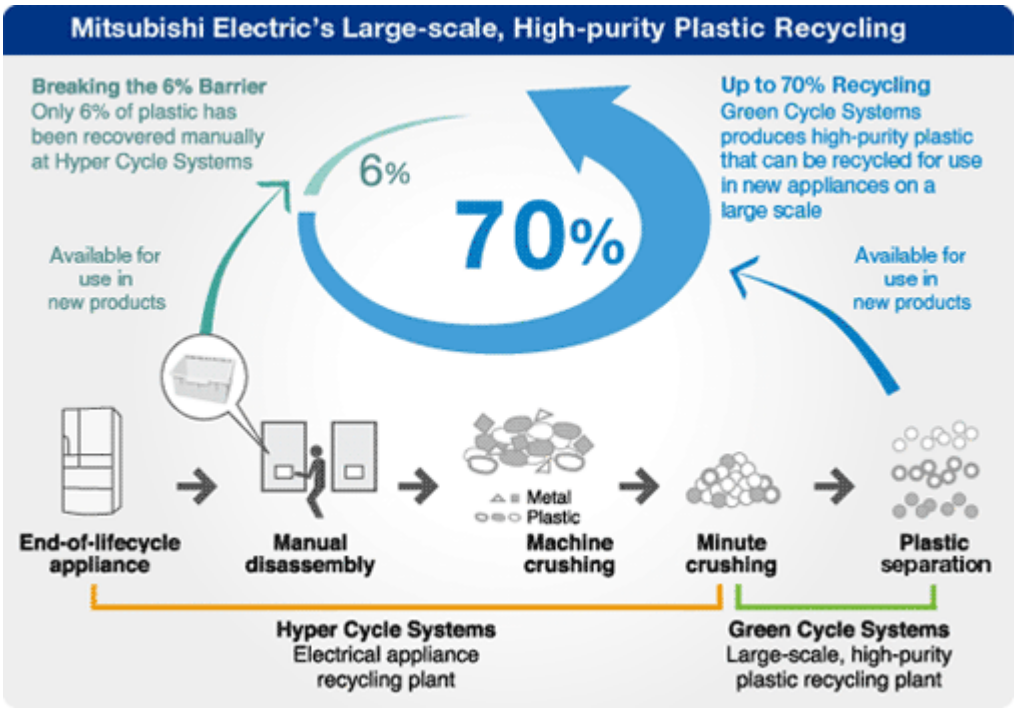
	Unit	Air Conditioners	Television Sets		Refrigerators / Freezers	Washing Machines / Tumble Dryers	Total
			CRT	LCD / Plasma			
Recovered units at collection points	1,000 units	433	1,438	10	389	208	2,478
Treated units	1,000 units	427	1,310	8	388	208	2,341
Treated weight	Tons	17,587	35,497	106	23,752	7,135	84,077
Recycled weight	Tons	15,946	32,420	88	18,294	6,406	73,154
Recycled ratio (Sold material ratio)	%	90	91	82	77	89	87

Commencing Japan's First Large-Scale, High-Purity Plastic Recycling System from April 2010

Until recently, the vast majority of plastic recovered from discarded home appliances has been treated as fuels or low-end miscellaneous daily items. Very little has been reapplied to the manufacture of home appliances due mainly to the high level of quality required. As a result, the manufacture of new home appliance products has continued to entail the consumption of oil resources. In order to resolve this critical issue, Mitsubishi Electric has engaged over a lengthy period in the development of home appliance-based closed-loop plastic recycling technologies.

In 2008, the Company developed technologies that succeeded in recovering the three major kinds of plastics used in home appliances – polypropylene (PP), polystyrene (PS) and acrylonitrile-butadiene-styrene (ABS) – at purity levels exceeding 99%. Thereafter, operations at Japan's first large-scale, high-purity plastic recycling center commenced from April 2010, following technical verification tests at the pilot plant.

Through these efforts, Mitsubishi Electric achieved a more than ten-fold increase in the rate of industrial-grade plastics recovered for recycling in home appliances from 6% to a maximum of 70%. Having realized this tipping point, the Company has made possible the recycling of large volumes of recovered plastic in the manufacture of home appliances.



Environmental Topics: Plastic Recycling Comes of Age

Recycling Personal Computers

Mitsubishi Electric is promoting the recycling of used computers and monitors. In fiscal 2011, we collected a total of 6,396 household- and industrial-use computers, which represented a recycling rate of 76.0%.

For end-of-life household-use computer equipment we have implemented a plan of marking used computers with a PC Recycle Mark[1] tag to waive the disposal fee. For some products, customers are required to register equipment after purchase in order to get the tag themselves, but the procedure is very straightforward. Mitsubishi Electric has made it possible for customers to obtain recycling tags by sending a postcard or requesting one via the Internet[2]. When we receive a disposal request for a product sold from October 2003 or later, we determine whether the product is eligible for a recycling tag to ensure the customer does not pay the recycling fee twice.

There is a risk of data leakage from the hard disk drives of disposed computers. Although computer users have the basic responsibility for preventing data leaks, the companies we have contracted to recycle computers punch holes in the hard disk drives or use a strong magnet to destroy any data physically and magnetically, in order to prevent any confidential data from being leaked. Interested computer owners can also pay for a program to delete all data completely before their used computers are taken away.

Notes:

1 PC Recycle Mark: The recycle mark stipulated by industry group PC3R Promotion Association was established to promote the 3R's (reduce, reuse, recycle) among manufacturers, distributors, and importers of computers and monitors. From October 2003 onward they began targeting household personal computer and monitor users. The tag may be displayed on products at the time of purchase or available afterward through registration.

2 Because Mitsubishi Electric stopped selling home-use PCs in fiscal 1999, the Recycle Mark is available only for PC displays.

Material Recycling from Used Computers (Household and Industrial Use) (Fiscal 2011)

	Unit	Desktop		Notebooks		CRT Displays		LCD		Total	
Collected weight	Tons	30.0		2.4		25.6		11.1		69.1	
		Office	Home	Office	Home	Office	Home	Office	Home	Office	Home
		27.5	2.5	2.3	0.1	22.6	3.0	10.8	0.3	63.2	5.9
Collected units	Units	2,364		878		1,325		1,829		6,396	
		Office	Home	Office	Home	Office	Home	Office	Home	Office	Home
		2,167	197	836	42	1,170	155	1,776	53	5,947	447
Treated weight	Tons	30.0		2.4		25.6		11.1		69.1	
Recycled weight	Tons	25.0		1.5		17.2		8.8		52.5	
Recycling ratio	%	83.3		62.5		67.2		79.3		76.0	

Compliance with the WEEE Directive

According to the WEEE Directive enacted by the European Union in February 2003, manufacturers with products on the market in Europe are required to affix a seal to their products indicating that the product is designed to facilitate the collection and recycling of its component materials. Moreover distributors are required to bear the cost of the collection and recycling fees.

In order for the Mitsubishi Electric Group to comply completely with the WEEE Directive, we must understand the laws regarding its enforcement in each individual country. We are collecting the necessary information and making it available. Furthermore, so that no manufacturer fails to register and that no party fails to participate in the collection effort, we are confirming our WEEE compliant products, producer registrations, participation in collection and recycling schemes, payment of fees and more. In addition, we are independently collecting some commercial equipment. We are also actively preparing for possible revisions to the WEEE Directive by the EU, and for revisions by individual countries to their own domestic policies.

Furthermore, Mitsubishi Electric is taking steps to comply with the ordinance on the collection, processing and management of waste electrical and electronic products that came into force in China on January 1, 2011 (essentially representing China's version of the WEEE Directive).

Mitsubishi Electric is observing legal trends in the European Commission and EU member countries, and improving the proper structure to comply with the WEEE Directive. At the same time, we are continuing in our planning efforts to ensure that the recycling of end-of-life products is undertaken in an even more demonstrable manner.

* The WEEE Directive
To prevent the generation of waste electrical and electronic equipment and reduce the processing volume of such equipment, WEEE aims to reuse and recycle waste. EU member countries, distributors and manufacturers must fulfill their responsibility at each stage of design, collection and recycling.

Environmental Technology R&D Achievements

SiC Power Devices

Mitsubishi Electric presents its development achievements for SiC power modules, next-generation power devices that are attracting attention for their potential to significantly reduce power loss.

Photovoltaic (PV) Inverter

Details of two achievements by Mitsubishi Electric for PV inverters, which convert generated power into electricity for the home.

Smart Grid Demonstration Project

Details of Mitsubishi Electric's test trials aimed at the commercialization of smart grids launched in fiscal 2011, plus development results.

Office Building Energy Savings Simulation Technology

Mitsubishi Electric introduces its simulation technologies that verify the status of office building energy use for lighting and air conditioning.

Automotive Motor Systems

Details of Mitsubishi Electric's sophisticated motor design capabilities that help reduce the size and enhance efficiency of automotive motor systems.

Environmental Technology R&D Achievements

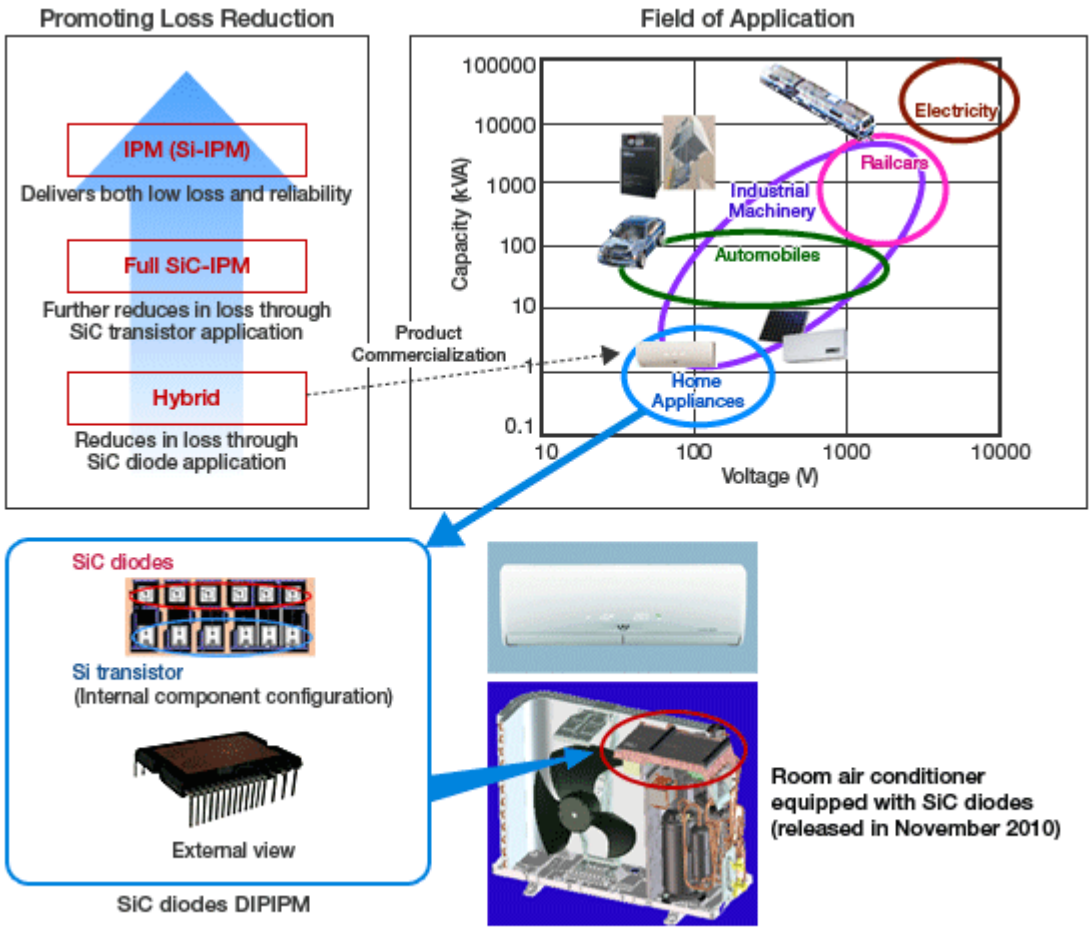
SiC Power Devices

Research and Development into Power Devices that Use Silicon Carbide (SiC)

Power devices are used in motor control and power conversion devices in such wide-ranging sectors as electric home appliances, railcars, industrial equipment and automobiles. While silicon (Si) has historically been the primary material used, silicon carbide (SiC) has attracted considerable interest as a next-generation material in recent years. This interest is based on the outstanding low loss properties exhibited by SiC, which both enhance power conversion efficiency and help reduce CO_2 emissions, and its potential to help reduce the size and weight of a variety of devices. Mitsubishi Electric is actively engaged in the research and development of SiC power devices and their use in equipment.

Room Air Conditioners Equipped with SiC Diodes

Mitsubishi Electric developed hybrid-type transfer mold DIPIPMs[1] that use diodes with SiC as their primary material. These DIPIPMs were employed in two models of Mitsubishi Electric's Kirigamine Move-Eye Sensor Navi room air conditioners for the Japanese market. The use of SiC in room air conditioner power semiconductors was a world's first. Among other factors, this has decreased power loss from inverter operation by approximately 15%, and helped reduce seasonal power consumption by approximately 6%[2], compared with Mitsubishi Electric's existing room air conditioners. Sales of the aforementioned models were launched in November 2010.



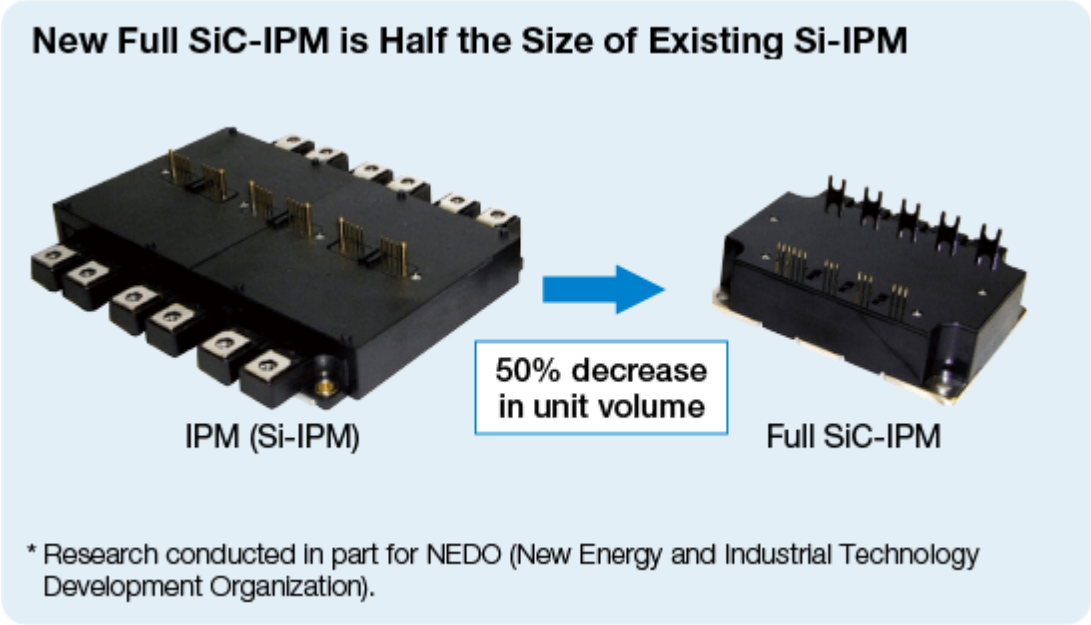
Note: A portion of this research was conducted on behalf of New Energy and Industrial Technology Development Organization (NEDO), an independent administrative institution.

Photovoltaic (PV) Inverter Equipped with Full SiC Power Module

In January 2011, Mitsubishi Electric prototyped a 1200V/75A rated power module by using an SiC transistor (SiC-MOSFET[3]) and SiC diode. Using only SiC (full SiC-type) power semiconductor chips, this power module, when applied to a single-phase 200V/5kW power conditioner for photovoltaic power generation, achieved a power conversion efficiency of 98.0%, the highest in Japan, in experimental trials.

Full SiC Intelligent Power Module (IPM[4])

Using only SiC power semiconductor elements, in February 2011, Mitsubishi Electric developed the world's first Full SiC-IPM (IPM-type) to integrate both drive and protection circuitry. In addition to reducing power loss by 70% compared with existing Si-IPM-equipped devices, we were also successful in reducing module size by 50%[5]. Looking ahead, Mitsubishi Electric will continue its efforts toward SiC-IPM commercialization and practical application across a wide range of devices and equipment, including industrial machinery, railcars, elevators and PV inverters.



1 Dual-In-Line Package Intelligent Power Module: A power semiconductor module with built-in control chip boasting additional protection function

2 Comparison with previous year's model with rated cooling capacity of 3.6kW

3 MOSFET: Metal Oxide Semiconductor Field Effect Transistor

4 IPM Intelligent Power Module: High performance power semiconductor module that combines drive and protection circuitry

5 Comparison with Mitsubishi Electric's Si-IPM PM300CLA120(172mm × 150mm × 24mm)

Environmental Technology R&D Achievements

Photovoltaic (PV) Inverter

PV Inverters that Use SiC and Deliver an Industry-leading Conversion Efficiency of 98.0% in Japan

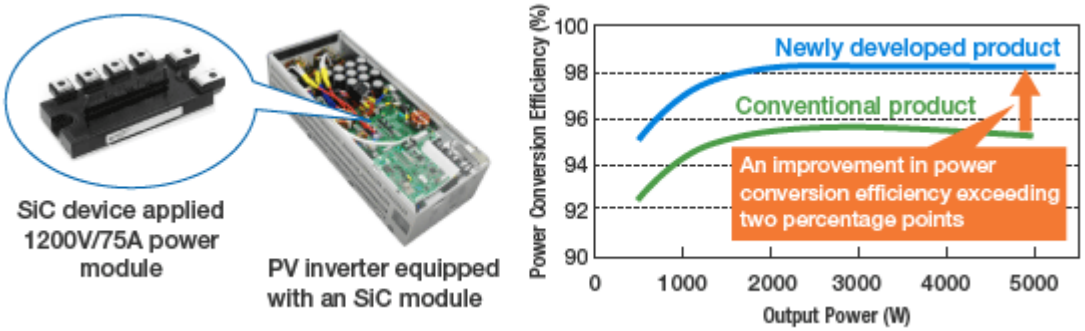
Mitsubishi Electric is pursuing the development of products and technologies that contribute to increased efficiency in the use of PV systems, which continue to attract interest as a power generation method that does not emit CO_2. The power generated through PV systems is a direct current that cannot be channeled to equipment and devices in its initial form. PV inverters convert this direct current into an alternating current form that can then be used to power equipment and devices. Increased conversion efficiency leads directly to the reduction of power generation waste.

In January 2011, Mitsubishi Electric developed a 1200V/75A output rating power module prototype utilizing silicon carbide (SiC), a semiconductor material that is garnering significant attention for application in next-generation power devices. We were able to confirm the highest power conversion efficiency in Japan (98.0%[1]) under experimental trial conditions in a single-phase 200V/5kW PV inverter using a SiC power module. This was an improvement of more than two percentage points compared with Mitsubishi Electric's existing products[2] that incorporate Si power modules. Moreover, we were able to confirm a 50% reduction in power loss at the time of 5kW rated output.

Looking ahead, Mitsubishi Electric will continue its efforts toward commercialization and delivering PV inverters that are more compact while offering increased efficiency.

1 PV inverters for use in Japan. Based on Mitsubishi Electric research as of January 2011.

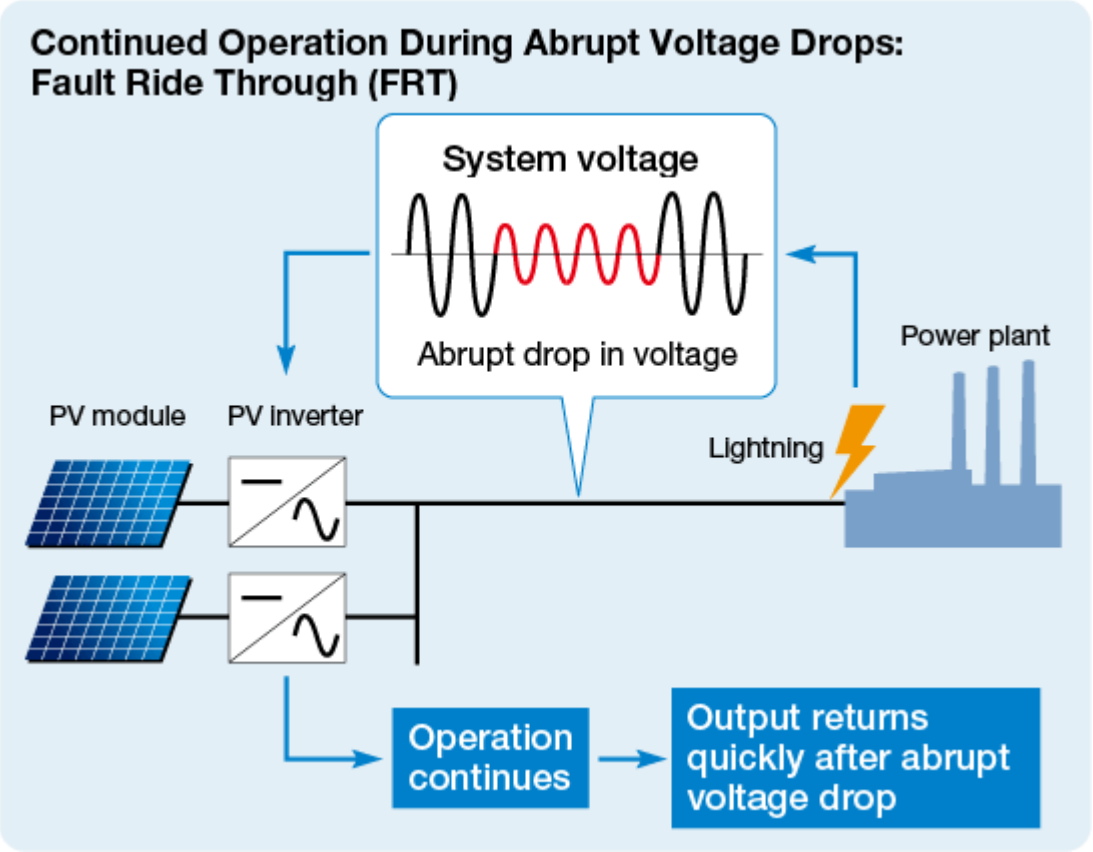
2 Compared with the Company's PV-PN50G1 PV inverter



Developing PV Inverter Technologies that Support Continuous Operation during Abrupt Voltage Drops

Mitsubishi Electric is also engaged in research that supports the stable and uninterrupted operation of power generation systems. Power generated by photovoltaic systems can be interrupted by abrupt drops in voltage due to lightning, which causes the PV inverter to stop automatically to protect the equipment, and restart simultaneously with the recovery of voltage. However, if the power generated during the five to ten seconds it takes to restart is not converted, the system may be negatively affected.

In February 2011 Mitsubishi Electric carried out a large-scale simulation test to examine the company's technologies. It consisted of rapidly controlling the output current as well as quickly detecting the generation of voltage in the electric power system. Findings confirmed that the output current of the PV inverter can be returned to over 80% of the value it had before the sudden voltage drop within 0.1 seconds, once the voltage level returns to a normal value.



Environmental Technology R&D Achievements

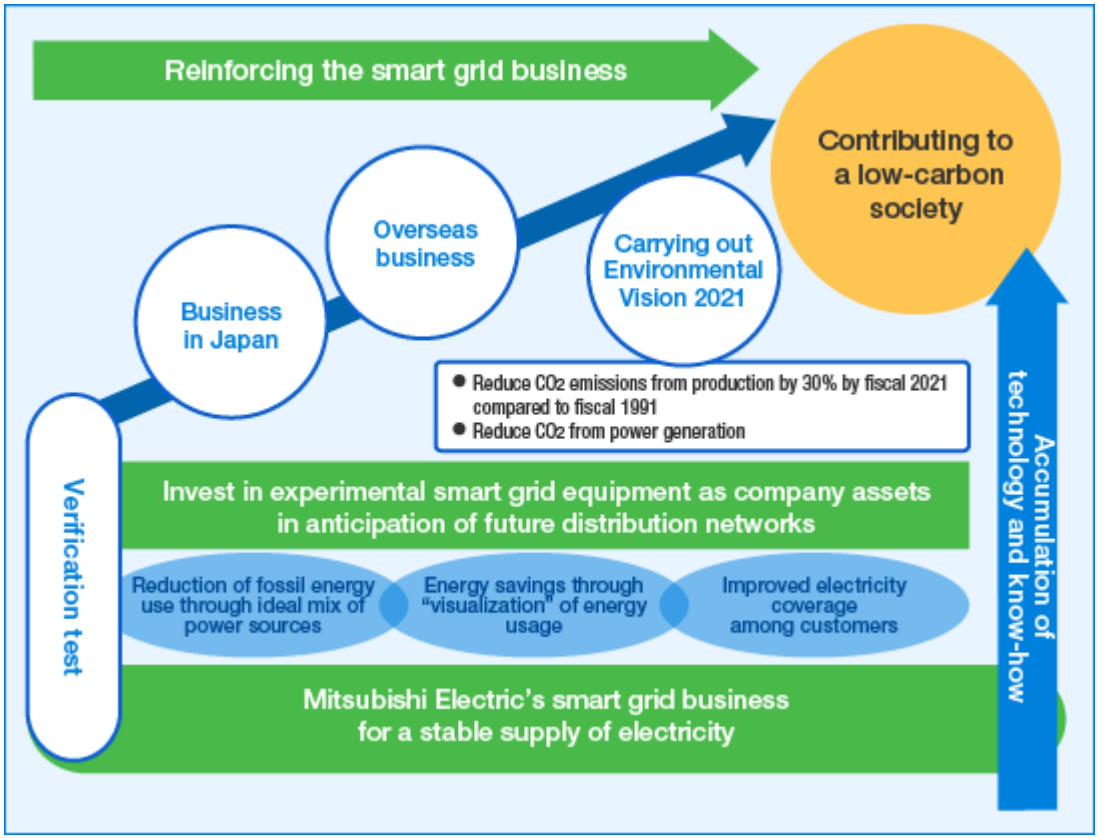
Smart Grid Demonstration Project

Mitsubishi Electric Has Set Up Experimental Equipment to Conduct Test Trials of Smart Grid Technologies, and Has Begun Partial Verification Testing

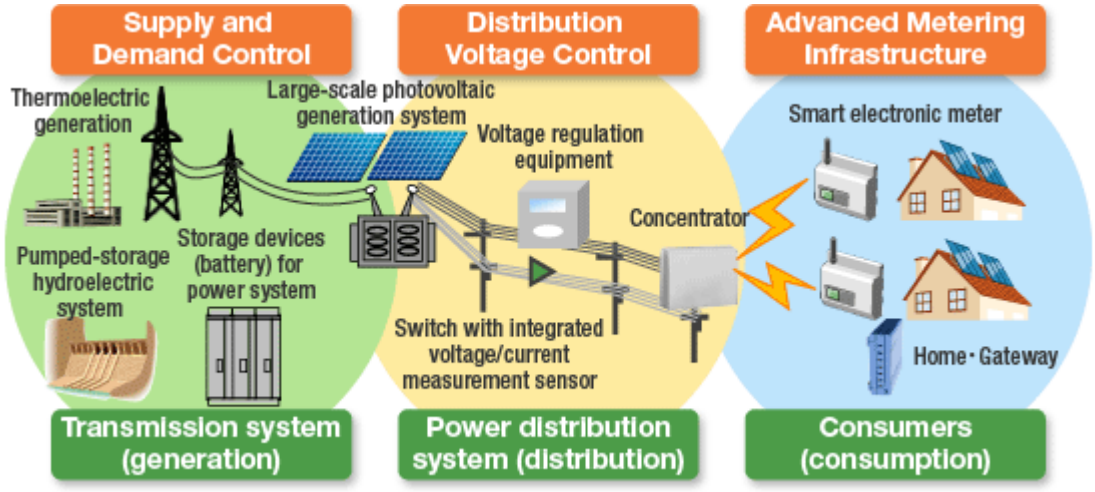
A smart grid is a form of electricity transmission and distribution network that, in utilizing information technology to address fluctuations in both supply and demand, helps realize the stable flow of electricity. Changes in supply reflect the increased use of such natural sources of energy as wind and solar power, while changes in the demand for electricity in this instance refer to the ongoing market acceptance of electric vehicles (EVs) as well as the trend toward all-electric-powered housing. (Source: The Conference on Next-Generation Energy and Social Systems; The Ministry of Economy, Trade and Industry of Japan).

Renewable energies such as solar and wind power are viewed with promise in the quest to create a low-carbon society. These forms of electric power generation, on the other hand, are subject to the elements. The volume of power generated fluctuates according to changes in the weather and other conditions. Accordingly, these methods pose considerable difficulties in controlling output. The development of exhaustive element technologies that optimally balance electric power generation, distribution and consumption is considered critical to addressing this issue through the practical application of smart grids.

Mitsubishi Electric has implemented a smart grid experiment at three of its sites in Japan: Amagasaki, Ofuna and Wakayama. The objective of this experiment is to operate a real system, in the field, to log data and to validate fundamental technologies. Partial system operations began in fiscal 2011.



Mitsubishi Electric boasts technologies in each of the three core fields of electricity generation, distribution and consumption. Harnessing this collective strength, the Company is engaging in a variety of smart grid technology development activities aimed at realizing stable electricity supply. The following is a selection of Mitsubishi Electric's key development achievements in fiscal year 2011.

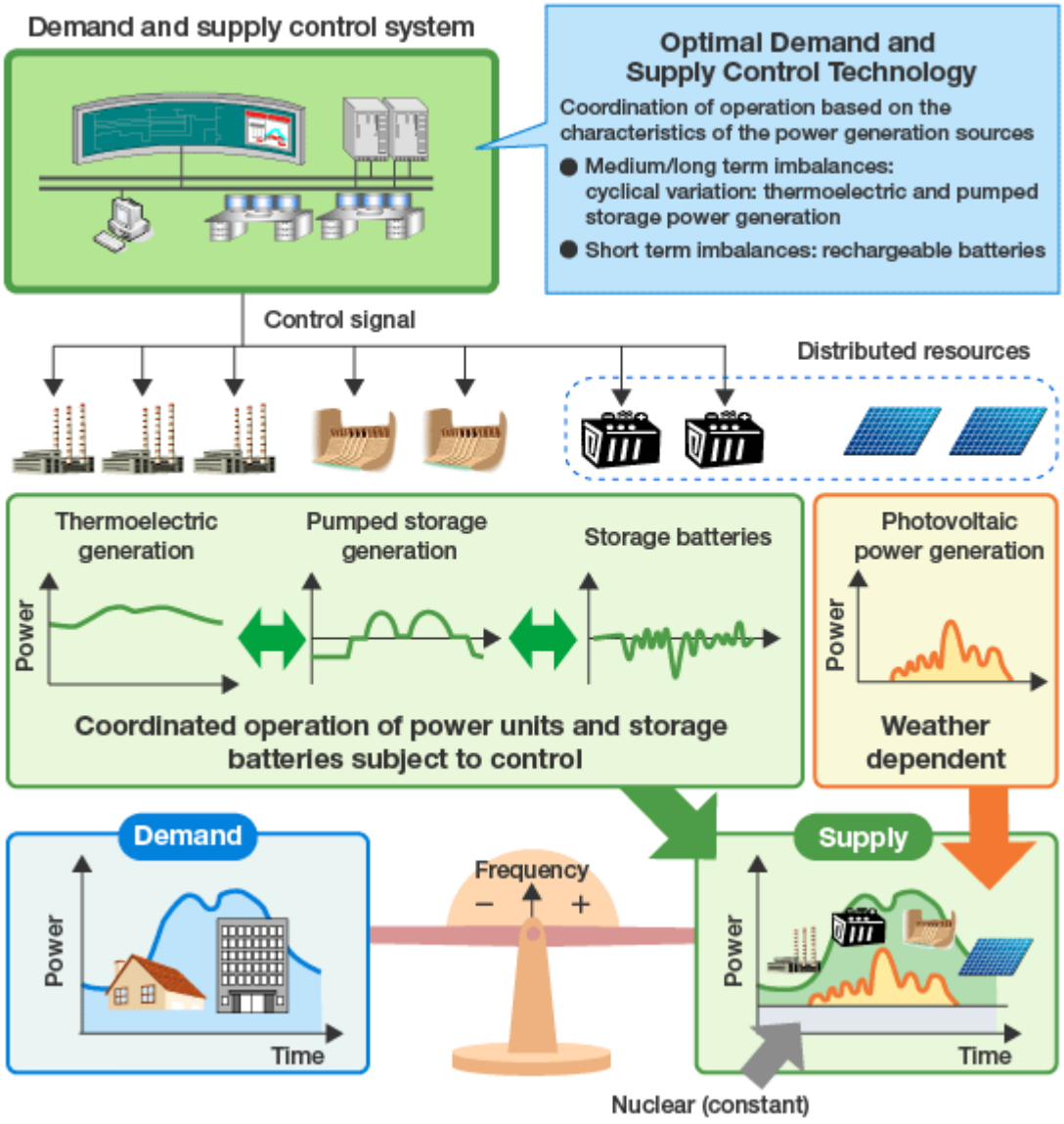


1. Generating Electricity: Optimizing Supply-Demand Balance

Electric power companies are obligated to maintain constant frequency levels and the instantaneous balance between demand and supply by adjusting output through the use of thermoelectric and pumped storage generation. With the expected increase in photovoltaic power generation the supply power may fluctuate considerably due to changes in the weather. Imbalance between demand and supply cause fluctuation in the system frequency, that may, in turn, affect negatively user appliances and, in a worst case, lead to a power outage.

In order to resolve this issue, Mitsubishi Electric developed optimal demand/supply control technologies able to control not only conventional generators but also batteries and other storage devices. By implementing and operating Mitsubishi Electric's planning and control system, electric power companies can ensure stable operation of the power system and high quality power to customers.

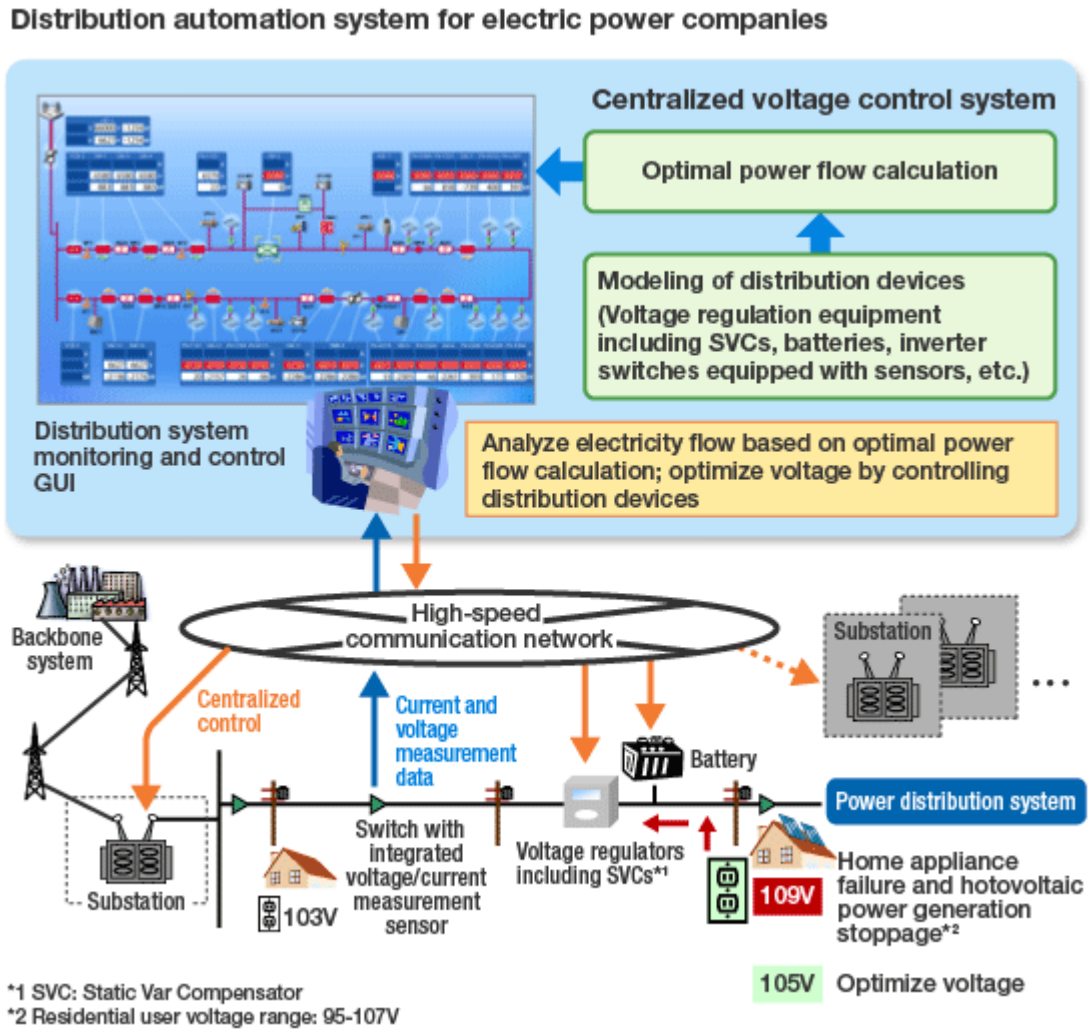
Demand and Supply Planning and Control System for Electric Power Companies and Transmission System Operators



2. Distributing Electricity: Monitoring and Controlling Voltage Levels

In a conventional power system, electricity is distributed from the power plants through the transmission and distribution networks to final consumers. Transmission and distribution networks are designed to deliver the electricity at the consumer side at a predefined voltage level (in Japan, residential load is supplied at 101V+/- 6V). Photovoltaic power generation is in general connected at the distribution level of the power system. For this reason, it is possible for the power produced by the PV to cause a 'counter' power flow from the consumer side to be delivered to other consumers through the distribution network. This phenomenon may present two challenges: an increase of the voltage in areas with high PV production; and voltage fluctuation throughout the system due to the intermittency characteristics of the PV production.

Taking these issues into consideration, Mitsubishi Electric developed a voltage control system that incorporates optimal power flow computation software. This system has been designed to rapidly analyze power flow to forecast the voltage profile on the distribution network, and, in in some cases, control voltage regulation equipment to ensure the appropriate voltage. The optimal control signal is developed through optimal power flow calculation.



3. Consuming Electricity: Developing Advanced Metering Infrastructure with Wireless Mesh Network Technology

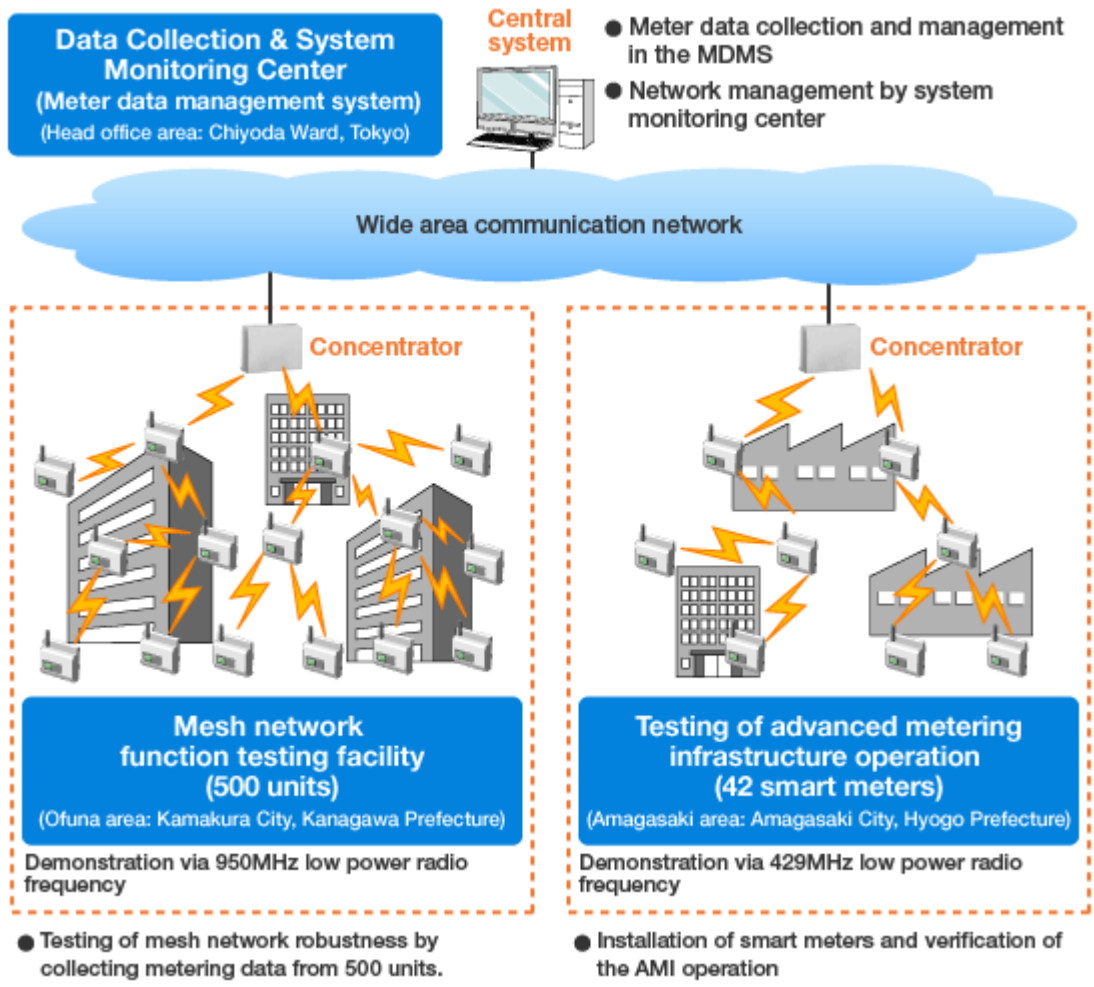
Electric companies are accelerating efforts to develop an advanced meter infrastructure (AMI) to improve customer services and reduce meter reading costs. An essential element in this AMI is the smart meter. A smart meter is a device that not only measures the electricity consumption but is also able to communicate with a center. Developing the communication network between the meter and the center present several challenges, including costs and reliability. Mitsubishi Electric has developed AMI technologies and systems that ensure reliability and flexibility in measuring and controlling electricity meters through next generation wireless mesh networks.

Wireless mesh networks provide a transmission method that links electric meters to relay data by each meter through other meters, using a multi-hop network scheme. This network has helped reduce the time required to acquire data while at the same time curtailing costs.

While wireless mesh networks present cost benefits, some challenges have to be overcome to ensure practical application. Simultaneous transfer of data between meters at the same frequency can cause signal collision, preventing reliable data collection. Mitsubishi Electric has developed a technology that controls the timing of transmission to reduce the probability of signal collision.

Mitsubishi Electric's AMI system enables stable operation and real time reading of the power consumption of 500 next-generation electronic meters at 30 minute intervals for residential and industrial smart meters.

Advanced metering infrastructure for Electric Power Companies



TOPICS

Commenced Smart Grid Demonstration Experiments at Ofuna Smart House from May 2011

Mitsubishi Electric constructed a demonstration facility, Ofuna Smart House, located in Ofuna City, Kanagawa Prefecture. The Company launched demonstration experiments of its smart grid compatible Home Energy Management System (HEMS) from May 2011. In response to a growing awareness of energy efficiency, these experiments help realize energy savings and shifts in peak loads while at the same time demonstrating the support that these systems provide in enhancing resident safety and security. Furthermore, experiments at this facility are connected to backbone and power distribution system demonstrations at facilities in Amagasaki and Wakayama. Steps will be taken to verify the practical reality of zero emission homes as a part of efforts to create a low-carbon society.

Environmental Technology R&D Achievements

Office Building Energy Savings Simulation Technology

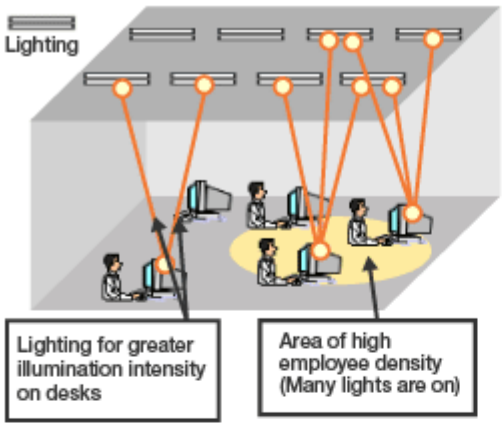
Developing Simulation Technologies that Calculate the Specific Characteristics of Office Buildings to Measure Energy Efficiency

In February 2010, Mitsubishi Electric developed simulation technologies that verify the status of lighting and air conditioning energy use based on a faithful calculation of the specific characteristics, or attributes of office buildings.

The lighting energy savings simulation technology considers the pre-defined location of lighting and desks, as well as room access and exit information of employees on a floor. Utilizing this technology, it is possible to simulate the optimal level of lighting intensity depending on the situation at locations where employees are entering a floor. The air conditioning simulation for energy savings estimates the heat characteristics such as heat loss of the building and the heat generated by people and computers, using historical meteorological data for the areas surrounding the building as well as operational data of air-conditioning. Then we evaluate the effect of the air-conditioning operating schedule based on the above estimation for energy savings.

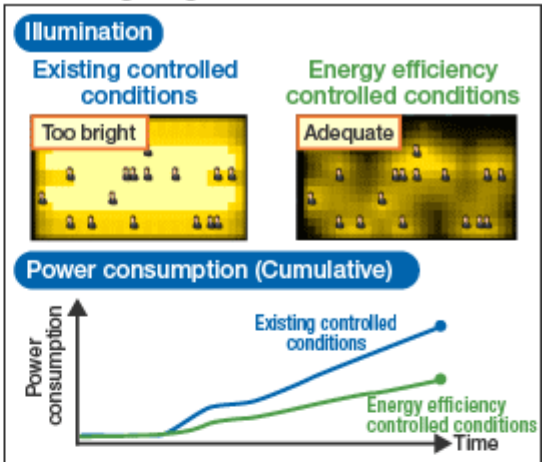
Employed in combination, these technologies help identify effective energy conservation initiatives that take into account both human comfort and energy savings. Application of these energy savings simulation technologies in actual building conditions confirmed reductions in electricity consumption for lighting and air conditioning of 33% and 22%, respectively. Looking ahead, Mitsubishi Electric will actively apply these energy efficiency evaluation tools when introducing or renewing lighting and air conditioning facilities in-house, and when proposing services to its customers.

Desks and Lighting Correlation Model



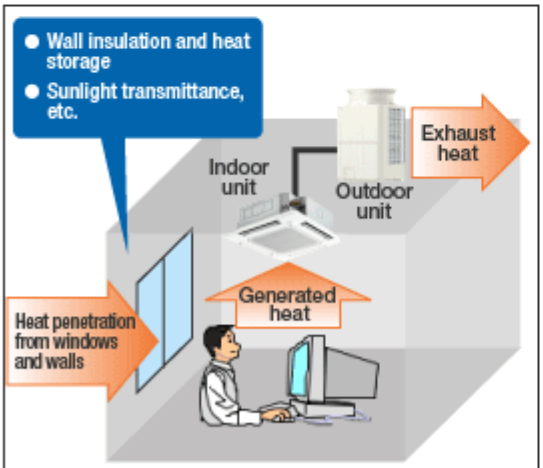
Calculates lighting effect for each seating position as well as seating density

Lighting Simulation Results



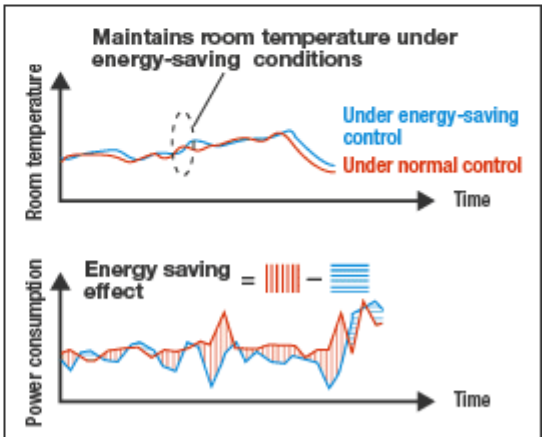
Reducing power consumption while maintaining the required level of illumination

Building Heating Characteristics Estimation Model



Estimates insulation and heat storage based on incoming and outgoing heat

Air Conditioning Simulation Results



Realizes energy savings while maintaining the room temperature

Environmental Technology R&D Achievements

Automotive Motor Systems

Advanced Motor Design Technologies for Smaller and More Efficient Automotive Motor Systems

Employing advanced motor electromagnetic design technologies as well as the unique "Poki-poki" motor[1] with its increased coil density, Mitsubishi Electric developed the world's smallest and lightest[2] motor controller unit for electric power steering. At the same time, the Company also developed a proprietary rare earth[3] -free motor that can be used to deliver high power output and high efficiency in electric and hybrid electric vehicles.

The world's smallest and lightest unit of motor and controller for automotive power steering

The term power steering is used to describe a system that provides drivers with mechanical steering assistance. While hydraulic systems previously were the mainstream, highly energy efficient electric-powered steering systems are steadily gaining wider acceptance. Today, these systems can be found in an increasing number of compact and mid-sized cars worldwide. Another significant benefit of electric-powered systems is their easy installation and use in electric and hybrid vehicles. Moreover, together with next-generation automobiles, electric power steering systems are attracting growing demand, reflecting the market's need for further improvements in environmental performance. Since commencing volume production of electric power steering motor systems in 1988, Mitsubishi Electric has continued to overhaul and improve its systems, seeking to further enhance energy efficiency, reduce the amount of resources used and increase operating ease-of-use. In November 2011, Mitsubishi Electric developed the world's smallest and lightest unit of motor and controller for automotive power steering using our original Poki-poki motor as well as our control and magnetic circuit dynamic analysis technology. This new unit of motor and controller is 50% smaller and 30% lighter than Mitsubishi Electric's existing products with the same output. In addition to conserving resources, Mitsubishi Electric's power steering systems are contributing to global environmental conservation through the reduction of vehicle body weight, resulting in lower energy consumption.

Complementing these initiatives, in February 2011, Mitsubishi Electric introduced its rare earth-free motor, which was developed with consideration for the need to reduce the use of scarce resources. The rare earth magnetic motors currently used in electric and hybrid vehicles contain certain types of rare earth materials including dysprosium and neodymium. As a result, there are concerns with respect to the stability of supply. To address these concerns, Mitsubishi Electric developed a proprietary structure rare earth-free motor using high coil density and interaction analysis technologies. While reducing the amount of rare earth materials used, we have also maintained the high levels of power output and efficiency found in existing rare earth magnetic motors used in hybrid electric vehicles. This research was commissioned by NEDO[4].

1 Poki-poki motor: A motor that uses the Company's proprietary technology entailing the wrapping of coils around an extended core

2 The world's smallest and lightest: Based on Mitsubishi Electric research as of September 30, 2010.

3 Rare earth: A rare earth element; There are indications that significant potential exists for supply to become increasingly unstable due to the limited number of countries that produce rare earth materials on a volume basis as a result of political and economic forces.

4 NEDO: New Energy and Industrial Technology Development Organization, an incorporated administrative agency

Product Environmental Data

Energy & Electric Systems

Ozone Generator
Super Energy Efficient Transformers
Elevator Systems
Escalator

Industrial Automation Systems

Electronic Hybrid Functional Control Panel
Computerized Numerical Controller
Wire Electric Discharge Machine
Automatic Power Factor Controller
Electronic Measuring Instrument
Electronic Multi-Measuring Instrument
Energy Measuring Unit
Laser Processing Machine
EPS Motor
Spindle Motor

Information & Communication Systems

Optical Network Unit
Mitsubishi Logistics Information System: Dr. Logis
Integrated Environmental Information System
Environmentally Resistant Wide-Area Optical Ethernet Switch
UHF-Band RFID Reader-Writer
WDM Optical Transmission Equipment
Information Equipment Recycling Service

Electronic Devices

DIP-IPM Module
Laminated Bus Bar

Home Appliances

LED Lighting NEW
Jet Towel Hand Dryer
Hot Water Floor Heating System
Room Air Conditioner NEW
Refrigerator NEW
Photovoltaic Module
Photovoltaic Inverter
Eco Cute for Household Use NEW
Eco Cute for Commercial Applications
Ventilator
Energy Recovery Ventilator for Commercial Use
Lossnay Central Ventilator System

Energy & Electric Systems

In the area of heavy electric machinery systems, Mitsubishi Electric is contributing broadly to society by lowering the environmental burden of energy systems and infrastructure systems, which are used in many places throughout society.

Ozone Generator

Super Energy Efficient Transformers

Elevator Systems

Escalator

Energy & Electric Systems

Ozone Generator OS

Produces high-concentration ozone efficiently for lower life-cycle costs

The Ozone Generator is a device that produces ozone gas using electrical discharge. A high voltage with high frequency is applied between two electrodes to produce a discharge space. Oxygen gas or air is then passed through the space and some of the oxygen is converted to ozone. Ozone is a gas consisting of three bonded oxygen atoms. It has sterilization and oxidation properties that are more powerful than chlorine. It also has exceptional deodorization and de-pigmentation abilities. Water treatment systems that use the power of ozone have been recognized for their purification capabilities and environmental compatibility. They continue to be installed at sites involved in potable water treatment, sewage treatment and industrial wastewater treatment. The Ozone Generator OS produces high-concentration ozone efficiently. It generates concentrations as high as 240 g/m³ (N), an improvement upon Mitsubishi Electric's previous model, which could produce an ozone concentration as high as 150 g/m³ (N).

M Materials: Effective use of resources

- Approximately 40% lower weight compared to previous Mitsubishi Electric model.

E Energy: Efficient use of energy

- Approximately 10% lower power consumption compared to previous Mitsubishi Electric model.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Unlike sterilization and oxidation using chemicals such as chlorine, ozone breaks down after treatment and reverts to oxygen, which prevents environmental pollution.

Note

Shortening the length of the discharge gap has allowed Mitsubishi Electric's Ozone Generator to produce high-concentration ozone efficiently. The discovery and application of this technology has been duly recognized, leading to it being honored with the following awards.

1. 21st Century Invention Prize at the 2006 National Invention Awards
   "Technology for producing high-concentration ozone efficiently"

2. Japan Machinery Federation Chairman's Prize at the 2006 Outstanding Energy Efficient Device Awards
   "Tubular type ozone generator with small discharge gap"

3. Prime Minister's Award at the 2007 Japan Industrial Technology Awards
   "High-concentration generator with very small discharge gap"

Energy & Electric Systems

Ozone Generator | Super Energy Efficient Transformers | Elevator Systems
Escalator

Transformers: Super Energy Efficient Transformers (EX Series)

Hyper Eco-Product

Factor 1.183: Performance Factor 1.00: Environmental Load Factor 1.183

Transformers use electromagnetic induction to step-down the high-voltage electricity (e.g. 6600v) supplied by electric utilities to voltage levels used in buildings and factories. Super Energy Efficient Transformers contribute to energy efficiency by lowering operating losses, and reduce CO_2 emissions. These transformers also employ a design that reduces operating noise.

Reasons for Hyper Eco-Product Certification

- Products certified to carry Mitsubishi Electric's environmental mark

Detailed environmental data

- RA-TS

M Materials: Effective use of resources

- To create no-burden and lower-burden products, we increased our resources by around 40%.

E Energy: Efficient use of energy

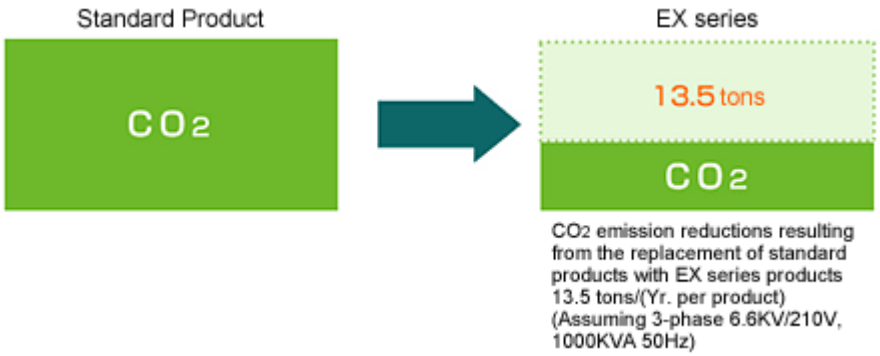
- By creating no-burden and lower-burden products, we lowered our electric power consumption by approximately 57%.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminate the use of hexavalent chrome.

Note

Super Energy Efficient Transformers are larger and more massive than current top-performing transformers (energy-efficient models), but offer greater energy efficiency.



CO_2 emission reductions resulting from the replacement of standard products with EX series products
13.5 tons/(Yr. per product)
(Assuming 3-phase 6.6KV/210V, 1000KVA 50Hz)

To illustrate, if all of the transformer shipments for a year were replaced with Super Energy Efficient Transformers, CO_2 emissions would be reduced by 90,000 tons. Super Energy Efficient Transformers, therefore, not only reduce energy consumption; they also help to lower environmental burden.

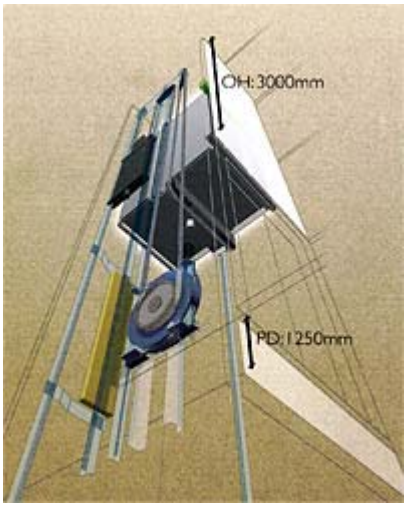
Energy & Electric Systems

Ozone Generator | Super Energy Efficient Transformers | Elevator Systems
Escalator

Elevator Systems: Number of persons: 9, Speed: 60m/min., 6 stops

Factor 1.09: Performance Factor 1.00: Environmental Load Factor 1.094
(applies only to lift equipment)
* Factors for standard products are fiscal 1996 products.

Responding to diversifying needs, we enhanced the performance and functionality of existing elevator equipment. In addition, to provide greater construction and design freedom, we reduced the amount of space necessary for elevator shafts.



Detailed environmental data

▶ P9-CO-60, 6stop

M Materials: Effective use of resources

- Reduced the weight of car equipment. (Car floor: Approx. 20kg; Car balustrade: Approx. 5kg; Counterweight: Approx. 25kg)
- Employed corn-based plastic for part of the car control panel.

E Energy: Efficient use of energy

- Switched to inverter technology for lighting, and reduced electricity consumption by up to 35%.
- Use regenerative electric power to reduce electricity consumption by about 20%. (When equipped with the optional "Ele-save" package)

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- RoHS-compliant parts and materials are used. (Switched to lead-free options for six types of boards, and plating free of hexavalent chrome.)
- Reduced usage of toluene, xylene, and other atmospheric and the soil contaminants.
- In compliance with sick-house laws and regulations, reduced emissions of controlled substances to levels at or below standards for entire elevator systems. Reduced formaldehyde concentrations to levels below the standard of 100μg/m³.

Energy & Electric Systems

Ozone Generator | Super Energy Efficient Transformers | Elevator Systems
Escalator

Escalator ZJ-S

Factor: 1.280
Performance Factor: 1.000*
Environmental Impact Factor: 1.280
* No performance factor evaluation for this product.

ZJ-S constitutes a new escalator design providing high quality and reliability. Particular attention was paid to safety and convenience in creating this design.

Detailed environmental data

▶ ZJ-S

M Materials: Effective use of resources

- The ZJ-S design is characterized by its relatively small number of parts and light weight. Installing ZJ escalators for floor heights of 6.5–7.0 m results in the use of less material than required by other escalator models.
- To minimize the amount of material used in truss members, the size of the truss chords and other parts was scaled down, resulting in lighter parts and overall weight reduction.
- Recyclable thermoplastic polyurethane handrails and rollers were installed.

E Energy: Efficient use of energy

- An optional automatic operation function helps make the escalator more energy efficient. A line of VVVF inverter-based post and postless products that stop/slow down when not in use has been prepared; combining these features with variable speed functionality results in expanded application for automatic operation functions.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Active employment of RoHS-compliant parts and materials (Switched to lead-free boards, and plating free of hexavalent chromium.)
- Reduced usage of toluene, xylene, and other atmospheric and soil contaminants.

Industrial Automation Systems

In industrial Mechatronics, we help customers reduce their environmental burden by increasing the energy- and resource-efficiency of various devices that are indispensable for industry.

Electronic Hybrid Functional Control Panel

Computerized Numerical Controller

Wire Electric Discharge Machine

Automatic Power Factor Controller

Electronic Measuring Instrument

Electronic Multi-Measuring Instrument

Energy Measuring Unit

Laser Processing Machine

EPS Motor

Spindle Motor

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Electronic Hybrid Functional Control Panel MACTUS 30LCB

Integration simplifies and enhances the performance of water treatment plants

With conventional systems for power instrumentation and control at drinking water treatment facilities, sewage treatment facilities and other water treatment plants, it was necessary to produce, install, wire and coordinate (on-site) separate control panels for power, control and instrumentation circuits. The Electronic Hybrid Functional Control Panel consolidates these previously separate circuits and reduces the number of control panels to save space, reduce wiring, lower power consumption and provide high-performance electrical facilities. It is the first Mitsubishi Electric product that has been certified with the Eco-Leaf environmental label (conforms to the ISO Type III framework).

M Materials: Effective use of resources

- Fewer control panels and less wiring due to integration of previously separate functions.
- Systems previously requiring three control panels can be configured with two panels (scope of consolidation differs depending on the size of the plant).

E Energy: Efficient use of energy

- Energy is saved through consolidating previously separate functions and by integrating and changing controls from H/W circuits to S/W circuits. Power consumption is reduced by up to 40% compared to Mitsubishi Electric's previous system (energy savings differ depending on the size of the plant).

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Computerized Numerical Controller M700VS Series

Hyper Eco-Product

Factor 2.72: Performance Factor 1.12:
Environmental Load Factor 2.429

Best controller for top level manufacturing

The Computerized Numerical Controller is a computer that accurately controls the amount of movement and speed of machine tool implements.
With fewer long-life parts, such as HDDs and the cooling fans, part replacement maintenance and machine tool waste is also reduced.

Reasons for Hyper Eco-Product Certification

- Factor X is more than or equal to 2

Detailed environmental data

- M700VS Series

M Materials: Effective use of resources

- Compact and lightweight resource-saving design (volume: 13% reduction mass; 29% reduction).

E Energy: Efficient use of energy

- We have developed the high-efficiency and electric power saving graphic circuit, which reduces power consumption by approximately 66% compared to the previous model.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Conforms to the EU RoHS Directive; the occurrence of six regulated substances (lead, mercury, cadmium, hexavalent chromium, PBB, and PBDE) is controlled.

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Wire Electric Discharge Machine
NA series

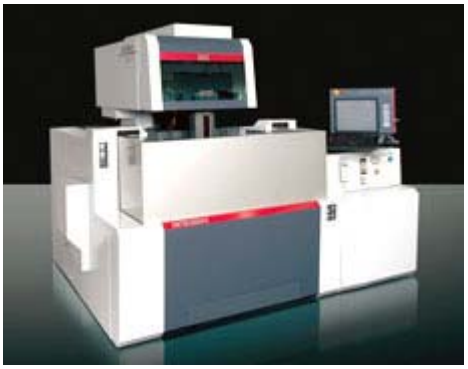
Hyper Eco-Product

Factor NA1200:4.60 NA2400:3.91
Performance Factor NA1200:3.086 NA2400:3.086
Environmental Load Factor NA1200:1.492 NA2400:1.267

Next-generation WEDM provides high-precision machining and lower running costs

A wire electric discharge machine is a type of machine tool classified by JIS regulations as a special processing machine. It provides precision machining by utilizing electrical discharge between the workpiece and wire electrodes to melt and remove the workpiece. It uses significantly less power and wire than Mitsubishi Electric's previous model, helping to reduce running costs.

NA1200



NA2400

Reasons for Hyper Eco-Product Certification

- Factor rating of 3 or more

Detailed environmental data

- NA1200
- NA2400

M Materials: Effective use of resources

- Optical product design delivers increased processing size (due to a larger machine) without increasing the amount of cast metal used.
- Unit design reduces total number of parts.
- Resources saved by digitizing the user's manual.

E Energy: Efficient use of energy

- A new power supply reduces processing time by as much as 30% compared to the previous Mitsubishi Electric model.
- Brand new control system called Intelligent Master reduces wire consumption by up to 44% compared to the previous Mitsubishi Electric model.
- New "wake-up mode" function reduces standby power consumption.
- Total power consumption is cut by up to 69% compared to the previous Mitsubishi Electric model.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- New components were selected for the circuit board. Circuit boards with lead-free solder substantially reduce the amount of lead used.

Note

The NA Series was designed to provide delicate, high-precision machining and lower running costs while also being operator friendly and easy to use. The NA 2400 Series features 37% more machine strokes, an especially large table and an automatic elevation tank. The work position can be checked from three directions, which makes large work set-up easy. The product is also readily compatible with automation via robots or other automation equipment.

Additionally, a survey of worker movement resulted in improvement to the positioning of the control unit, which helps the product achieve Universal Design ideals.

The product's user-friendly design was recognized, and it was awarded a Good Design Award for fiscal 2008.

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Automatic Power Factor Controller
VAR-6A / VAR-12A VAR-12A / JT-SB216GSN

Factor 1.73: Performance Factor1.20:
Environmental Load Factor1.43

Features automatic condenser capacity recognition and a large LCD display

Automatic power factor controllers are installed on power distribution and receiving facilities at buildings and factories to enable effective use of electrical facilities. They detect reactive power and control the connection and disconnection of power condensers to achieve the ideal power factor. Setup of the controller has been simplified with a function for automatically recognizing condenser capacity, while adoption of a large LCD display improves visibility. Also, the number of parts has been reduced, which simplifies disassembly.

VAR-6A

VAR-12A

Reasons for Eco-Product Certification

- Factor rating of 1.2 or more

Detailed environmental data

- VAR-6A / VAR-12A

M Materials: Effective use of resources

- Parts reduced by 11% compared to the previous model (VAR-6)

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated the use of the six substances specified by the EU's RoHS directive.

Industrial Automation Systems

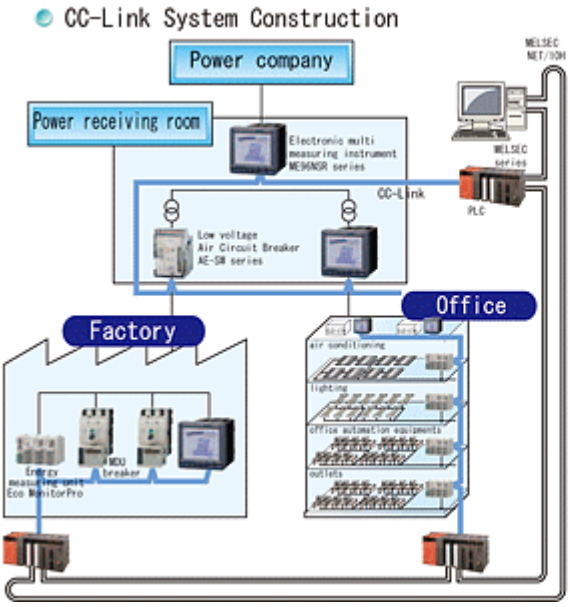
Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Electronic Measuring Instrument
ME96NSR-MB / ME96NSR

Factor 1.67: Performance Factor 1.2:
Environmental Load Factor 1.39

Small and flexible instrument compatible with DIN 96×96 size

Electronic multi-measuring instruments are installed on power receiving and distribution facilities at buildings and factories. The instruments measure electricity, including voltage, current, power and electrical energy, in order to provide information on how electricity is being received and used. Measurements can be displayed directly on the meter or relayed remotely via a communication function. Parts and connection types have been reduced, which simplifies disassembly.



Reasons for Eco-Product Certification

- Factor rating of 1.2 or more

Detailed environmental data

- ME96NSR-MB / ME96NSR

M Materials: Effective use of resources

- Compact and lightweight.
- Instrument design makes it easy to add and remove communication modules, I/O modules and other add-ons.

E Energy: Efficient use of energy

- Electricity consumption reduced by 25% compared to Electronic Multi-Measuring Instrument.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated the use of the six substances specified by the EU's RoHS directive.

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Electronic Multi-Measuring Instrument
ME110NSR / ME110NSR-4A2P / ME110NSR-4APH / ME110NSR-C
ME110NSR-MB

Factor 1.70: Performance Factor 1.20:
Environmental Load Factor 1.41

High functionality and ease of use

Electronic multi-measuring instruments are installed on power receiving and distribution facilities at buildings and factories. The instruments measure electricity, including voltage, current, power and electrical energy, in order to provide information on how electricity is being received and used. Measurements can be displayed directly on the meter or relayed remotely via a communication function. Parts and connection types have been reduced, which simplifies disassembly.

ME110NSR

Reasons for Eco-Product Certification

- Factor rating of 1.2 or more

Detailed environmental data

- ME110NSR

M Materials: Effective use of resources

- Parts reduced by 15% compared to previous model.
- Connection types reduced by 40% compared to previous model.

E Energy: Efficient use of energy

- Electricity consumption reduced by 30% compared to previous model.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated the use of the six substances specified by the EU's RoHS directive.

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Energy Measuring Unit (EcoMonitorPro)

Hyper Eco-Product

Factor 3.96: Performance Factor 2.50: Environmental Load Factor 1.582

These gauges make it possible to measure electricity usage for electric power systems covering multiple factories and buildings at the level of individual facilities or lines, and at 1-second or 1-minute intervals.

Reasons for Hyper Eco-Product Certification

- Factor rating of 2 or more

Detailed environmental data

- EMU2-HM1-B

M Materials: Effective use of resources

- Reduced virgin resource usage in products by 45%.
- Reduced the volume of unrecyclable materials by 45%.

E Energy: Efficient use of energy

- Reduced electricity consumption by 51% during usage and 82% during standby.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Reduced the amount of lead used in solder by 12.5%.

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Laser Processing Machine LVP-40CF

Hyper Eco-Product

Factor 3.108: Performance Factor 3.50: Environmental Load Factor 0.888

Laser processing machines fall into the "Special Processing Machinery" JIS classification. Laser processing machines heat, weld, and ablate by using the characteristics and high energy of a laser beam. The LVP-40CF creates a φ10 hole in the SPCCt1.0 sample part 3.5 times faster than existing machines.

Reasons for Hyper Eco-Product Certification

- An environmental load factor of 2 or higher

Detailed environmental data

- LVP-40CF

M Materials: Effective use of resources

- Increase in resource usage through higher rigidity achieved with greater processing speed and precision.

E Energy: Efficient use of energy

- Increase in drive energy usage through high-speed, high-precision processing.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Lead-usage reduction through the use of fewer parts attached with solder.

Note

Our laser oscillation and processing technology has been recognized for its excellence and has received the following awards.

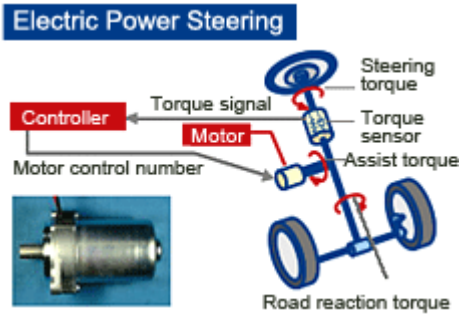
- 2001 Nikkan Kogyo Shimbun's 43rd Great New Product Award
- 2002 Japan Machinery Foundation's Chairman's Prized at the Outstanding Energy Efficient Device Awards

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

EPS Motor (30A Class)

Factor 1.451: Performance Factor 1.085: Environmental Load Factor 1.337



The EPS Motor is used in power steering systems, which provide assistance in turning automobile steering wheels. Because the electric power steering system (EPS) engages the motor only when the steering wheel is being turned, it consumes less energy than the traditional hydraulic power steering system (HPS), which is driven by a hydraulic pump that is constantly in operation when an engine is on. This can result in a fuel efficiency improvement of about 3%-5%. Replacing HPSs with EPSs, therefore, would increase fuel economy and significantly reduce CO_2 emissions.

M Materials: Effective use of resources

- Use of closed-loop recycled plastic consisting of waste recovered from the formation process to make a holder for protecting and securing a magnet on the stator.
- Reduction of copper coil edge line parts volume through innovations in edge line processing for windings.
- Weight reduction through simplification of the structure of the connection parts for attachment of the mechanism side to the motor.

E Energy: Efficient use of energy

- Increased energy efficiency through optimal electromagnetic design of the rotor winding coil.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated environmental burden substances covered by the EU-ELV Directive's phased usage restrictions, and reduced usage of other heavy metals.

Note

Received the fiscal year 2007 Commendation for Science and Technology by the Minister of Education Culture, Sports, Science and Technology.

Received the fiscal year 2007 Commendation for Science and Technology by the Minister of Education Culture, Sports, Science and Technology for our EPS (motor and controller). Mitsubishi Electric was praised for benefiting the global environment by making it possible to switch from HPSs to EPSs, and increase fuel economy by 3%-5%.

Industrial Automation Systems

Electronic Hybrid Functional Control Panel | Computerized Numerical Controller
Wire Electric Discharge Machine | Automatic Power Factor Controller
Electronic Measuring Instrument | Electronic Multi-Measuring Instrument
Energy Measuring Unit | Laser Processing Machine | EPS Motor | Spindle Motor

Spindle Motor SJ-D Series

Factor: 1.470
Performance Factor: 1.000*
Environmental Impact Factor: 1.470

* No performance factor evaluation for this product.

The SJ-D Series Spindle Motors—Fusing Next-Generation Functionality and Design

Spindle motors are used to rotate the cutting edges and processing tools of machining centers, lathes and other machine tools. Mitsubishi Electric continues to strive for energy savings and resource conservation in its products as part of its environmental countermeasures. In addition to such environmental considerations, the SJ-D Series of spindle motors also offers enhanced safety and reliability, and delivers maximum motor performance.
In a field where industrial equipment products have a lifespan in excess of 10 years, this series fuses functionality and design to become a product unaffected by prevalent trends. The SJ-D Series of spindle motor received a Good Design Award (Best 15) in 2009.

Detailed environmental data

▶ SJ-D

M Materials: Effective use of resources

- The SJ-D Series' revised electrical design cuts the use of copper wiring by 43%, while its optimized structure lowers the parts count.

E Energy: Efficient use of energy

- The optimal electrical design facilitates a 25% reduction in motor power loss compared with conventional models, lowering power consumption.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Compliant with European RoHS Directive.

Information & Communication Systems

In information and communication systems, Mitsubishi Electric provides solutions based on advanced IT technology, and supports customers' environmental activities by helping them to gather, analyze, and apply environmental burden information.

Optical Network Unit

Mitsubishi Logistics Information System: Dr. Logis

Integrated Environmental Information System

Environmentally Resistant Wide-Area Optical Ethernet Switch

UHF-Band RFID Reader-Writer

WDM Optical Transmission Equipment

Information Equipment Recycling Service

Information & Communication Systems

Optical Network Unit | Mitsubishi Logistics Information System: Dr. Logis
Integrated Environmental Information System
Environmentally Resistant Wide-Area Optical Ethernet Switch
UHF-Band RFID Reader-Writer | WDM Optical Transmission Equipment
Information Equipment Recycling Service

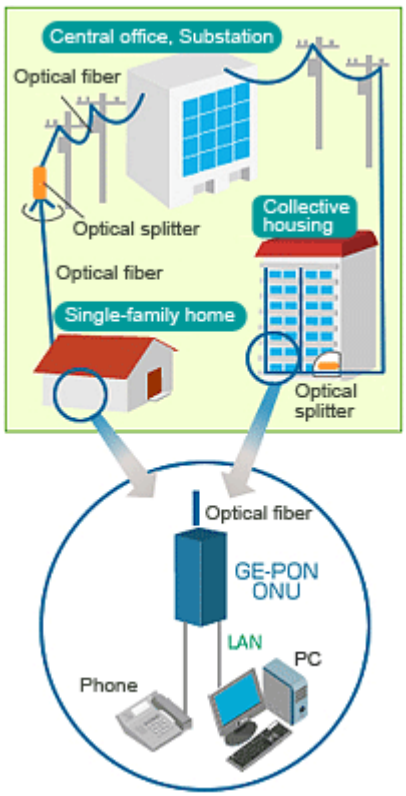
Optical Network Unit GE-PON ONU

Hyper Eco-Product

Factor 24.11: Performance Factor 6.67: Environmental Load Factor 3.62

Provides high-speed broadband over optical fiber

The GE-PON system makes high-speed broadband over optical fiber to the home possible by connecting and terminating optical fiber installed in the home. Using passive optical network, or PON, technology, one strand of optical fiber can be shared by up to 64 users, which reduces device size and cuts power consumption. The system provides a pleasant Internet experience with speeds as high as 1 Gbps.



Reasons for Hyper Eco-Product Certification

- Significant electricity consumption reduction achieved by reducing the number of parts compared to previous equipment
- Factor rating of 2 or more
- Lead-free

Detailed environmental data

- GE-PON ONU

M Materials: Effective use of resources

- Virgin resource consumption reduced substantially by making the product smaller and eliminating metal materials.
  Iron: 0.046kg→0kg
  Aluminum: 0.306kg→0kg
  Plastic: 0.5kg→0.133kg

E Energy: Efficient use of energy

- Eliminating parts with high power consumption (FPGA) reduced power consumption by 65% compared to the previous Mitsubishi Electric product.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

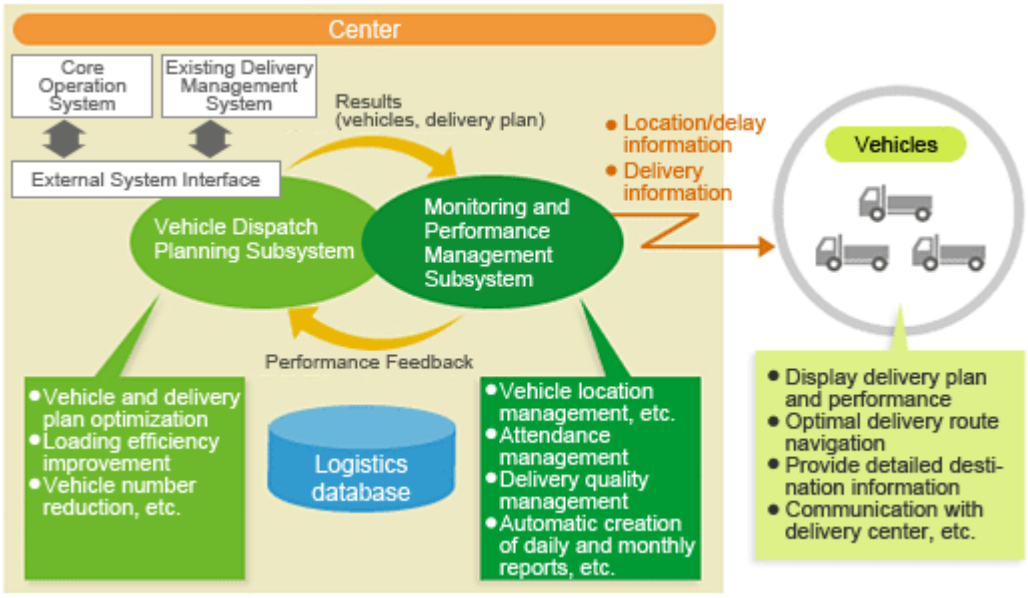
- Complies with Europe's RoHS Directive
- Uses lead-free solder

Information & Communication Systems

Information & Communication:
Mitsubishi Logistics Information System: Dr. Logis

Dr. Logis is a system that supports optimal, realistic vehicle dispatch planning for distribution. It reduces the number of vehicles, distance traveled, and time required when delivering the same quantities under the same conditions.

Trucks burning diesel, gasoline, or other fossil fuels are used in delivery work. Reducing distance and time traveled by minimizing the number of vehicles used and optimizing distribution routes for cases in which the same quantities are being delivered reduces fuel usage and, ultimately, NOx and CO_2 emissions.

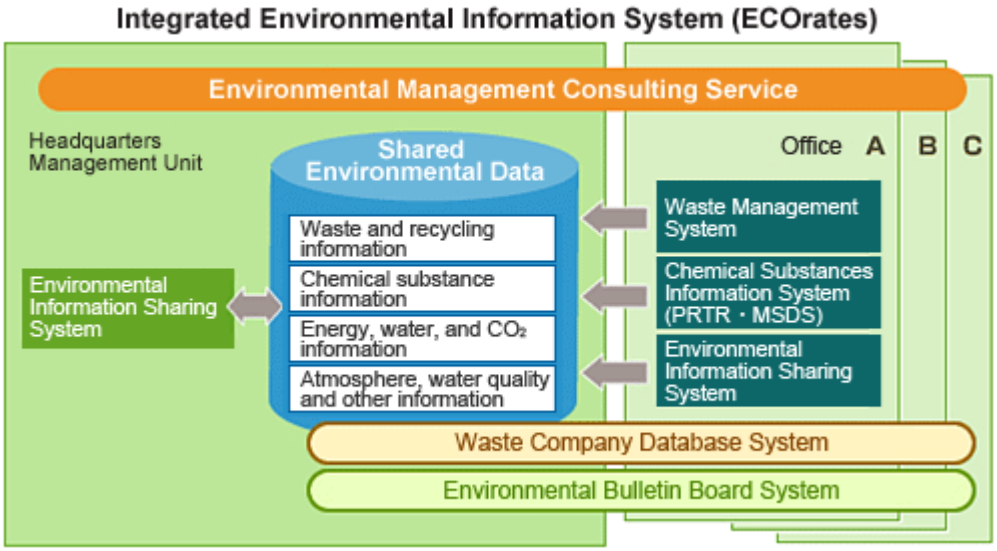


Information & Communication Systems

Optical Network Unit | Mitsubishi Logistics Information System: Dr. Logis
Integrated Environmental Information System
Environmentally Resistant Wide-Area Optical Ethernet Switch
UHF-Band RFID Reader-Writer | WDM Optical Transmission Equipment
Information Equipment Recycling Service

Information & Communication:
Integrated Environmental Information System (ECOrates)

ECOrates is an information system that, when applied in information sharing and communication, promotes legal compliance, risk avoidance, and environmentally conscious management through the introduction of IT to environmental management. ECOrates is comprised of three subsystems: the Waste Management System, Environmental Information Sharing System and Chemical Substances Information System.



M Materials: Effective use of resources

- Adding to our use of industrial waste management systems, we have taken steps that make it possible to manage all wastes generated, including general waste and materials with value. These measures allow us to determine volumes and relative percentages of recyclable and other valuable materials, and promote 3R (recycle, reuse, reduce) activities.

E Energy: Efficient use of energy

- The Chemical Substance Management System makes it possible to manage controlled substances by simplifying the work of determining amounts of PRTR Law and other controlled substances purchased and used, and assembling data on atmospheric and waterway emissions, and transfers. Furthermore, it helps to reduce chemical substance usage by making it possible to reference purchase data.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- The Environmental Information Sharing System makes it possible to gather environmental performance data on energy, paper, water, and other resource usage for group companies, including affiliates and overseas group members. Efficiency enhancement and usage reduction are aided by CO_2, fuel, and basic unit data conversions. This system also simplifies preparation of data for inclusion in environmental and CSR reports.

Information & Communication Systems

Environmentally Resistant Wide-Area Optical Ethernet Switch MELNET-ES1100

A Slim, Compact Optical Ethernet Switch Suitable for Outdoor Installation

MELNET-ES1100 is ideal for network configurations requiring environmental resistance and large capacity, such as onsite facility surveillance of roads, rivers, dams, erosion control hotspots, ports and harbors, railways, toll roads and other infrastructure, as well as CCTV video coverage equipment.

Optical Ethernet interfaces (1000BASE-X and 100BASE-FX) are mounted with a total of four ports. For each port, a module can be selected based on transmission distance, facilitating long-distance transmission from several kilometers up to 80 kilometers.

To enable outdoor storage (from -10˚C to 55˚C), MELNET-ES1100's slim, compact 1U rack size (44mm) can be stored within with both JIS and 19-inch racks. In addition, its fanless design eliminates the need for fan replacement or fan filter cleaning.

M Materials: Effective use of resources

- A redesigned heat dissipation mechanism lowers the parts count and reduces weight by 30% compared with conventional models.

E Energy: Efficient use of energy

- Adoption of a low power consumption LSI and other components has reduced power consumption by 14% compared with conventional models.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- MELNET-ES1100 complies with Lead-free Phase 1 standards (with no lead used in surface treatment of boards and mounting solder) and features vastly reduced overall lead content.

Information & Communication Systems

Optical Network Unit | Mitsubishi Logistics Information System: Dr. Logis
Integrated Environmental Information System
Environmentally Resistant Wide-Area Optical Ethernet Switch
UHF-Band RFID Reader-Writer | WDM Optical Transmission Equipment
Information Equipment Recycling Service

UHF-Band RFID Reader-Writer Ver. 3.0 (RF-RW101)

Factor: 1.631
Performance Factor: 1.000*
Environmental Impact Factor: 1.631

* No performance factor evaluation for this product.

72% More Compact than Conventional Models

Mitsubishi Electric's UHF-band RFID reader-writer can read ID data written on a battery-less tag from a distance of up to 7 meters. Formerly, long-distance ID card systems required battery power, but UHF-band RFID facilitates battery-less operation, enabling the building of systems that are more environmentally compatible.

Detailed environmental data

▶ RF-RW101

M Materials: Effective use of resources

- Overall volume reduced to 72% of conventional models. In addition, recyclable aluminum is utilized in the chassis/packaging material.

E Energy: Efficient use of energy

- Restricting usage to mid-range applications (1-2 meters) cuts the required minimum signal output to 100 mW, compared to 1 W for conventional models, realizing a 60% reduction in power consumption.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Compliant with European RoHS Directive.

Information & Communication Systems

WDM Optical Transmission Equipment
10G x 80 Wavelength ROADM MF-800 GWR

Hyper Eco-Product

Factor: 31.409
Performance Factor: 21.034
Environmental Impact Factor: 1.496

A Space-Saving Design for 420 Gbit/s in One Bay

Mitsubishi Electric's Reconfigurable Optical Add-Drop Multiplexer (ROADM) is a type of multiple-wavelength transmission equipment that features large-volume data transmission of 10Gbit/s x 80 wavelengths (800Gbit/s). Its single bay can accommodate 42 wavelengths (420 Gbit/s) with ROADM and amplification function cards, thanks to its sophisticated circuit design and device integration, resulting in substantial floor space saving. It is also capable of configuring Add/Drop/Thru for any wavelength from supervisor control terminals installed in operation centers.

These features enable ROADM to provide optimal solutions for network reconstruction, such as through facilities relocation or traffic concentration.

Reasons for Hyper Eco-Product Certification

- Factor 2 or above

Detailed environmental data

- MF-800GWR

M Materials: Effective use of resources

- In order to enhance degradability and recyclability, the MF-800GWR incorporates appropriate materials and reduced coating.

E Energy: Efficient use of energy

- Advanced components developed in-house have successfully reduced the power consumption per 1 information bit to 4% of that in the year 2000.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Designed to comply with European RoHS Directive. Some products are already fully RoHS-compliant; we are currently working toward compliance for all products.

Information & Communication Systems

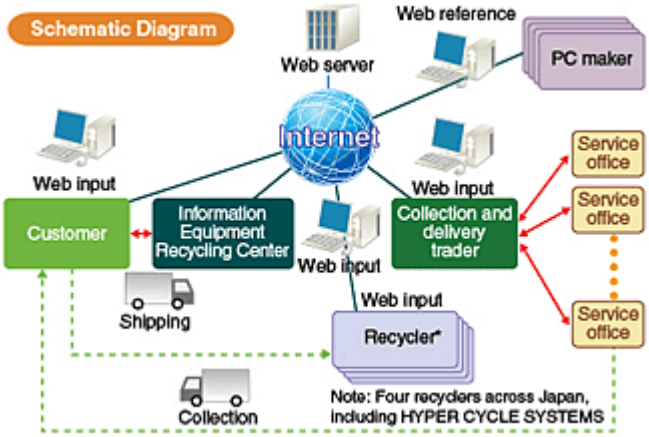
Optical Network Unit | Mitsubishi Logistics Information System: Dr. Logis
Integrated Environmental Information System
Environmentally Resistant Wide-Area Optical Ethernet Switch
UHF-Band RFID Reader-Writer | WDM Optical Transmission Equipment
Information Equipment Recycling Service

Information Equipment Recycling Service

Easy Disposal of Information Equipment

The information equipment recycling service has a Web-based menu for the collection and recycling of used information equipment. Customers can request estimates, place orders and monitor progress online.

Information Equipment Recycling Service Website (Japanese language only)



M Materials: Effective use of resources

- To avoid soil, water and air pollution, there is no combustion or washing involved in the recycling process. Recovery and recycling is conducted primarily through disassembling, crushing and separating by hand. The crushing and separation process yields high-grade steel and copper, realizing highly efficient recycling.

Note

Easing Our Customers' Administrative Burden

When disposing of Mitsubishi Electric information equipment*, the customer need not contract with numerous collection and delivery traders and waste disposal organizations. The customer also need not provide or maintain a manifest.

* Mitsubishi Electric information equipment is defined as that manufactured by Mitsubishi Electric Corporation and Mitsubishi Electric Information Technology Corporation as indicated in the table below.

Potential Equipment List

Type	Equipment	
Personal computer	Desktop PC	Notebook PC
Display equipment	CRT display	Liquid crystal display
Workstation	Server workstation (including office computer/mainframe)	
External storage device	Hard disk unit MO disk unit	Floppy disk unit
I/O device	Printer Terminal adapter POS Router	Scanner Modem FAX
Power supply unit	Uninterruptible power supply	

Electronic Devices

In the area of electronic devices, we are working to make critical electronic devices more energy efficient and reduce the use of lead and other controlled substances.

DIP-IPM Module

Laminated Bus Bar

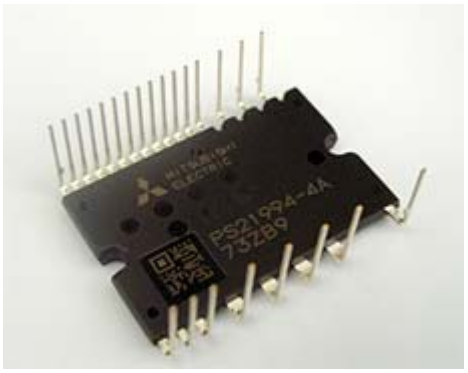
Electronic Devices

DIP-IPM Module | Laminated Bus Bar

Power Module DIP-IPM PS21994

Factor 2.466: Performance Factor 1.50: Environmental Load Factor 1.644

Power module for driving inverters for home appliances and industrial motors.



Detailed environmental data

▶ PS21994

M Materials: Effective use of resources

- Use of a high heat dissipation insulation structure achieved a reduced junction temperature rise in power chips. This allowed for a smaller package and led to a significant reduction (about 40%) of the mounting area on the PCB compared to our current products.

E Energy: Efficient use of energy

- By integrating a full-gate CSTBT™*, which is one of Mitsubishi Electric's advanced IGBTs, electric power consumption in the system was reduced.
  *CSTBT: Carrier Stored Trench Gate Bipolar Transistor

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Introduction of lead-free process for soldering power chips and plating outer terminals realized all lead-free products (RoHS compliant).

Note

Awarded the 52nd Okochi Prize
(Production award)


賞状

At the 52nd (2006) Okochi Prize ceremony held on March 14, 2006, the Dual Inline Package-type Intelligent Power Module (DIP-IPM) developed by Mitsubishi Electric's Power Device Works was awarded the Okochi Memorial Foundation Manufacturing Prize for the development and production of a transfer mold intelligent power module. In making its decision, the selection committee praised the development of a highly reliable, low-cost part using a transfer mold to unify multiple power chips, comprising inverter power circuits, with controller ICs. The DIP-IPM is being adopted increasingly for use in not only major appliances using inverters but also for induction heating devices and in the industrial devices market.

Electronic Devices

DIP-IPM Module | Laminated Bus Bar

Laminated Bus Bar (Large Current Circuit Board)

Factor: 2.45
Performance Factor: 2
Environmental Impact Factor: 1.22

Improved Inverter Power Conversion Efficiency and Reduced Weight through use of Aluminum Materials

The laminated bus bar, a large current circuit board, achieves high-speed operation by preventing electrical surges during high-speed switching. The board is used for power semiconductor devices such as IGBTs[1] and IPMs[2].
Reduced inductance makes it possible for the inverter's main circuit wiring to be completely snubberless. Reduced snubber loss results in improved power conversion efficiency.
Aluminum, rather than copper, is used as the unit's main material, making it more lightweight.

*1 IGBT: Insulated Gate Bipolar Transistor
A semiconductor device used for power control applications

*2 IPM: Intelligent Power Module
A semiconductor device used for ON-OFF switching that contains circuitry for control and protection in a single package

Detailed environmental data

▶ Laminated bus bar

M Materials: Effective use of resources

- Achieved a 70% weight reduction by using aluminum rather than copper as the main material

E Energy: Efficient use of energy

- Completely snubberless inverter main circuit wiring
- Significantly improved power conversion efficiency

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminates six substances indicated by the RoHS Directive (non-applicable).

Home Appliances

In home appliances, we're developing and introducing various products that are energy efficient and make life more comfortable.
NOTE: Many of the products shown on these pages are for the Japanese market only.

LED Lighting

Jet Towel Hand Dryer

Hot Water
Floor Heating System

Room Air Conditioner

Refrigerator

Photovoltaic Module

Photovoltaic Inverter

Eco Cute
for Household Use

Eco Cute
for Commercial Applications

Ventilator

Energy Recovery Ventilator
for Commercial Use

Lossnay Central
Ventilator System

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
Eco Cute for Household Use | Eco Cute for Commercial Applications | Ventilator
Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

LED Lighting — erise LED Downlight Class 150 EL-D1411N/3W

Factor: 8.246
Performance Factor: 3.49
Environmental Impact Factor: 2.363

Diffusion light used to brighten open spaces. This eco-conscious product offers energy savings and a long operating life. The erise LED Downlight Class 150 EL-D1411N/3W delivers the same brightness as our conventional fluorescent downlight (FHT32W) while reducing energy consumption by approximately 38%. With an operating life of 60,000 hours, the need to replace lamps has been substantially reduced.

Detailed environmental data

▶ EL-D1411N/3W

M Materials: Effective use of resources

- Operating life of 60,000 hours is approximately six times that of conventional fluorescent downlights, requiring fewer lamp replacements, and helping to substantially reduce waste.

E Energy: Efficient use of energy

- High-efficiency reflector and improvements in power source efficiency contribute to a high 81.8 lm/W intrinsic energy consumption efficiency
- An approximate 38% decrease in energy consumption compared with conventional fluorescent downlights (FHT32W) significantly reduces CO_2

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Compliant with the European RoHS directive
- Mercury-free light source

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
Eco Cute for Household Use | Eco Cute for Commercial Applications | Ventilator
Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

JET TOWEL HAND DRYER
JT-SB116GN / JT-SB216GSN

Hyper Eco-Product

Environmentally conscious product with long life and low power consumption

The Jet Towel Hand Dryer blows off drops of water from the hands with a thin jet of air. As it eliminates paper waste, fewer natural resources are consumed.

* JT-SB116GN is available only in Japan.

Reasons for Hyper Eco-Product Certification

- Factor rating of 2 or more

M Materials: Effective use of resources

- Brushless DC motor has a long life of seven years at up to 1,000 uses per day*.
  * Depending upon environment and usage conditions

E Energy: Efficient use of energy

- Approximately 15% lower power consumption compared to previous Mitsubishi Electric model.
- Newly developed "hyper nozzle" improves drying efficiency.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated the use of the six substances specified by the EU's RoHS directive.

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
Eco Cute for Household Use | Eco Cute for Commercial Applications | Ventilator
Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

"Econucool Pico" Series, Hot Water Floor Heating System VEH-406HCA-K / VEH-406HCA-M / VEH-406HPU3

Hyper Eco-Product

Factor 1.796: Performance Factor 1.215: Environmental Load Factor 1.478

Econucool Pico Series: An energy-efficient heat pump-based hot water floor heating system

Econucool Pico Series heats by sending hot water generated from atmospheric heat to floor heating panels or other types of radiators. This heating system is suitable for fully electric houses which are rapidly gaining in popularity.

Reasons for Hyper Eco-Product Certification

- Factor rating of 1.5 or more
- Received Chairman's Prize, the Energy Conservation Center at the Energy Conservation Grand Prize 2008 (VEH-406HCA-K, VEH-406HPU3)

Detailed environmental data

- VEH-406HCA-M

M Materials: Effective use of resources

- Product weight reduced by 67% (36 kg to 12 kg) compared to Mitsubishi Electric's previous model (2001 model) by optimizing the parts layout, making the heat exchanger thinner and reducing the weight of the pump.

E Energy: Efficient use of energy

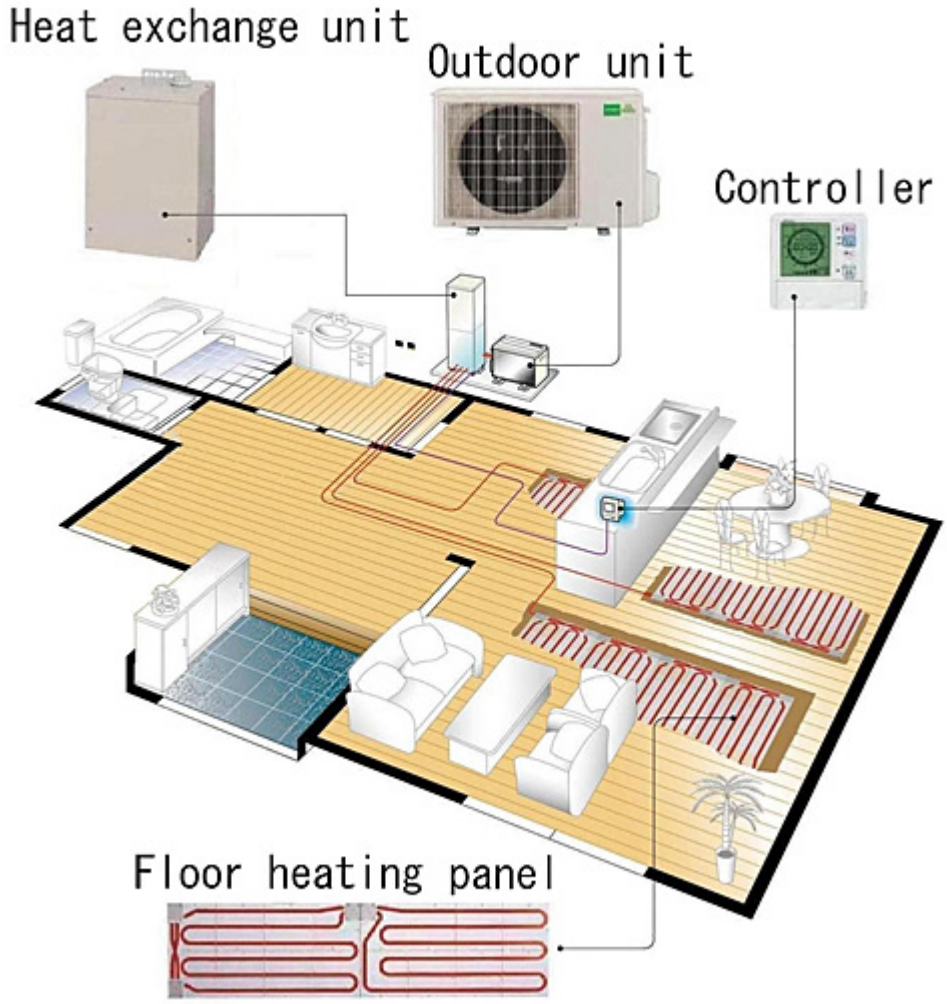
- We improved heat exchange efficiency by thinning the coolant/water heat exchanger plate and optimizing its shape.
- Rated energy efficiency was improved approximately 30% compared to Mitsubishi Electric's previous model (2001 model) by driving the outdoor fan motor and circulation pump by direct current and by optimizing cooling cycle control.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Uses R410A coolant, which does not deplete the ozone layer.
- Eliminated the use of the six substances specified by the EU's RoHS directive.

Note

Econucool Pico Series reduces energy consumption by some 70-80% compared to water heaters such as gas and oil boilers. The energy saving is the result of using an electric heat pump and a DC pump and automatically varying water temperature and volume. It produces 60˚C hot water, which is near to that of a gas boiler. And it is usable at an outdoor temperature of -25˚C.
Econucool Pico Series is being widely used all over Japan, not only in new houses but also as a replacement for old heaters in existing housing.



System of "Econucool Pico" Series

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
Eco Cute for Household Use | Eco Cute for Commercial Applications | Ventilator
Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

Room Air Conditioner ZW Series (MSZ-ZW401S)

Hyper Eco-Product

Factor 2.557
Performance Factor 1.145
Environmental Impact Factor 2.233

A Smarter Remote Control Enabling More Intuitive Operations

The ZW Series comes equipped with "Comfort Select," a feature that enables the user to select the desired setting and comfort level intuitively using pictures on the remote's LCD screen. Compared to button-focused conventional remotes, the ZW Series offers a completely new remote control type in which the user chooses a setting from among 21 scenes, such as feet warming or skin moisturizing. The 3.5-inch full dot matrix LCD display features "RakuRaku-UD" (universal design for greater ease and comfort) functionality, and displays easy-to-understand pictures or characters using Mitsubishi Electric's proprietary graphic user interface (GUI) technology. The air conditioner unit incorporates the Move Eye advanced infrared sensor to analyze room conditions and automatically adjust settings to reflect the priority of the user's desired setting or comfort level.

Reasons for Hyper Eco-Product Certification

- Employs unique sensor technology, and uses the "Notice Navi" function to provide energy-saving tips to users
- Maximizes the use of recycled plastic made available through Mitsubishi Electric's proprietary plastic recycling system
- Factor 2 or higher

Detailed environmental data

- MSZ-ZW401S

M Materials: Effective use of resources

- Mitsubishi Electric has developed a proprietary technology that automatically separates, at high levels of purity, the three major plastics from among shredded mixed plastic recovered from used home appliances, which formerly had been difficult to recycle. Using this technology, we commenced operations at Japan's first large-scale, high-purity plastic recycling facility. Some of the recycled plastics collected at this facility are reused in the plastic components of this product, which has significantly increased our usage rate of recycled plastics.
- Our unique hydrophilic/hydrophobic coating that can be applied to both metals and plastic is used on parts of the heat exchanger and vents in the interior unit, effectively repelling hydrophilic contaminants, such as lint and dust, and hydrophobic contaminants, such as grease. This function reduces the adhesion of contaminants to 1/10 the previous level. An automatic filter-cleaning function, combined with the energy savings and reduced deterioration that results from low internal contaminant levels contributes to a longer unit life.

E Energy: Efficient use of energy

- Improved efficiency of key air conditioner components, such as the compressor, heat exchanger and fan motor, puts this unit at the top of its class industrywide in terms of energy conservation.
- The Move Eye senses floor and wall temperatures, as well as people's locations and movements, and automatically adjusts the wind direction and temperature according to individual body temperatures. In this manner, the unit maintains a high degree of comfort while delivering energy savings.
- Including the "Notice Navi" function that provides energy saving advice through the remote control, such as if a door was forgotten to be closed promotes energy saving practices in the home and also encourages an energy-saving mentality in the user.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Does not use substances specified by the EU RoHS Directive, or stipulated by Japanese Industrial Standards (JIS) or J-Moss.

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
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Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

Refrigerator MR-E52S

Factor 2.290

Hikari Big – Maximum Flavor, Ease of Use and Large Capacity

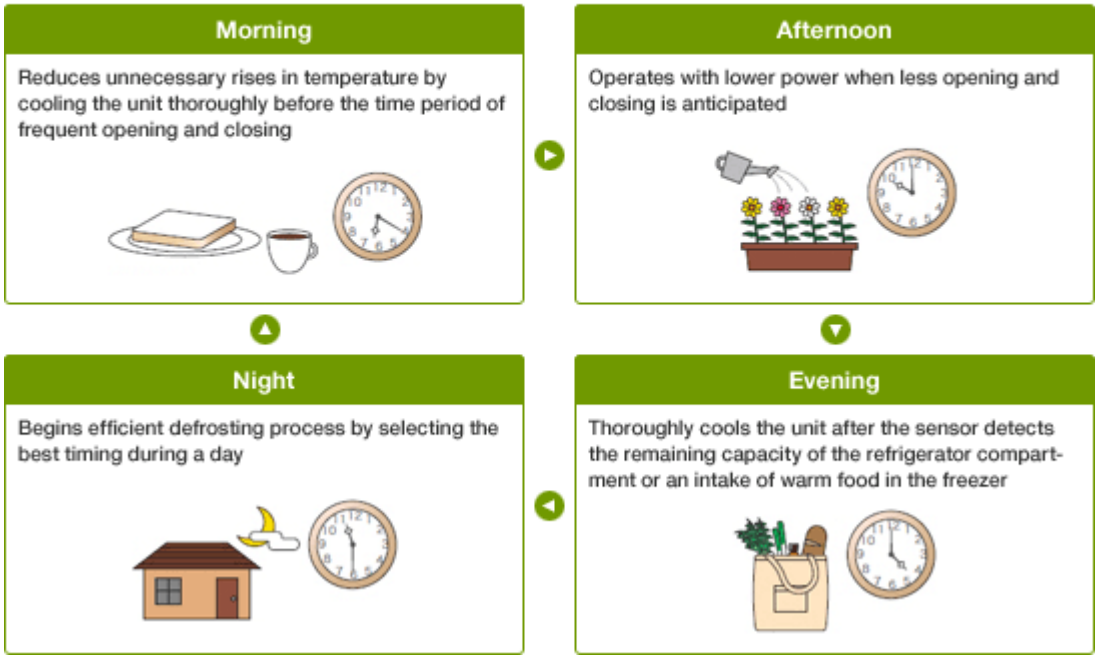
Usability and storage capacity have been further enhanced with the addition of the "Rotating Shelf" located on the upper level of the refrigerator unit that can be turned with food on it as well as the "Movable Shelf" whose height can be adjusted. Moreover, the model comes equipped with three features: "Scene Adjusted Control," which memorizes refrigerator usage patterns to automatically operate under the most optimal condition, "Eco Mode," which automatically lowers the energy consumption level during non-peak hours, and "Eco Monitor", which indicates the current mode by the number of leaves displayed. Together these three eco features help ensure energy conservation in the home.

Evaluates temperature settings, frequency that doors are opened and closed and overall refrigerator operating conditions.

1. When settings are: refrigerator (medium), freezer drawer (medium) and versa drawer (set to soft freeze, medium)
   - Assumes the number of times the door is opened and closed each day is 35 for the refrigerator and 8 for the freezer, with a 10 second interval between opening and closing the door each time (may vary depending on conditions of use and ambient temperatures)
   - Different from the JIS C 9801 (2007 version) method of power consumption measurement.
2. When compared to standard operating mode

Scene Adjusted Control

Memorizes the household's usage patterns through various time frames to automatically operate at the most optimal conditions



Reasons for Hyper Eco-Product Certification

- Factor rating of 2 or more
- Maximizes use of recycled plastics and recycled resources
- Industry leader in its class for energy conservation, quiet operation and formation volume factor

Detailed environmental data

- MR-E52S

M Materials: Effective use of resources

- Refrigerator parts are reused by promoting closed-loop recycling of plastic (polypropylene, polystyrene) from end-of-life refrigerators at our home appliance recycling plant.

E Energy: Efficient use of energy

- In addition to the "Hybrid Defrost Heater" included in the condenser, a frost pre-cooler that captures moisture is attached to suppress the clogging of the refrigerated air passage easily caused by frost. The defrosting time is made more efficient and energy-saving through the use of the "Pre-frost System" which extends this defrost period.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Does not use substances specified by the EU RoHS Directive, or stipulated by Japanese Industrial Standards (JIS) or J-Moss.

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
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Photovoltaic Module
PV-TJ235GA6 (for Europe) / PV-UJ235GA6 (for North America, Asia)

Factor: 1.73
Performance Factor: 1.865
Environmental Load Factor: 0.928

Using four bus bar cells with an expanded module size, we have achieved a maximum output of 235W per module.

Reasons for Eco-Product Certification

- Environmentally effective product
- Factor rating of 1.5 or more

Detailed environmental data

- PV-TJ235GA6

M Materials: Effective use of resources

- Width of new bus bars used in the cell is half that of our previous bus bars, delivering greater efficiency without increasing the amount of material used.
- Optimized frame design approximately doubles the strength of our previous frame.

E Energy: Efficient use of energy

- Individual cell output improved by adopting four bus bar cells.
- Module size expanded to increase output per module.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Uses lead-free solder to lessen impact on the environment.

Note

- By increasing the number of bus bars from two to four, the internal resistance in each PV cell has been reduced, increasing individual cell output by 3 percent compared to those used in our previous models.
  * When comparing our 2-bus-bar cell.
- The number of cells per module has also increased from 50 to 60. This increase, combined with the new four bus bar cells raised power by as much as 24%, compared to our previous models.
  * When comparing our 190W model to the new 235W model.
- The newly designed frame, which is approximately twice as strong as our previous frame, enables the module to pass the IEC61215 (2nd Ed.) static load test of 5400Pa despite the larger module size.

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
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Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

Photovoltaic (PV) Inverter PV-PNS04ATL-GER

Hyper Eco-Product

Factor 2.33: Performance Factor 2.105:
Environmental Load Factor 1.107

Mitsubishi Electric PV inverters for photovoltaic power systems feature industry-class maximum power conversion efficiency of 96.2% and maximum input voltage of 700 volts.

Reasons for Hyper Eco-Product Certification

- Environmentally effective product
- Factor rating of 2 or more

Detailed environmental data

- PV-PNS04ATL-GER

E Energy: Efficient use of energy

- Generated power is used effectively with 96.2% power conversion efficiency.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated the use of the six substances specified by the EU's RoHS directive.

Note

Mitsubishi Electric has developed a new power module for PV inverters sold in Europe. The internal circuitry uses a new system called the "three level inverter system*" (patent pending), and the filter that adjusts the waveform of the outputted current uses a reactor made of a new material (ferrite core), which stands up to high output and produces minimal loss. Optimally controlling these components has resulted in an industry-class maximum power conversion efficiency of 96.2%.

* This method reduces loss by switching between high voltage, medium voltage and low voltage.

Cooling structure for long-term reliability and high efficiency.

Large-size displays, enhanced by multiple-indicators with green colored backlight.

Safety enclosure with dust-tight structure.

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
Eco Cute for Household Use | Eco Cute for Commercial Applications | Ventilator
Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

Eco Cute (Heat Pump Water Heater) for Household Use
SRT-HP46W5

Factor: 2.872
Performance Factor: 2
Environmental Impact Factor: 1.436

The Mitsubishi Eco Cute
– Committed to the Environment

Mitsubishi Electric's SRT-HP46W4 Heat Pump Water Heater makes use of ambient heat in the air to attain energy savings of one-third compared with Mitsubishi Electric's conventional electric water heaters. As this model uses natural CO_2 as a refrigerant, it causes no damage to the ozone layer and has a global warming potential 1/1700 of that posed by CFC refrigerants. Moreover, it generates no CO_2 emissions because it does not require the combustion of fuel.

Detailed environmental data

- SRT-HP46W5

M Materials: Effective use of resources

- The hot water tank unit has a lower parts count, while the use of plastic piping components has made the product more lightweight.
- The heat pump unit's revamped heat exchanger and simplified internal configuration reduces both weight and size.
- The use of thinner cardboard helps to reduce the amount of packaging materials.

E Energy: Efficient use of energy

- Annual water heating efficiency of 3.3

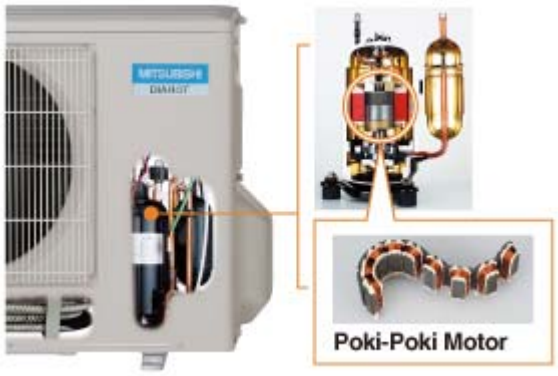
1. The SRT-HP46W4 incorporates an original rotary compressor for CO_2 refrigerant hot water supply.
2. The use of a torsional pipe for the water side of the heat exchanger and brazing of the twisted refrigerant pipe increases heat exchange capacity.
3. Redesign of the expansion circuit optimizes refrigerant flow and enhances heat exchange efficiency.
4. Expanded polystyrene (EPS) is used as an insulating material up to the top of the hot water storage tank.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- No RoHS-restricted substances are used.
  (Complies with the RoHS Directive by employing lead-free solder boards, trivalent chrome plating and other technologies).

Note

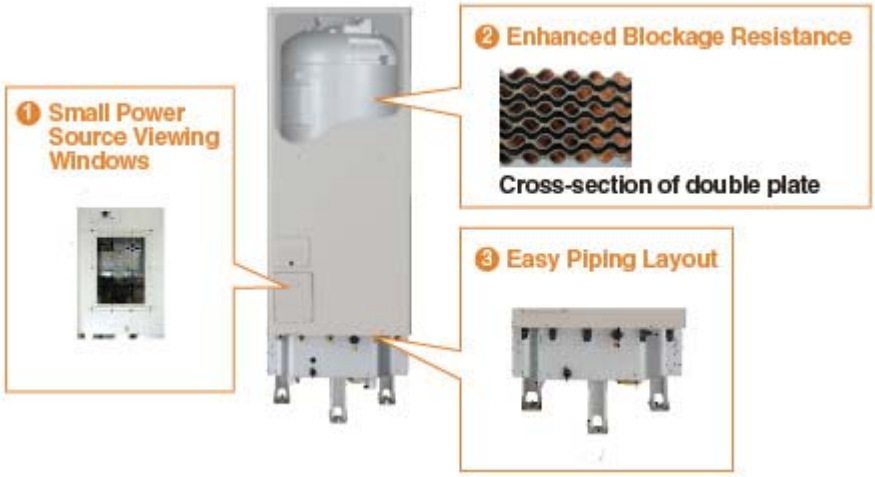
A heat pump unit that realizes high operational efficiency



The heat pump unit features a proprietary rotary compressor* for CO_2 refrigerant hot-water supply. Moreover, it incorporates Mitsubishi Electric's unique open core coil-wound "Poki Poki Motor." This high-density coil technology helps realize significant performance improvements.

* The high-efficiency rotary compressor received the FY2008 Technology Prize of the Japan Society of Refrigerating and Air Conditioning Engineers

A hot-water storage tank featuring improved construction and durability



1. **Small Power Source Viewing Windows**
   Small viewing apertures on the front of the console facilitate power source work and remote line construction without removing the cover.
2. **Enhanced Blockage Resistance**
   The heat exchanger for re-heating bath water employs a high-efficiency plate and a bathtub circuit that uses large-diameter piping for better blockage resistance.
3. **Easy Piping Layout**
   The piping connections are located 400 mm off the ground (200 mm stand + 200 mm kick plate) to facilitate piping even with difficult-to-bend polyethylene. Piping connectors are located at least 80mm apart to facilitate attachment and removal of insulating materials.

Smart Remote Controls – Attractive and Easy to Use

1. A fine dot matrix is used in part of the LCD display for clarity and ease of understanding.
2. Various operating modes, including the hot water level and water temperature, can easily be set with the touch of a button.
3. The ECO Check feature provides heating mode diagnoses and displays the actual CO_2 reduction amount, enabling users to confirm their own contribution to the environment.

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
Eco Cute for Household Use | Eco Cute for Commercial Applications | Ventilator
Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

Eco Cute (Heat Pump Water Heater) for Commercial Applications QAHV-N560B

Factor: 1.77
Performance Factor: 1.00*
Environmental Impact Factor: 1.77

*No performance factor evaluation for this product.

Hot Water Supply that Enhances Ease of Living

With a newly developed inverter-type scroll CO_2 compressor, the QAHV-N560B achieves a COP rating of 4.1 and significantly reduces hot water supply running costs. The CO_2 heat pump and inverter capacity control technologies facilitate an optimum hot water output of up to 90˚C.

Received 10th Electric Load Leveling System Award
Received Ministry of Economy, Trade and Industry, Agency for Natural Resources and Energy Director-General's Prize

Detailed environmental data

▶ QAHV-N560B

M Materials: Effective use of resources

- Heat storage is carried out during nighttime using the hot water tank, facilitating electrical energy load leveling.

E Energy: Efficient use of energy

- Thermal energy absorbed from the atmosphere heats the water that passes through the heat exchanger. The system produces approximately three to four times the amount of electrical energy used (high efficiency).

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- The natural refrigerant (CO_2) used by the QAHV-N560B has an ozone depletion potential of zero and a global warming potential of one. The volume of CO_2 emissions is 40% lower than that of a combustion-based boiler, and the generation of NOx and other noxious substances is reduced.

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
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Ventilator V-08PX$_6$, V-08PD$_6$ (for Japanese market only)

Hyper Eco-Product

Factor 1.87: Performance Factor 1.21: Environmental Load Factor 1.54

These compact ventilators are equipped with high-performance, compact motors ("minimo") for improved performance and energy efficiency.

Reasons for Hyper Eco-Product Certification

- Received the Agency for Natural Resources and Energy Director General's Prize at the Energy Conservation Grand Prize
- Resource conservation achieved through the use of a compact motor

Detailed environmental data

- V-08PD$_6$

M Materials: Effective use of resources

- Equipped with the "minimo" compact motor, which is 70% smaller and lighter than previous motors.

E Energy: Efficient use of energy

- Increased ventilation air volume by at least 25% by expanding air passageways.
- Up to 30% energy savings from high-density windings based on a structure of separate winding frameworks.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated the use of the six substances specified by the EU's RoHS directive.

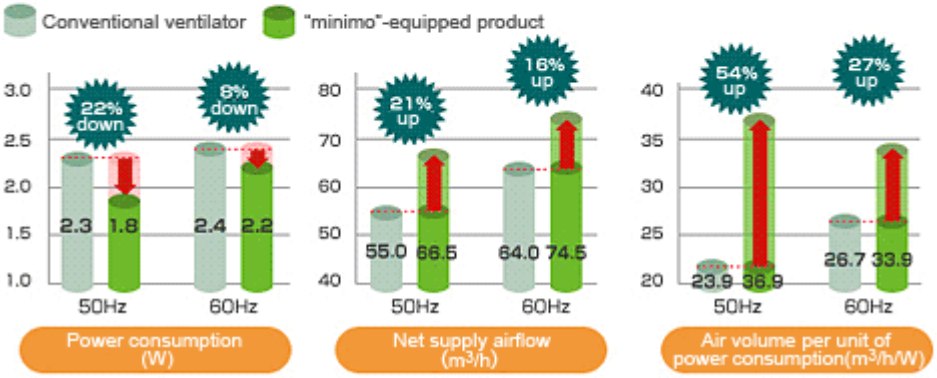
Note

Received the Agency for Natural Resources and Energy Director General's Prize at the Energy Conservation Grand Prize

The V-08PX6, and 15 other ventilator models, all equipped with the "minimo" compact motor, were named winners of the Agency for Natural Resources and Energy Director General's Prize at the Energy Conservation Grand Prize.

Model Name	Frequency (Hz)	Power consumption (W)	Net supply airflow (m^3/h)*1	Air volume per unit of power consumption ($m^3/h/W$)
"minimo" -equipped product V-08PX6	50	1.8	66.5	36.9
	60	2.2	74.5	33.9
Conventional ventilator V-08PX5	50	2.3	55.0	23.9
	60	2.4	64.0	26.7

*1 Air volume when installed with pipe of approximately 6.5m in length.



Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
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Energy Recovery Ventilator (LOSSNAY) LGH-50RX5-E for Commercial Use

Hyper Eco-Product

Factor: 2.73
Performance Factor: 2.40
Environmental Impact Factor: 1.14

Equipped with the Hyper Eco Core, which delivers a total heat exchange efficiency of 66.5%, the LGH-50RX5-E is an Energy Recovery Ventilator that is both environmentally conscious and energy efficient. Thanks to the new ventilation pattern function, this product offers more precise control of ventilation to reduce the air conditioning/heating load caused by ventilation.

Reasons for Hyper Eco-Product Certification

- Environmentally effective product
- Factor rating of 2 or more

M Materials: Effective use of resources

- Fewer parts, fewer screws, thinner sheet metal.

E Energy: Efficient use of energy

- Total heat exchange efficiency of 66.5%.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated the use of the six substances specified by the EU's RoHS directive.

Note

With the Hyper Eco Core, a new heat exchanger (Lossnay Core), this ventilator delivers total heat exchange efficiency of 66.5%, which is the leading position in the market. Keeping air conditioning/heating losses to a minimum, the 50RX5-E can save expenses in annual air conditioning/heating compared to a ventilator that simultaneously takes in and exhausts air. In addition, this product offers more flexible operation for individual days through its weekly timer function, while the Extra Low Mode makes it possible to implement 24-hour energy conservation ventilation. These functions provide more precise control of air volume, yielding much better energy-saving ventilation. Moreover, during the summer season, the Night Purge function draws cooler outside air into the room to reduce the load when the air conditioning is started the next morning, thereby boosting energy efficiency.

Home Appliances

LED Lighting | Jet Towel Hand Dryer | Hot Water Floor Heating System
Room Air Conditioner | Refrigerator | Photovoltaic Module | Photovoltaic Inverter
Eco Cute for Household Use | Eco Cute for Commercial Applications | Ventilator
Energy Recovery Ventilator for Commercial Use | Lossnay Central Ventilator System

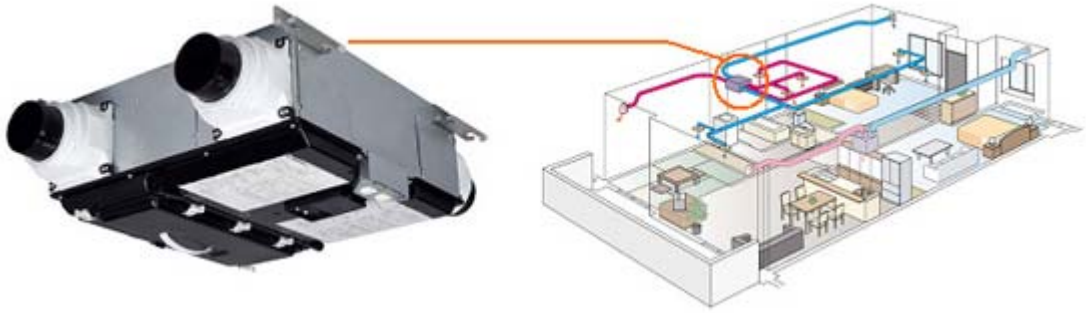
Lossnay Central Ventilator System
VL-20ZMH3-L/-R

Hyper Eco-Product

Factor: 2.207
Performance Factor: 1.206
Environmental Impact Factor: 1.83

A Ventilator System that Recovers Heat from Cooling and Heating Energy Using a Heat Exchanger

The Lossnay Central Ventilator System has air supply and air exhaust functions which can cover the entire household. The air flows exchange cooling or heating energy through a heat exchanger. This product incorporates DC brushless motors powered by a direct current power source on both the air supply and exhaust sides, significantly reducing power consumption compared with conventional models. In addition, the Hyper Eco Element heat exchanger greatly boosts heat exchange efficiency to realize even further energy savings.



Reasons for Hyper Eco-Product Certification

- Environmentally effective product
- Factor rating of 2 or more

Detailed environmental data

- VL-20ZMH3-L/-R

E Energy: Efficient use of energy

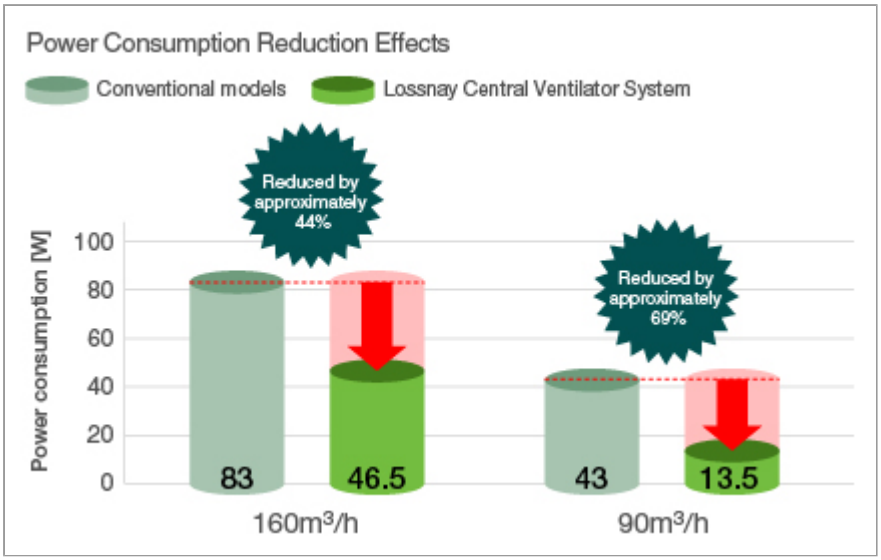
- Lossnay is an energy-saving ventilation system that recycles cooling and heating energy (heat recovery) by means of a heat exchanger. The Lossnay Central Ventilator System is a single unit that ventilates an entire household. The heat exchanger ensures ventilation without sacrificing the comforts of cooling and heating, and its high wind flow ensures that even in large housing complexes and cluster housing with numerous rooms, a single system suffices for one floor.

T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated the use of the six substances specified by the EU's RoHS directive.

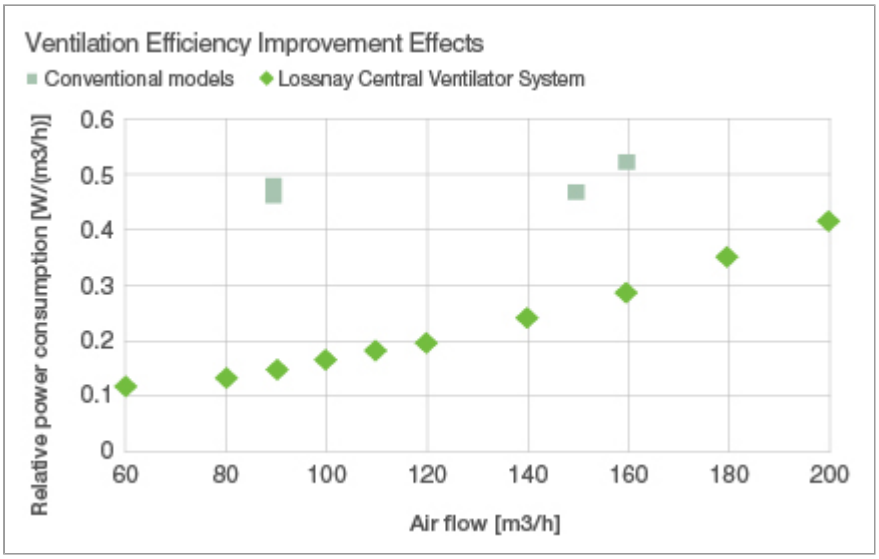
Note

Both the air supply and exhaust fans are controlled by DC brushless motors powered by a direct current power source, which significantly reduces power consumption compared to conventional Mitsubishi Electric models controlled by AC motors.



The Lossnay Central Ventilator System realizes a significantly higher relative power consumption* than existing Mitsubishi Electric models, even when driving the required 1 m³/h air feed.

* Relative power consumption [W/(m³/h)] = ventilator power consumption [W]/ventilator air flow [m³/h]



Environmental Contribution in Business

Environment-Related Business

Introducing Mitsubishi Electric Group initiatives that contribute to the creation of a low-carbon society through energy-saving products, a pillar of growth for environment-related business.

Reducing CO_2 from Power Generation

Initiatives to further reduce the environmental impact of high-efficiency power generation equipment, clean power generation facilities, and electric power infrastructure equipment.

Environment-Related Business

Reducing CO_2 through Business Activities

The Mitsubishi Electric Group is targeting a reduction in CO_2 emissions from product usage by 30% as outlined in its Environmental Vision 2021.

In moving towards this goal, the Mitsubishi Electric Group has positioned environment-related business as a key pillar of growth, and is contributing to the creation of a low-carbon and recycling-based society by providing a variety of energy-efficient and energy-saving products and services, including photovoltaic (PV) systems, power devices, high-efficiency automotive equipment, energy conservation and support equipment, high-efficiency lighting, energy-efficient building equipment, heat pumps, clean energy solutions, and home appliance recycling.

The Mitsubishi Electric Group positions the development of technologies and businesses that foster compatibility between a low-carbon society and prosperous lifestyles as a medium- to long-term aspect of strategic growth.

Direction of Growth Strategies

Aiming to become a global, leading green company that contributes to the creation of a prosperous society

Environment and Energy

- Eco-friendly power systems
- R&D effectively using natural resources
- Power electronics technology

Social Infrastructure Systems

- High degree of reliability supporting social safety and security
- System development utilizing varied technological platforms
- High degree of linkage between image/ information communication and machinery controls

Global Development

- Make strong businesses stronger globally
- Product development meeting regional needs
- Promote cross-business regional strategies

Pursue ever Higher Growth

Directions of Growth Strategies

Pursuing ever higher growth through ongoing efforts to strengthen businesses

Achieving profitable growth by making strong businesses stronger globally

Promoting Individual Business Strategies

Power Systems	Factory Automation Systems	Power Devices
Transportation Systems	Automotive Equipment	Air-Conditioning Systems
Building Systems	Space Systems	Photovoltaic Systems

Bolstering Regional Strategies with a Priority on Asia

China Strategy | India Strategy

Promoting technological development to continuously make strong businesses stronger

Compatibility between a Low-carbon Society and Prosperous Lifestyles

- Smart Communities Smart Grids
- SiC Power Devices
- Automotive Equipment for Electric and Hybrid Electric Vehicles

Bolstering Global Strategies

Progress of Main Businesses

Our three main environment-related businesses are the photovoltaic (PV) business, the heat pump business and the power device business. Progress made in fiscal 2011 is as follows.

Photovoltaic Systems Business

In fiscal 2011, aside from expanding annual production capacity of PV cells from 220 megawatts to 270 megawatts, we also began production of a monocrystalline module, which is expected to address needs for high efficiency. In the near future, we plan to establish a business scale of 600 megawatts. We are also engaging in R&D activities to improve power generation and production efficiency.

In fiscal 2011 we also made great progress in other areas such as by achieving a 98.0% conversion rate, the highest in the industry in Japan*, with a power semiconductor by using a PV inverter to convert the energy generated from PV systems for home use. We will continue to engage in initiatives with PV modules and PV inverters to develop high-efficiency products for increased added-value and to expand our product line.

* PV inverters for the Japanese market as of January 2011.

Environmental Technology R&D Results: Photovoltaic (PV) Inverter

Heat Pump-Related Business

A heat pump is a system that releases heat into the surrounding area when its refrigerant changes phase from a gas to a liquid (heating) and gathers heat from its surroundings when the refrigerant changes phase from a liquid to a gas (cooling). This process is achieved without combustion, and can generate between three to six times more heat energy than the amount of electricity it consumes, greatly reducing CO_2 emissions. We are currently developing air conditioners, "Eco Cute" (CO_2 Heat Pump Water Heaters), and other products. Another significant accomplishment is the commercialization of room air conditioners equipped with heat pumps that incorporate SiC diodes, see "Power Device Business".

Domestic sales for room air conditioners climbed dramatically year on year due to an increase in demand resulting from a heat wave and the eco point system, and also because we were successful in marketing them as energy conservation products by equipping them with power semiconductors. In regards to packaged air conditioners, the market is favorable for the Mr. SLIM Series because of a renewed demand for high-efficiency equipment that has accompanied a revision of the Rationalization in Energy Use Law and heightened environmental awareness. This series has met the annual performance factor (APF) for energy conservation at the top of the industry each year and it has also cleared the fiscal 2016 standards set by Japan's Rationalization in Energy Use Law. In addition, unit sales for the "Eco Cute" (CO_2 Heat Pump Water Heater) have exceeded those of the previous fiscal year after earning high praise for meeting higher environmental and energy conservation needs and for unique technologies and products, such as micro-bubble-cleaning and high-pressure-hot-water-supply system.

As for overseas, operations are expanding favorably due to a large market in Europe, as well as a steady increase in the percentage of inverters used in China and expected growth in Asian nations, particularly the Indian market where a new sales company was established. In our air-to-water heat pump (hot water supply system) business, which we are currently operating in parts of Europe, we will expand our product lineup as the market is expected to continue growing. We plan to continue expanding our operations by strengthening our global development and production structure while investing in product differentiation.

Power Device Business

Power devices control the efficient use of electricity and are installed in a variety of products from home electronics to industrial machinery. With rising demand for technologies that improve energy efficiency and conservation, it is becoming increasingly important to improve the performance of power devices.

In fiscal 2011, we advanced commercialization of products for the IGBT[1] industrial market and the DIPIPM[2] consumer market, cutting emissions by the equivalent of 2,700,000 tons of CO_2 and achieving 96.2 billion yen in sales. SiC (silicon carbide) devices are next-generation power devices developed over long years of continuous research. Full SiC power modules are used in PV inverters and have achieved the highest conversion rate in Japan. Commercialization of these PV inverters is currently being investigated. If this commercialization is realized, not only would it expand the power device business, but it is thought likely to also contribute to the expansion of the PV systems business. Another significant accomplishment is the commercialization of room air conditioners equipped with SiC diodes, which have already contributed to the expansion of the power device and heat pump-related businesses since going on sale in October 2010. Going forward, we will advance improvement and commercialization of Si power devices for industrial and consumer use, as well as accelerate implementation of SiC power devices.

1 Insulated Gate Bipolar Transistor. A power device widely used in control circuits, mainly in industrial inverters and control circuits for motors.

2 Intelligent Power Module. A high-function power semiconductor module with built-in driving circuits and protection circuits.

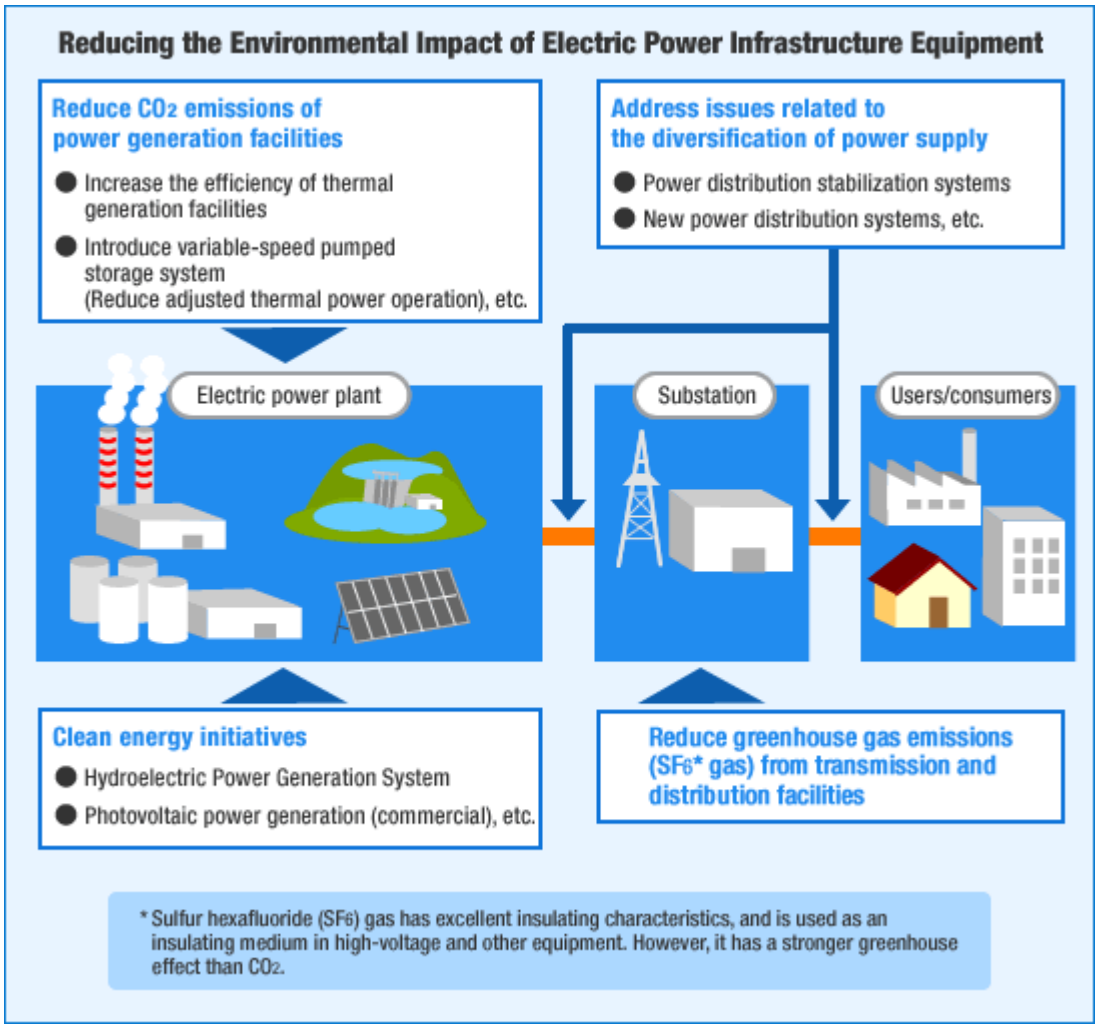
Environmental Technology R&D Results: SiC Power Devices

Reducing CO_2 from Power Generation

Mitsubishi Electric Group Action Plan

For its power generation business, Mitsubishi Electric provides solutions from the following viewpoints as it strives to reduce the environmental impact of its facilities and equipment used in electric power infrastructure.

- Reduce CO_2 emissions from existing power generation facilities
- Resolve issues associated with diversification of power supply
- Promote the use of clean energy
- Reduce greenhouse gas emissions from transmission and distribution facilities



Fiscal 2011 Activities

In fiscal 2011, in terms of photovoltaic power generation for corporate use, we accepted an order for a mega solar project targeted at domestic power companies, from Chubu Electric Power for the power station Mega Solar Iida, which began operations in January 2011. Furthermore, Mitsubishi Electric Corporation, Hitachi, Ltd., and Mitsubishi Heavy Industries, Ltd. will be pooling management resources with an aim of creating a new company in October 2011. This will unify and strengthen operations while contributing to the creation of a low-carbon society through a hydroelectric business that makes use of renewable energy.

Environmental Report

Production & Logistics-Related Initiatives

Reducing CO_2 from Production

Overview of measures to reduce CO_2 emissions, targets for Mitsubishi Electric, our affiliates in Japan and overseas affiliates, fiscal 2011 initiatives and achievements, and plans for the future.

Reducing Emissions of Non-CO_2 Greenhouse Gases

Report on our use of three greenhouse gases and usage reduction measures.

Zero Emissions

Overview of the final waste disposal targets set for Mitsubishi Electric, our affiliates in Japan and overseas affiliates, and fiscal 2011 initiatives and achievements.

Using Water Effectively

Our views on the effective use of water, and the Mitsubishi Electric Group's achievements in fiscal 2011.

Managing Chemical Substances

Managing Chemical Substances in Production

Reducing VOC Emissions

Reducing CO_2 from Logistics

Overview of the Mitsubishi Electric Group's fiscal 2011 achievements in reducing CO_2 emissions through just-in-time improvements to boost logistics efficiency.

Reducing the Use of Disposable Packaging Materials

Overview of the Mitsubishi Electric Group's goals to reduce resource inputs through the 3R's applied to packaging materials, and fiscal 2011 initiatives and achievements.

Reducing CO_2 from Production

Targets of the 6th Environmental Plan (Fiscal 2010-2012) and Progress in Fiscal 2011

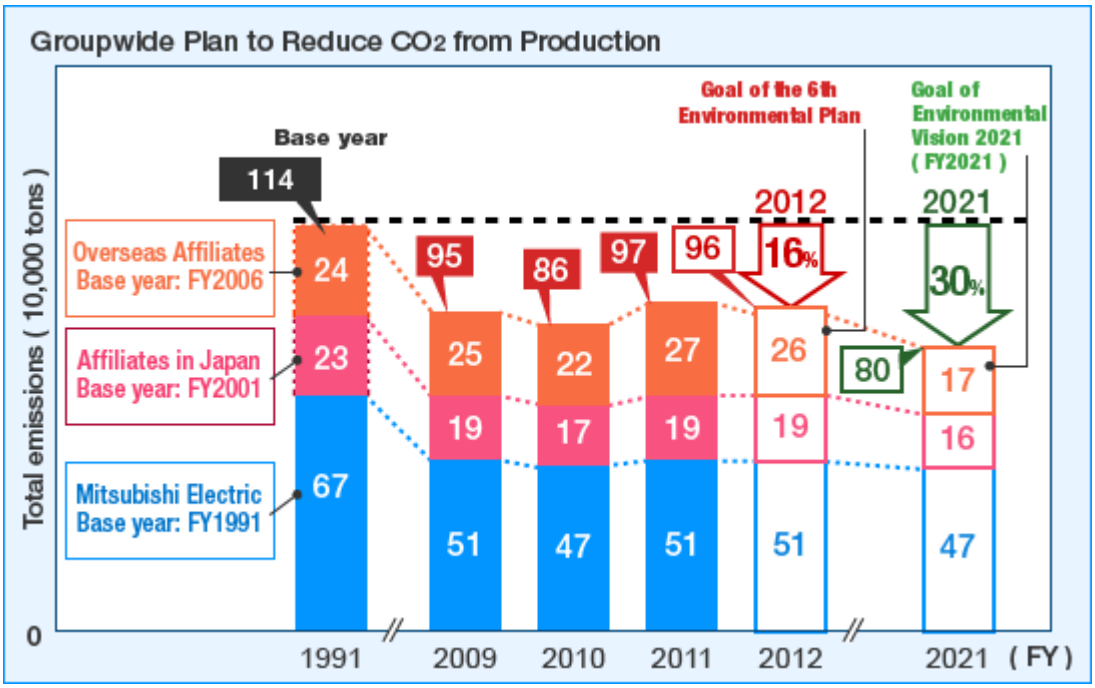
Creating a Low-Carbon Society

Reducing CO_2 from Production							
6th Environmental Plan (Fiscal 2010–2012)			Fiscal 2010	Fiscal 2011			Fiscal 2012
		Target	Results	Target	Results	Self Evaluation	Target
CO_2 emissions	Mitsubishi Electric	510,000 tons	472,000 tons	493,000 tons	508,000 tons	☺	510,000 tons
	Affiliates in Japan	190,000 tons	166,000 tons	165,000 tons	191,000 tons	☺	190,000 tons
	Overseas affiliates	260,000 tons*	217,000 tons	215,000 tons	267,000 tons	☺	260,000 tons
	Total	960,000 tons*	855,000 tons	873,000 tons	966,000 tons	☺	960,000 tons
Required reduction amount (three years)	Mitsubishi Electric	57,000 tons*	19,000 tons	16,000 tons	22,000 tons	☺	16,000 tons
	Affiliates in Japan	20,000 tons*	7,000 tons	7,000 tons	5,000 tons	☺	8,000 tons
	Overseas affiliates	26,000 tons	8,000 tons	10,000 tons	8,000 tons	😐	10,000 tons
	Total	103,000 tons*	34,000 tons	33,000 tons	35,000 tons	☺	34,000 tons

* **About fiscal 2012 numerical targets:** Numerical targets for fiscal 2012 have been modified based on the estimation for fiscal 2012, in view of circumstances related to changes in the business environment and production plans.

Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

Mitsubishi Electric has set reducing total CO_2 emissions from production by 30% as one of its targets set out in Environmental Vision 2021. Toward that end, our 6th Environmental Plan (fiscal 2010–2012) promotes two measures: revealing hidden energy waste in the production process and addressing those areas through production line improvements; and raising the efficiency and performance of air conditioning, lighting and other utility equipment.



About fiscal 2012 numerical targets: Numerical targets for fiscal 2012 have been modified based on the estimation for fiscal 2012, in view of circumstances related to changes in the business environment and production plans.

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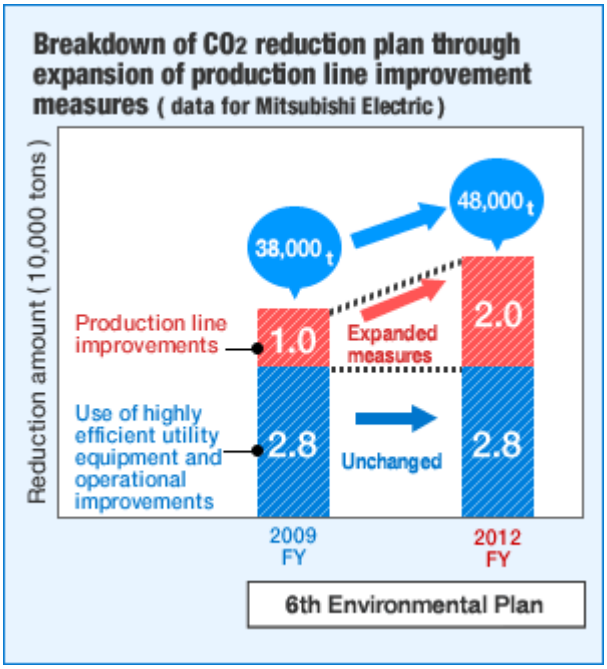


Total CO_2 emissions: 508,000 tons (36,000-ton increase from previous fiscal year)
CO_2 reduction: 22,000 tons (3,000-ton increase from previous fiscal year)

Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

The 6th Environmental Plan sets an objective of 510,000 tons in its final year of fiscal 2012. We have targeted a net 48,000-ton reduction in CO_2 over the three fiscal years of 2010–2012 through two means—production line improvements and increases in utility equipment efficiency.

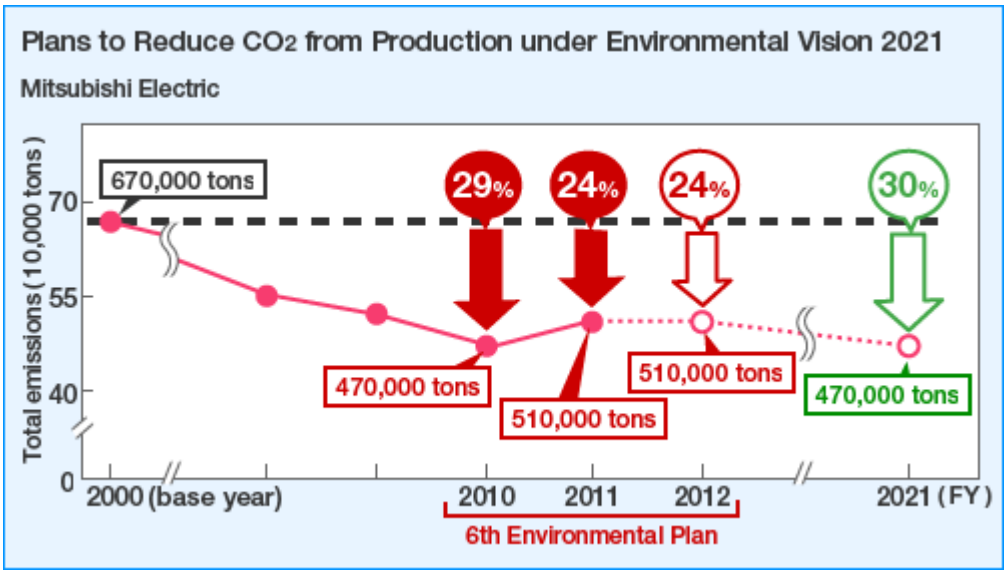
Total CO_2 emissions in fiscal 2011 amounted to 508,000 tons, against our target of 493,000 tons. This increase is attributable to higher demand than in fiscal 2010, when production output decreased as a result of the economic slowdown, as well as the recovery of production output to above fiscal 2009 levels. At the same time, through vigorous efforts to reduce CO_2 emissions we succeeded in achieving our target for the required reduction amount, cutting emissions by 22,000 tons even as production output grew. In addition, total emissions of CO_2 per unit of real sales in fiscal 2011, adjusted for the domestic price index, represent a 14% improvement over fiscal 2009 and a 10% improvement over fiscal 2010, revealing the sustained results of our CO_2 reduction activities.

In fiscal 2011, we built upon our fiscal 2010 efforts in factories to press ahead with production line improvements and raised the efficiency and performance of utility equipment. As a new initiative toward production line improvement, we worked to make waste visible through the introduction of EcoMonitors and EcoServers. These devices, developed in-house, perform real-time monitoring of energy consumption at each production line on which they are installed, and each piece of equipment at other sites where they are in operation, including affiliated companies. Through this activity, we are now able to identify areas of significant waste and deploy effective energy conservation measures. In addition, unique initiatives making use of our products are underway at many sites. As an example, the Sanda Works completed a project to achieve an all-electric-powered factory in October, 2010, with the aim of energy conservation. The Nagoya Works introduced e&eco-F@ctory, a system that synchronizes manufacturing floor operational conditions and energy consumption conditions, making these visible. Moreover, several factories are deploying heat pumps to make use of atmospheric heat, a form of natural energy, which also serves to cut CO_2 emissions from fossil fuels.

Applications include: the warming of heating equipment and machinery previously handled by conventional kerosene boilers at our Power Distribution Systems Center; and steam heating systems such as plating tanks and drying furnaces at our Transmission & Distribution Systems Center. Moreover, at our semiconductor manufacturing plant known as the Power Device Works, we took actions including replacing large chillers with high-efficiency equipment, switching fans and pumps to inverters, and modifying clean room humidity control standards after verifying quality. In doing so, we achieved a substantial reduction in CO_2 emissions.

In offices, we expanded upon the activities implemented in a head office model area in fiscal 2010, basing our expansion on field-testing and selection of energy conservation measures that can be carried out by office tenants. At the head office and all branches, we enforced the turning off of lights when not needed, configuration of computers for power conservation, and shutting off of copiers at night and on weekends. In actions involving control equipment for building owners, we reduced excessive lighting and optimized air conditioning temperature settings. Moreover, to keep up these activities on a continual basis, we established a management policy for energy use in offices (also covering management procedures for energy-using equipment).

At company-owned buildings, we further reviewed our operation of equipment and control systems to consider overall energy conservation measures. In addition to investigating measures to reduce energy use through modifications to how we operate air conditioning equipment, we began to develop energy conservation methods making use of our own technologies. As an example, we linked our DIGUARD total building security system and our MELSAVE NET lighting control system to positional data from employees' ID cards, to automatically switch off unused computers and lights in vacant rooms. Experiments with this system are currently underway.



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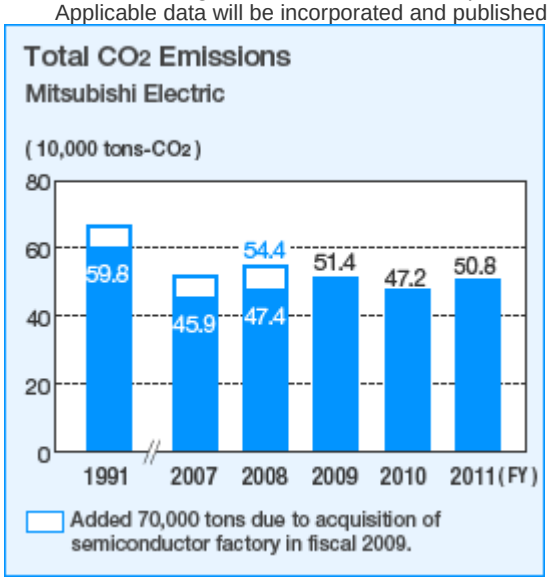

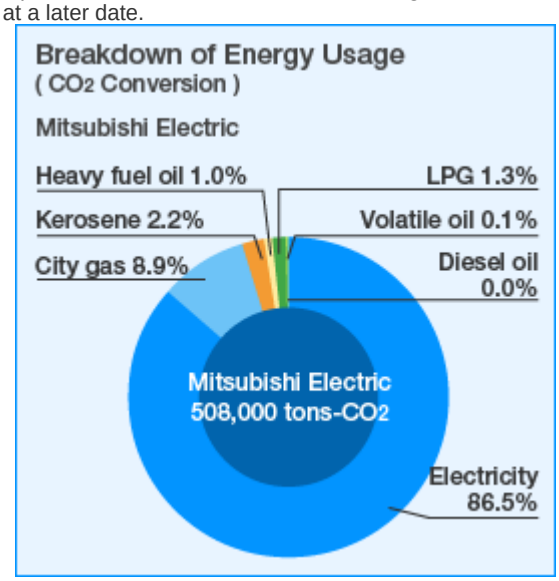

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Spotlight

Promoting "whole-workplace" energy conservation with the latest equipment and technology at the Sanda Works

The Sanda Works, which manufactures automobile components and automotive products, is promoting whole-workplace energy conservation initiatives that make use of our company's products. A particular focus is energy conservation in new facilities, where the latest in equipment and technology can be adopted. Exploring the most efficient ways to conserve energy even before construction, and repeatedly verifying that current methods pose no problem after launching operations at facilities, provides vital reference when constructing new facilities at a later date. The third factory building to be constructed under this initiative, which started in 2004, launched full-scale operations in May 2011 for the manufacture of products including car navigation systems.

Latest achievements in energy conservation

Energy conservation managers concentrate cutting-edge technologies in a new factory building

Sanda Works

The Sanda Works is a manufacturing site for automobile parts and car multimedia devices, employing over 3,000 workers. With "comfort," "safety," and "environment" shaping the concepts behind product development, the site is taking proactive initiatives to reduce the environmental impact of products through the development of technologies such as EGR (exhaust gas recirculation) valves that remove harmful substances from exhaust gases.

Navigator profile

Takahiro Tsuda

Manufacturing Administrative Division, Environmental and Facilities Management Department,
In charge Third-class Licensed Electrical Engineer
Certified Energy Manager

I worked toward the achievement of energy conservation for 10 years at the Environmental and Facilities Management Department of the Sanda Works. My creed is this: If you are going to do something, do something interesting! I am passionate about thinking up and quickly adopting energy conservation measures not implemented by other companies. Our ability to take action is inherited from the Sanda Works, but it is astonishing for anyone to see.

Our solar tracking system, Solaris starts to move with the sunrise, and takes in sunlight all day. At the stairways in new factories, we never turn on lights during the daytime.

The air conditioners at the new factory are equipped with Move-Eye, which optimally adjusts output and wind angle to match the movement of people. Since cleaning filters also has a large effect on energy conservation, we have installed a device that lowers the filters simply by flipping a switch.

The new factory's production floor has 3200 lights, all LED. They can be controlled in small blocks, enabling us to reduce the intensity in locations with small numbers of people.

This photovoltaic panel is able to handle the lighting needs of an office building. The roof behind it is white because of an insulation coating that prevents the inside temperature from rising.

These compact cubes are responsible for heating and cooling equipment with hot and cold water. They capture temperature information from the circulating water and determine the hot and cold water needs for each heat-generating piece of equipment as a whole. As a result, they do not need to operate at full capacity.

The employee cafeteria kitchen is now fully electric. No actual cooking burners are used, so the indoor temperature does not rise, while only a small degree of ventilation is needed, which means less air-conditioning. Incidentally, the cafeteria has quite an extensive menu!

We have put meters on all machines at the new factory to monitor current and voltage. We consolidate the information in the central system to enable coordinated management.

We have 37 Eco Ice units running, both large and small. These use night-time electrical power to make ice in the summer and hot water in the winter, which is used in air conditioning in the daytime.

This is also an idea conceived at the new factory. Switching the security system on turns the cooling and lights off, and a few minutes later, the safety lighting as well. The exit sign lights go off after a few more minutes. The setup is linked to the security system to allow management of power everywhere.

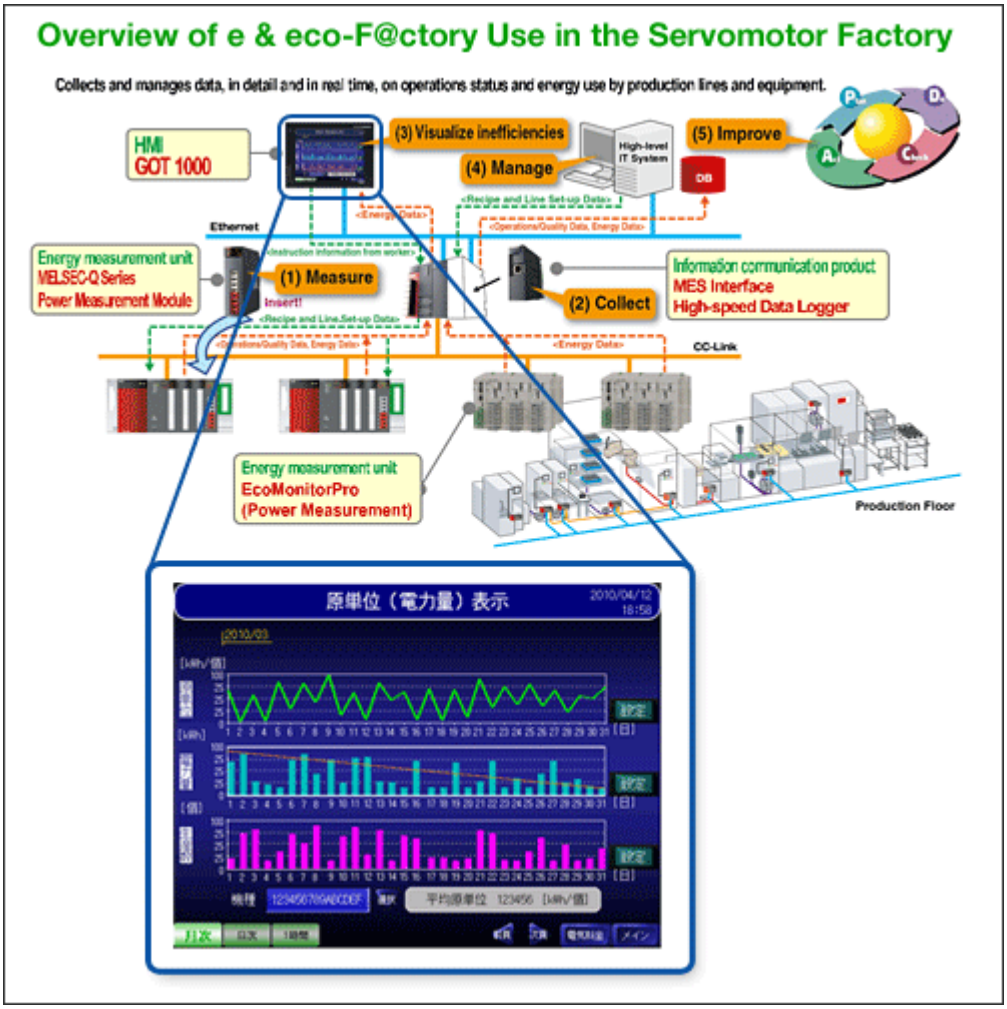
Examples of CO_2 emission reduction practices

At the factory

e&eco-F@ctory: a case of practical activity at the Nagoya Works

e&ecoF@ctory is a system that synchronizes equipment operation with energy consumption conditions at manufacturing locations. By making these visible, it simultaneously improves productivity, and reduces energy consumption and costs. The Nagoya Works, which builds and sells the e&eco-F@ctory system, introduced this in-house product to its factory, and uses the collected data to measure the amount and the per-unit quantity of energy used by each piece of equipment. At each production line the system identifies unevenness in yields, as well as idle operation and equipment waiting time, enabling early, reliable detection of wastefulness, which in turn leads to improvements. Moreover, we communicate this success story both within and outside of the Company at exhibitions where we present e&eco-F@ctory as an example of practical activity. We're working to make visibility itself more visible.

Nagoya Works website Factory energy conservation through e&eco-F@ctory



At the office

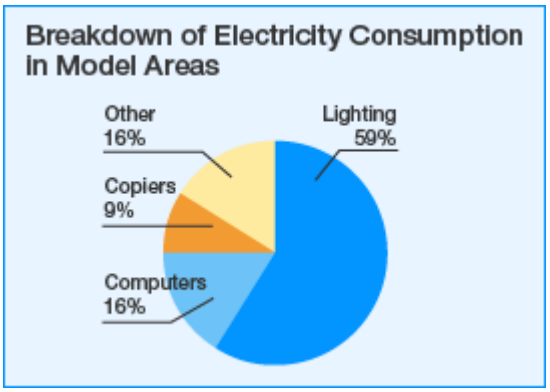
An example of CO_2 reduction activities in offices

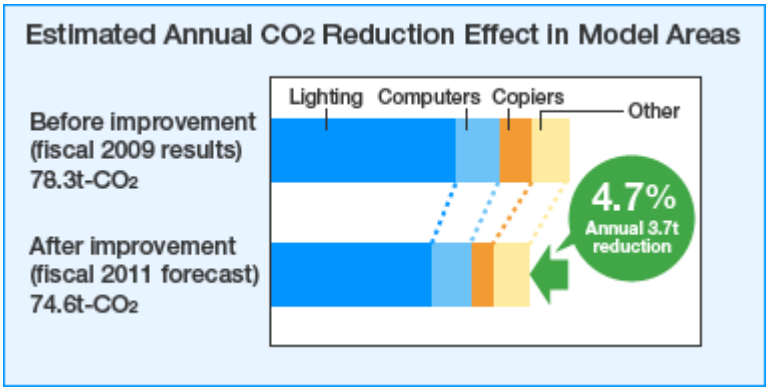
Mitsubishi Electric set aside a portion of its offices in fiscal 2011 as model areas to measure electricity consumption using two in-house energy visibility tools: the EcoMonitor Pro energy measurement unit and the EcoServer II. We analyzed the resulting data using our environmental management solution. What we found through this creation of visibility was wastefulness in lighting, followed in turn by computers and copy machines. We subsequently carried out the following four measures and cut electricity consumption in the model area by 9% (a reduction of 17.4 MWh and 7.4 tons of CO_2 emissions).

Four Measures

1) Use of partial lighting during overtime hours and non-working days (prevention of inadvertent and unnecessary use of all lighting)
2) Reduction of excess light intensity (from 900 lux to 750 lux)
3) Low-energy settings for computers and monitors and their conscious shutdown when not in use
4) Shutdown of copiers at night and on non-work days

In the future, we will also devise mechanisms outside the model area that follow up on these best practices.





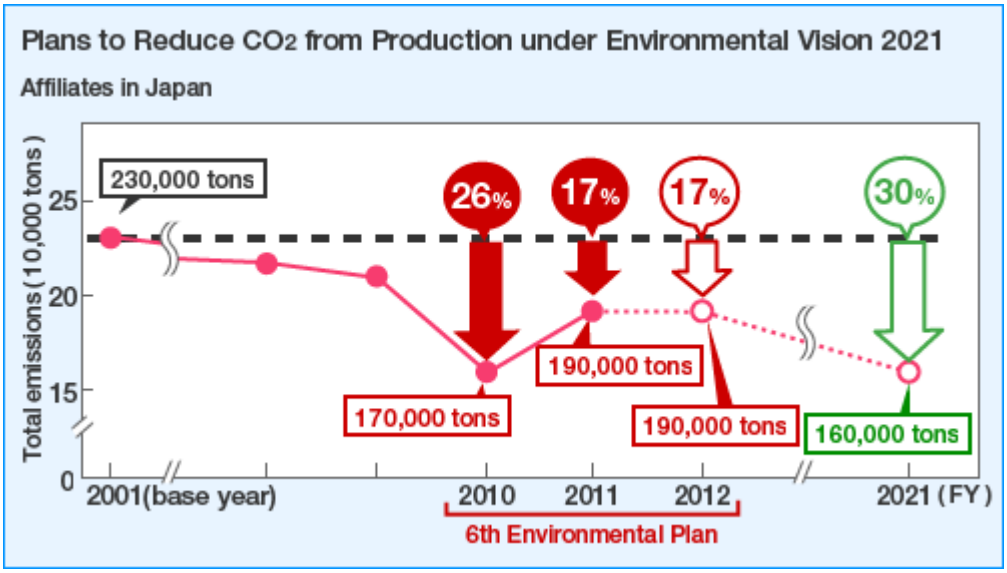
Targets and fiscal 2011 achievements for affiliates in Japan

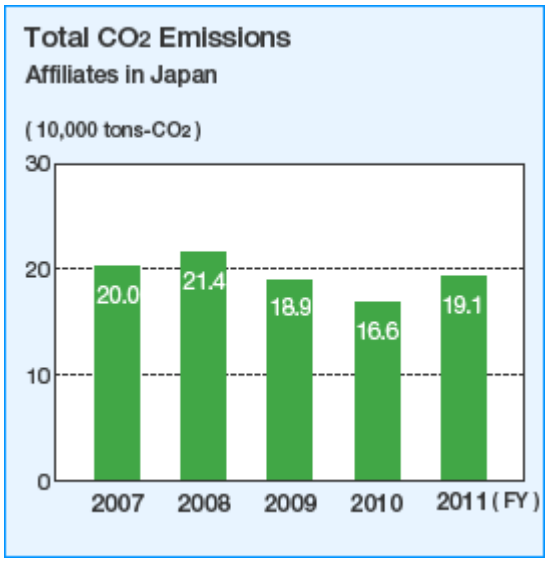
Total CO_2 emissions: 191,000 tons (35,000 tons decrease/increase from previous fiscal year)
CO_2 reduction: 5,000 tons (2,000 tons decrease/increase from previous fiscal year)

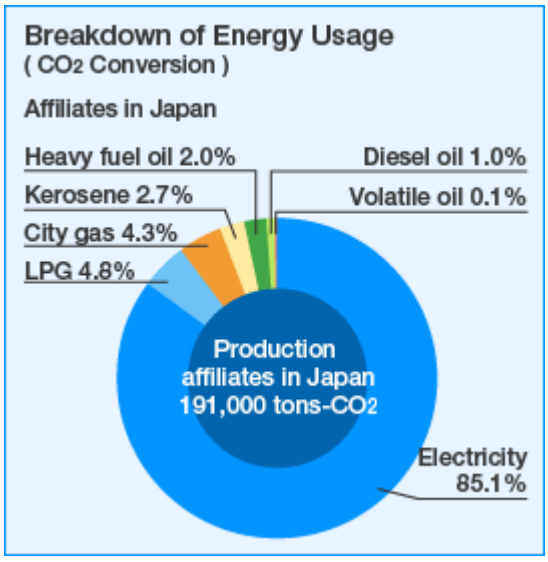
For affiliates in Japan, we set a target of 190,000 tons for fiscal 2012 total CO_2 emissions. Through production line improvements as well as raising the efficiency and performance of utility equipment, we aim to reduce CO_2 emissions over the three years from fiscal 2010 through 2012 by a total of 21,000 tons.

We continued from last fiscal year in working toward that target, but the CO_2 reduction targets for fiscal 2011 were not met at some sites, and our progress in meeting our targets for affiliates in Japan stopped at between 70 and 80%. Causes of this shortfall include lack of progress in energy-saving equipment investment due to low investment efficiency, and insufficient identification of concrete improvement measures. For those affiliates that have not achieved reduction amounts, we conducted patrols and energy conservation expert inspections, and provided guidance in forms such as proposing concrete improvement measures so as to laterally spread our examples of success.

At the same time, we are also promoting cooperation between each of our business divisions and our affiliates in Japan. At the level of each business division, we are holding regular Environmental Manager and Working-Level Conferences to address common measures while sharing information and exchanging ideas.







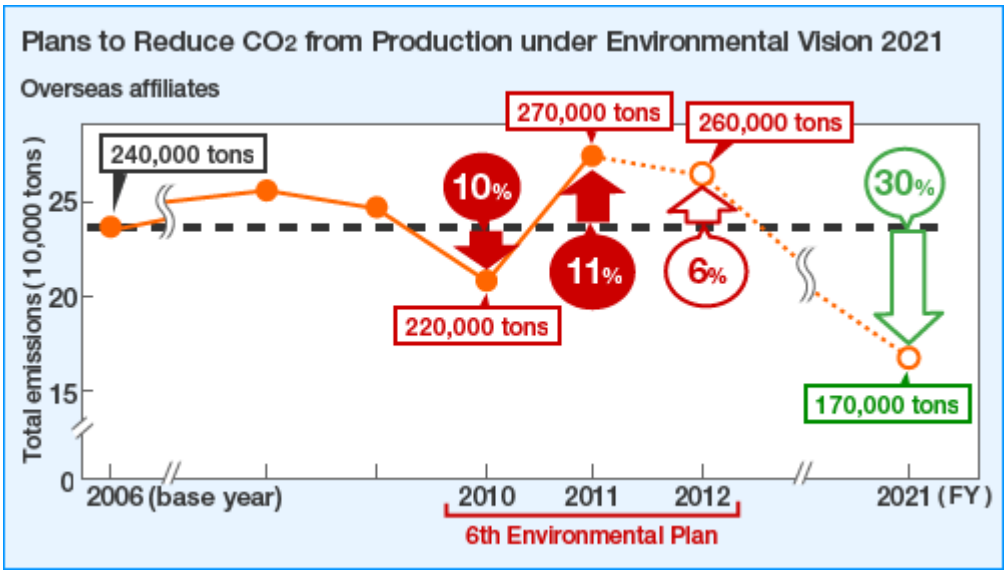
Targets and fiscal 2010 achievements for overseas affiliates

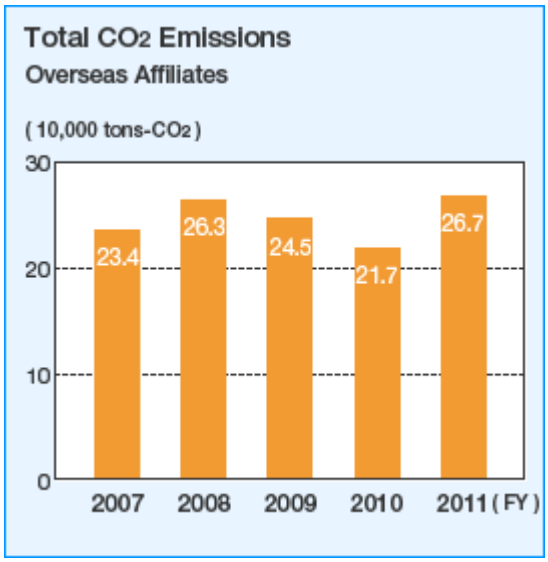
Total CO_2 emissions: 267,000 tons (5,000 tons decrease/increase from previous fiscal year)
CO_2 reduction: 8,000 tons (same as the previous fiscal year)

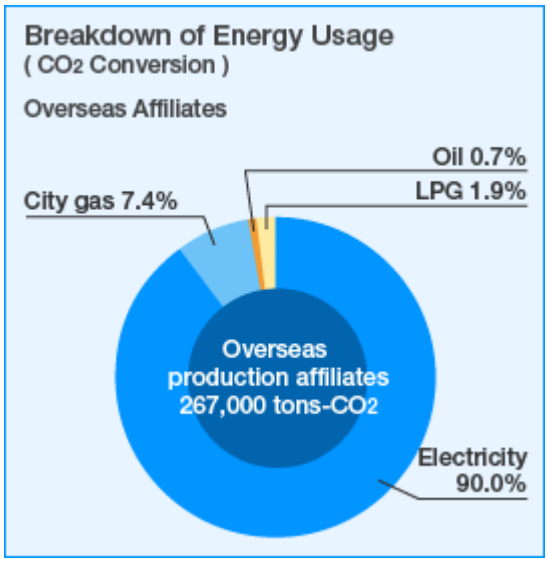
For overseas affiliates, we set a target of 230,000 tons in fiscal 2012 for total CO_2 emissions. Through production line improvements and raising the efficiency and performance of utility equipment, we aim to reduce CO_2 emissions over the three years from fiscal 2010 through 2012 by a total of 26,000 tons.

In fiscal 2011, our scale of production recovered from the economic slowdown following the bankruptcy of Lehman Brothers and returned to the levels seen prior to fiscal 2009. This fact, plus an increase in production output in the Asia region, especially in China and Thailand, has resulted in total CO_2 emissions exceeding the target of 215,000 tons and reaching 267,000 tons. Another cause is that the Mitsubishi Electric Group has actively expanded production of products such as air conditioner compressors that, although increasing total CO_2 emissions from production, greatly contribute to reducing CO_2 from product usage. At the same time, our amount of CO_2 reduction, 8,000 tons, fell below our target of 10,000 tons. This is due to the postponed application of boiler alternatives in public facilities in China.

Looking at the overall trend overseas, we recognize the need to take specific measures corresponding to conditions in each region or site, as production output varies greatly at each site in line with the expansion of business, and cultures and policies differ by country. Given this, Mitsubishi Electric conducted patrol activities by the Corporate Environmental Sustainability Group at six locations in Asia, including China, India, the Philippines, and Indonesia, as well as energy conservation inspections by energy conservation experts at five sites, including in Thailand and China. In addition, to deepen the understanding of various energy conservation measures among persons in charge at overseas affiliates, we created and distributed an English version of our collection of past examples of improvements, for use as a reference. In the future, in response to issues uncovered by means such as patrols and energy conservation inspections, we will provide guidance and aid by mother factories and business headquarters, implement improvement measures with the support of the Corporate Environmental Sustainability Group, and strengthen our efforts to harvest the results of these improvements.




Total CO2 Emissions
Overseas Affiliates
(10,000 tons-CO2)
30
20
10
0
23.4
26.3
24.5
21.7
26.7
2007
2008
2009
2010
2011 (FY)

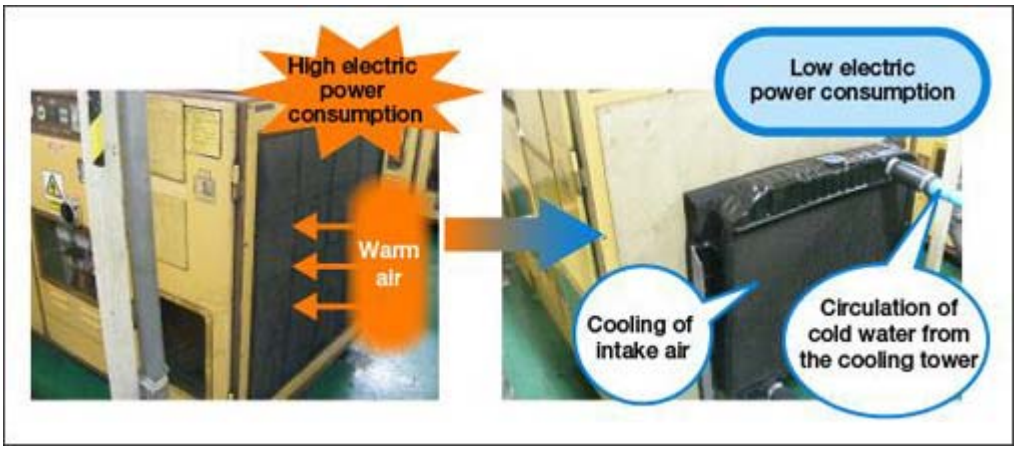

Breakdown of Energy Usage
(CO2 Conversion)
Overseas Affiliates
Oil 0.7%
LPG 1.9%
City gas 7.4%
Overseas
production affiliates
267,000 tons-CO2
Electricity
90.0%

Example of activities

Taking measures at two production sites in Thailand to eliminate heat loss

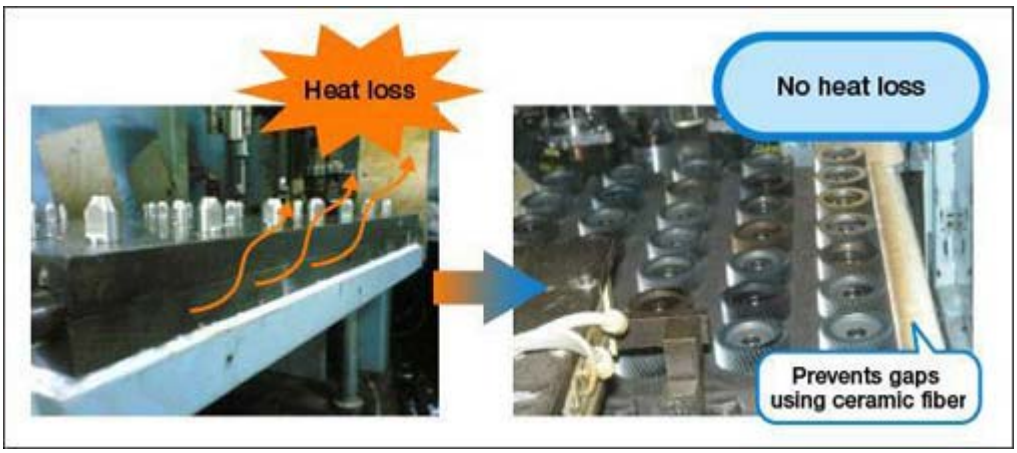
Improving compressor operational efficiency

Kang Yong Electric Public, a manufacturer of fans, exhaust fans, refrigerators, and other products, cooled compressor intake air using cold water taken from the cooling tower to lessen the load factor on the compressor and increase operating efficiency. Doing so, the company reduced electricity consumption by about 1,260 kilowatts.



Utilizing ceramic fiber

Auto parts manufacturer Mitsubishi Electric Thai Auto-Parts Co., Ltd. used ceramic fiber insulation to prevent heat loss from drying furnaces. This reduced annual CO_2 emissions by about 2.23 tons and electricity consumption by about 4,000 kilowatts.



Mitsubishi Electric Group's fiscal 2011 initiatives and plans for future enhancement

To reduce CO_2 from production, the Mitsubishi Electric Group took its initiatives to a new stage in fiscal 2010. All factories drew up precise implementation plans, made all-out efforts to reduce CO_2 emissions and achieved results.

Promoting energy conservation in Just in Time activities, and building a new support structure

Each Mitsubishi Electric Group plant has long made all-out efforts to promote Just in Time activities as a productivity improvement initiative. Starting in fiscal 2010, an energy conservation perspective has been added to these activities as we work to further reduce CO_2 emissions from production. In fiscal 2011, we created a structure to vigorously support factories practicing such advanced Just in Time activities. On April 1, 2011, we launched an organization called the Productivity Promotion Group and built a new framework for the promotion of energy conservation. With the Productivity Promotion Group at the core, we will strengthen activities to improve productivity, including activities to reduce CO_2 from production. We will also implement concrete improvement measures, including technological development, to address problems that are difficult to solve only at the factory or to improve through daily on-site measures, such as the recovery of energy from low-temperature waste heat.

Developing energy conservation leaders

In parallel with the integration of Just in Time activities, the Mitsubishi Electric Group selects and trains "energy conservation leaders" at each production site, as core human resources to strengthen activities to improve production lines and equipment. The energy conservation leadership program is aimed at production management or factory human resources who will act as the drivers behind measures to reduce CO_2 from production.

From fiscal 2011, we have expanded the target of the program from production practitioners to management-level staff, with the intent of further accelerating organizational efforts. Training covers classroom work and hands-on practice, and addresses a number of areas: the driving force to lead production line and equipment improvement activities; required skills for promoting energy conservation; mastering examples of improvement; and the ability to coordinate and present results (i.e., ability to teach improvement practices from one's own site). The program offers lectures, study tours and discussion meetings (including cross-diagnostic inspections), taking on a variety of different themes: energy conservation methods, points to improve visibility, energy conservation, utility and production line improvement methods and practices. Lecturers include technical committee members, energy conservation subcommittee members, and energy conservation experts (pioneers and masters in energy conservation, with extensive experience and a track record of achievement).

In fiscal 2012, we plan to incorporate lectures on examples from other companies and study tours of other companies, and participate in lectures outside the Company, while we enhance our energy conservation technical education for specific equipment and themes. We will also begin selection and development of energy conservation leaders within our affiliates in Japan.

Development of best practices together with preparation and use of tools

The Mitsubishi Electric Group recognizes the importance of reducing overall CO_2 emissions. Toward that end, mechanisms to promptly share best practices and reflect those in the activities of each site are indispensable, as are policies. If initiatives with notable effect at one site can be applied across the Group, even greater effects can be expected. That is why, along with establishing opportunities for information sharing, such as networking for personnel from production sites, we are undertaking the creation of tools to record and share information about practices.

In fiscal 2011, we created a model for energy conservation measures based on past cases of Mitsubishi Electric, where the progress of initiatives has been fast compared to overseas and many best practices have developed. We worked that model into a manual and have begun its distribution. In our energy conservation patrols, too, we believe we can use such manuals to

narrow down inspections to a degree and make them more effective.

From fiscal 2012, we plan to rapidly expand such activities horizontally across affiliates in Japan and overseas. In particular, at our overseas production sites where business expansion is accompanied by rapid economic growth, energy is mainly managed on a per-unit-of-production basis, and making reductions in total CO_2 emissions is extremely difficult compared to Japan. Going forward, we intend to strengthen initiatives at our overseas affiliates, centered on taking greater advantage of energy conservation experts and the development of Mitsubishi Electric best practices.

Environmental Topics: Dialog on Environmental Management

Reducing Emissions of Non-CO_2 Greenhouse Gases

Reducing HFCs, PFCs, and SF_6

Non-CO_2 greenhouse gases emitted by the Mitsubishi Electric Group during its business activities include SF_6 (sulfur hexafluoride, an electrical insulating gas used in gas insulated switchgear), HFCs (hydrofluorocarbons, gases used as refrigerants in air conditioners and refrigerators), and PFCs (perfluorocarbons, used as an etching gas for production of semiconductors and liquid crystals).

As these gases produce greenhouse effects hundreds or even tens of thousands of times greater than that of CO_2 (see below), we make special efforts to reduce their use. In particular, we are actively implementing performance enhancements and replacement of aging gas recovery devices to handle SF_6, with its very high global warming potential.

To reduce emissions of SF_6, in fiscal 2011 we undertook measures including the additional installation of equipment for membrane separation on liquefaction and collection equipment, the substitution of gasses in test processes and the stepped up monitoring and repair of everyday leakages. As a result, the Mitsubishi Electric Group's SF_6 emissions were 6.5 tons, a 2.2-ton (25%) decrease from 8.7 tons in fiscal 2010.

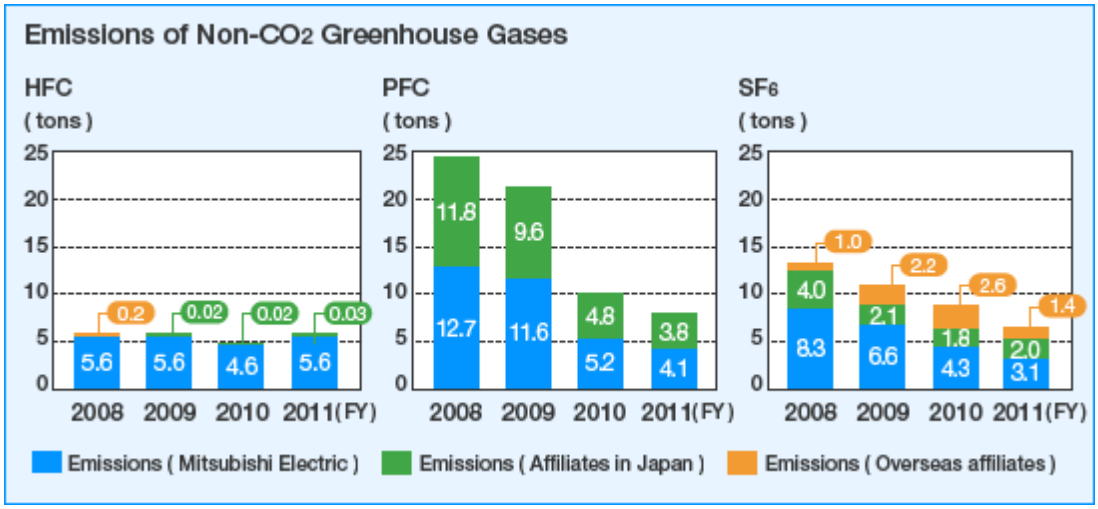
HFC emissions totaled 5.6 tons, a 1.0-ton (22%) increase from 4.6 tons in fiscal 2010. This higher figure is due to an increase in the number of air conditioner units produced.

To address PFCs, we deployed new PFC removal units and switched to gases with lower global warming potential. As a result, PFC emissions were 8.0 tons, a 2.0-ton (20%) reduction from 10.0 tons in fiscal 2010.

We will continue to examine measures to reduce emissions, especially at factories with high emissions levels. Through actions including expanding best practices at related factories, we will work to reduce emissions into the atmosphere from the production process.

Comparison of Greenhouse Effects of CO_2, HFCs, PFCs, and SF_6

Chemical formula	GWP(Global Warming Potential)
CO_2	1
SF_6	23,900
HFCs	140–11,700
PFCs	6,500–9,200



Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

Example of SF_6 Reduction

Spotlight on SF_6 and PFC reduction measures

The Power Distribution Systems Center is working to reduce SF_6 emitted during the manufacture of SF_6-containing equipment such as cubicle gas type insulated switchgear[1] (C-GIS) at its power distribution system factories as well as its partner companies. In addition to improving its SF_6 recovery ratio by introducing gas collection devices, they have switched from SF_6 to helium for air tightness testing and are promoting the reduction of SF_6 in all processes. As a result, we have been able to reduce SF_6 emissions in fiscal 2011 by over 60% compared to fiscal 2010 (the emission rate[2] in fiscal 2011 was 1.0% compared to 2.7% in fiscal 2010). Gas collection devices introduced in the Development, Inspection and Evaluation Department are currently yielding a 99.7% gas recovery rate.

Hermetic testing machinery

PFC collection device

We are likewise working to reduce the emission of PFC gas that is used to test the voltage resistance of key components of switchgear equipment. Efforts include improving gas recovery ratios, reexamining the construction of testing vessels, adding automatic gas leak detection circuits, decreasing gas pressure within testing vessels to reduce the amount of gas used and switching from a gas to liquid insulating medium. This, coupled with steady efforts that keep in mind the daily management of operations with gas leak inspections and pressure transition monitoring, have resulted in reducing PFC emissions by 50% compared with fiscal 2010.

1 Gas insulated switchgear: A sealed piece of equipment that houses breakers, switches and other circuit components and uses SF6 or other gas as an insulating medium. Switchgear provides protection, isolation and control of electrical systems.

2 Emission rate: Discharge amount/net purchase volume

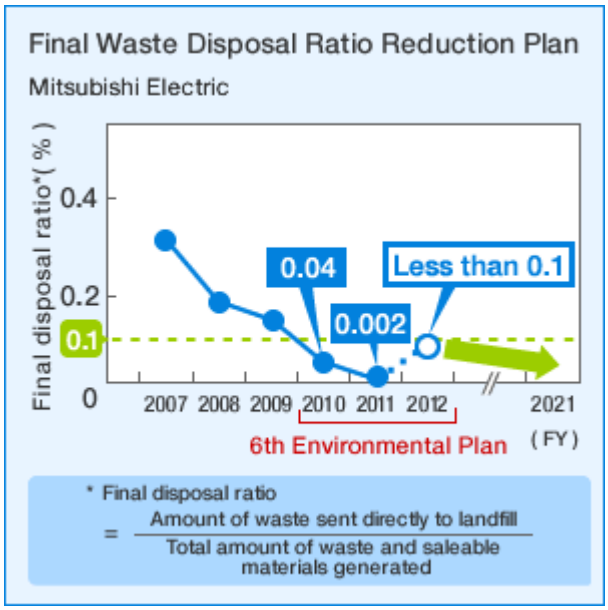
Zero Emissions

Targets of the 6th Environmental Plan (Fiscal 2010–2012) and Fiscal 2010 Progress

Zero Emissions				
Target of 6th Environmental Plan		Fiscal 2010	Fiscal 2011	
		Results	Results	Self-assessment
Mitsubishi Electric	Final disposal ratio of less than 0.1%	0.04%	0.002%	☺
Affiliates in Japan	Final disposal ratio of less than 0.5%	0.2%	0.04%	☺
Overseas affiliates	Final disposal ratio of less than 3.0%	3.6%	1.76%	☺

Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

Environmental Vision 2021 includes the goal of reducing the final disposal ratio of waste to less than 0.1% at all Group sites. As initial steps toward achieving that goal, the 6th Environmental Plan (fiscal 2010–2012) includes targets of less than 0.1% for Mitsubishi Electric, less than 0.5% for affiliates in Japan, and less than 0.3% for overseas affiliates, with steps taken at every site to address the production and disposal of waste.



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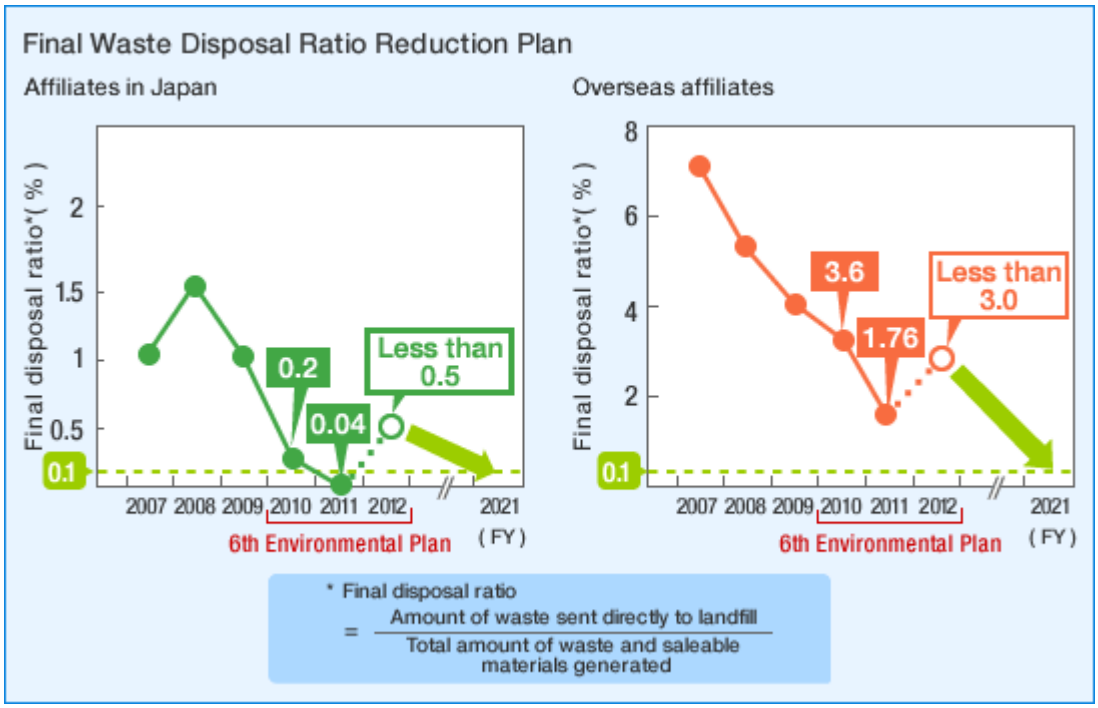
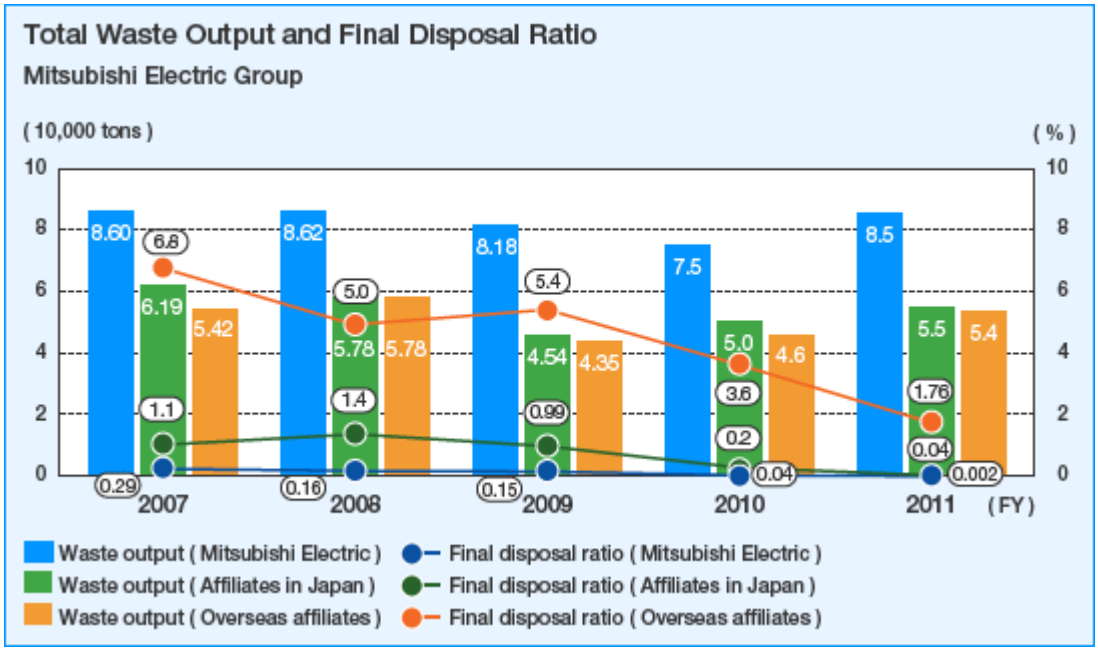




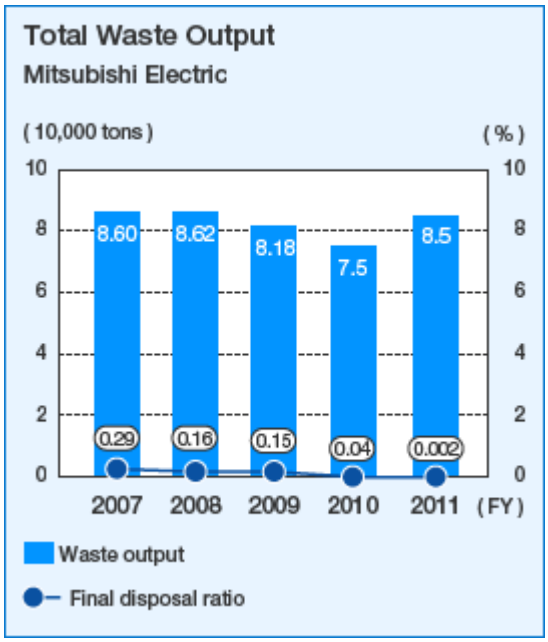
Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

Final waste disposal ratio target by the final year of the Plan: Less than 0.1%
→ Achievement in fiscal 2011: Less than 0.002%
Continuing waste separation and conversion to saleable materials, horizontal deployment of best practices, and coordination among factories leads to year-by-year progress.

Total waste emission in fiscal 2011 was 85,000 tons, and the final disposal ratio was less than 0.002%. Our total emissions increased along with production, but we improved our final disposal ratio through further promotion of recycling.

Thorough separation of waste is an effective way to reduce our final disposal ratio. As production sites that manufacture different products also produce different types of waste, we create action plans specific to each site. In fiscal 2010, we scrutinized waste destined for final disposal at each production site, and identified sites in need of measures to address challenges in achieving targets. In fiscal 2011 we moved ahead with these measures. As a result, all of our production sites achieved their targets.

The original purpose of promoting zero emissions is the effective use of limited resources. Toward this end, Mitsubishi Electric continues to advance initiatives even at production sites that have achieved the 6th Environmental Plan's end target of 0.1% or less.



Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

As an example, we are promoting the coordination of disposal by multiple areas to achieve effective waste utilization. In addition to implementing "recycling logistics" at five factories in five Kansai region areas from 2007, we expanded the program to the Kyushu region in fiscal 2010. In the Kyushu region, four Mitsubishi Electric production sites and seven affiliated companies are turning a variety of ideas on waste logistics into reality through joint observation and information sharing.

Environmental Topics: Coordinated Regional Waste Recycling (Kyushu Area)

From fiscal 2011 we began coordination among five Mitsubishi Electric production sites and eight affiliates in the Kanto region, improving the 3Rs and otherwise enhancing our waste management.

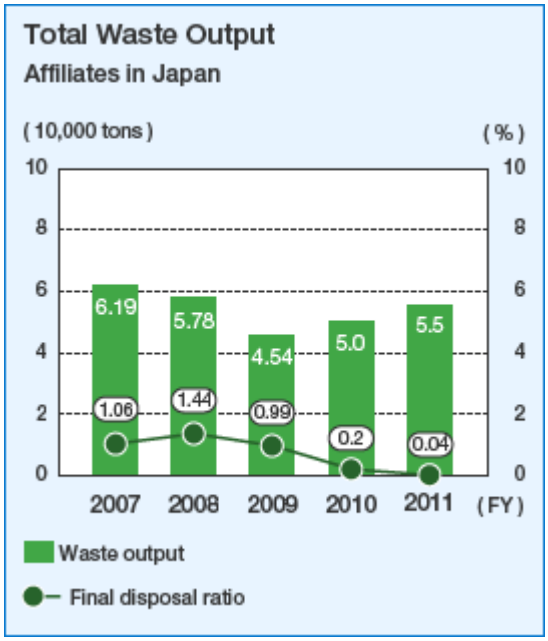
We are also focusing on the finer separation of waste to further promote conversion to saleable materials. In another initiative, after on-site checks at all domestic and overseas production sites revealed that waste disposal conditions differ by contractor and region, we looked into concerns such as whether contractors entrusted with final disposal are landfilling wastes or not, and continue working to address this "unseen portion" of disposal that takes place once waste leaves our hands.

In fiscal 2011 we also launched an initiative to strengthen coordination within the Group and address the reduction and effective utilization of waste from a larger perspective. For example, we implemented on-site checks via Mitsubishi Electric patrols at our overseas subsidiary Mitsubishi Electric Power Products, Inc. (MEPPI), which manufactures substation components and other parts. Based on the results, the company made changes to packaging material it had been throwing away, and with our cooperation, significantly reduced its total volume of waste

emissions.

Final waste disposal ratio target by the final fiscal year of the Plan: Less than 0.5%
→ Achievement in fiscal 2011: Less than 0.04%
Ongoing improvement activities from on-site checks bring steady progress. We greatly exceeded our targets.

Our measures to address final disposal in fiscal 2011 included a paper-based survey of waste disposal at 46 companies. In addition, a team that included members of the Corporate Environmental Sustainability Group made a patrol of two companies for on-site checks into the status of waste disposal, identifying problems and brainstorming solutions.



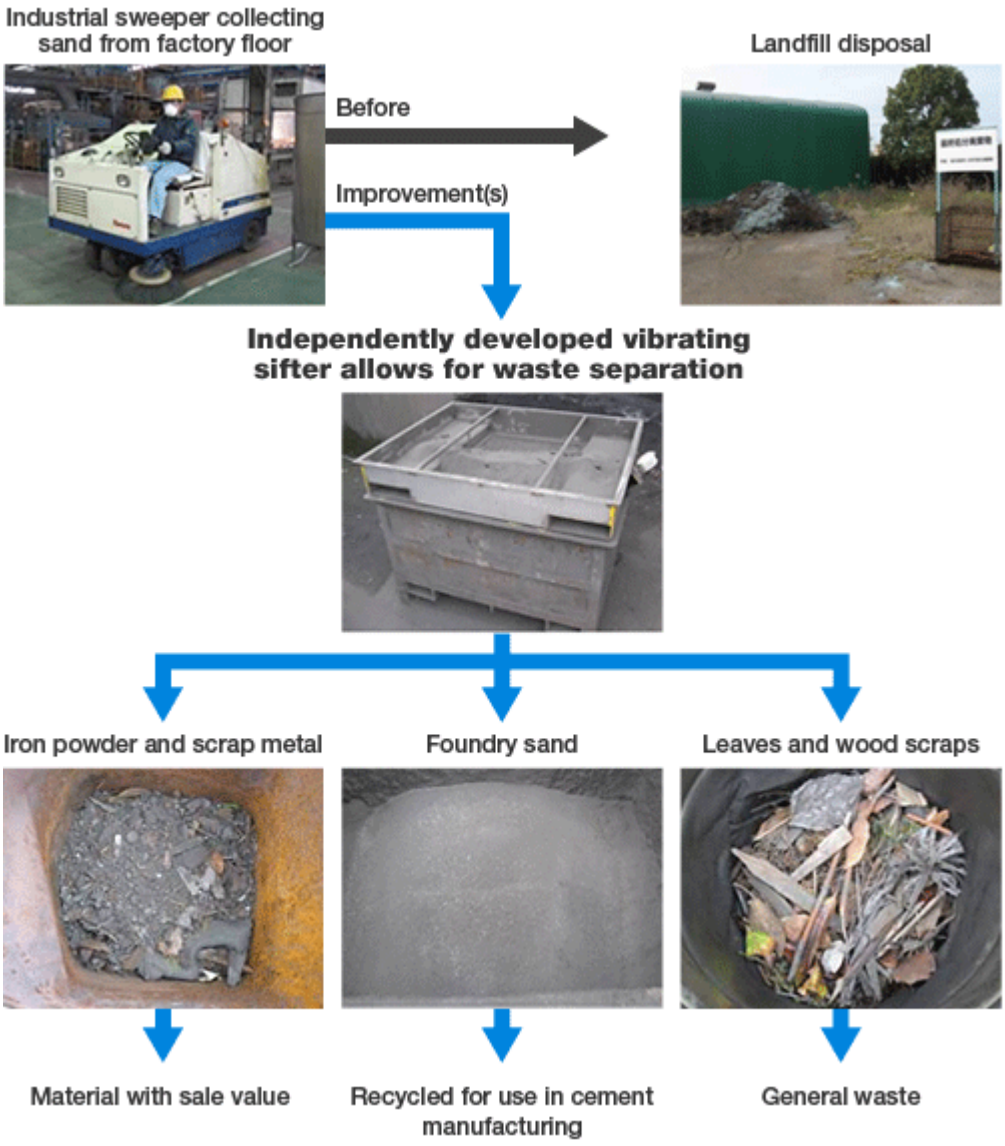
The results of these surveys showed a total of 55,000 tons of waste output in fiscal 2011, yielding a final disposal ratio of 0.04% that surpassed our target. In fiscal 2012 we will continue improvement activities incorporating on-site perspectives, and maintain initiatives to enable all sites to meet targets.

Even at sites that have already achieved reduction targets, we are enforcing the finer separation of waste to achieve conversion to saleable materials, and otherwise continuing and expanding initiatives to make more effective use of resources. In fiscal 2011, Ryosan Industry Corporation, a manufacturer of cast and forged products, enabled the recycling of casting dust, while Nakayama Machinery Co., Ltd., a manufacturer of cranes and automated transport carts in Hokkaido, began recycling welding scrap, a material with high iron content. We are identifying many such best practices in reducing our volume of final disposal, and will share those examples as we continue to seek ever more effective methods.

Example of Waste Reduction Activities

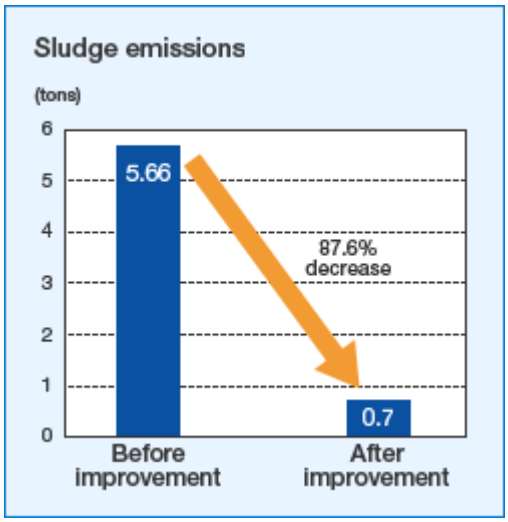
Recycling of spent foundry sands achieved

Spent foundry sands, which are a byproduct of the metal casting process, were once treated as landfill waste by Ryosan Industry Corporation. Although industrial sweepers were able to recover foundry sand from factory floors, the sand would become mixed with iron and wood scraps and other debris, making it impossible to separate for reuse or recycling. In fiscal 2010, however, the Group independently developed a vibrating air sifter able to separate these waste materials from one another. As of the end of fiscal 2011, foundry sand as waste had been completely eliminated. This was a tremendous improvement compared with 130 tons of foundry sand that had been land-filled in fiscal 2009.



Separating high-iron-content welding scrap to greatly reduce sludge emissions

Nakayama Machinery Co., Ltd., which manufactures cranes and automated transport carts in Hokkaido, used to send dust, welding scrap, and other cleanup trash generated in the factory to landfills as sludge. To improve this situation, the company enacted thorough waste separation at each point of generation (i.e., in the workplace), and found that about 90% of waste by weight was welding scrap with high iron content generated at welding stations. If separated, this welding scrap can be recycled as class B saleable iron scrap. The company was able to reduce its volume of this material emitted as sludge from approximately 6 tons to 0.7 tons annually.



Final waste disposal ratio target by the final fiscal year of the Plan: Less than 3.0%
→ Achievement in fiscal 2011: Less than 1.76%
Each company tackled improvements with enthusiasm and some exceeded their targets.

With laws, regulations, and waste treatment conditions differing by country or region, our activity plans for overseas affiliated companies must be tailored to each site's circumstances.

In fiscal 2011 we performed a detailed survey of waste disposal conditions at one company with a high final disposal ratio. We also launched patrols to perform on-site checks at sites not meeting targets, as we do with affiliates in Japan, and developed solutions and best practices aimed at resolving issues.

Total waste emissions in fiscal 2011 increased along with production to reach 54,000 tons. However, the final disposal ratio of 1.76% achieved our target, and marked a considerable reduction from fiscal 2010 for overseas affiliates. In particular, our overseas subsidiary that manufactures substation components, MEPPI, was able to significantly reduce packaging waste with our guidance and cooperation.

In fiscal 2012, we will continue to survey and patrol production sites and keep up our study of improvement measures, as we work to improve the overall level of our activities.

Example of Waste Reduction Activities

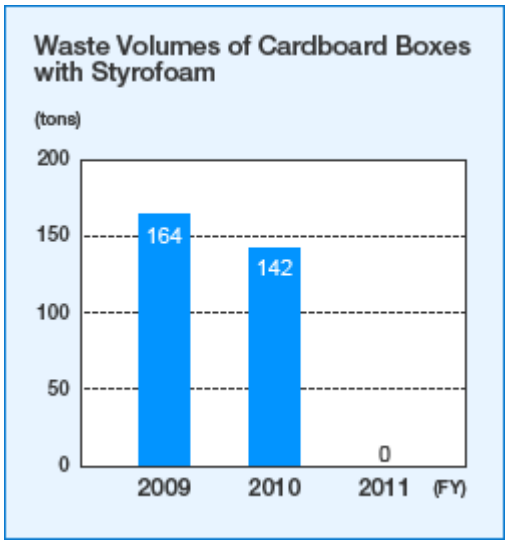
Promoting recycling through packing material improvements

Mitsubishi Electric Power Products, Inc. (MEPPI), a US-based transformer manufacturer, was found to be greatly exceeding waste disposal targets. Staff from head office were sent to investigate the situation. They discovered that the company was not able to break down packing materials for proper disposal and recycling, namely the Styrofoam-lined boxes that were regularly shipped from Japanese factories to MEPPI, and had therefore entirely disposed of the packaging. In addition, the company had been calculating its waste as approximate truckloads, which may have also accounted for the exceptionally high volume of waste disposal.

To address the problem, it was proposed that cardboard boxes without the Styrofoam lining be used in order to make waste separation and recycling easier. The proposal was accepted and put into action in the second half of fiscal 2011. Plastic that had been thrown away is also expected to be recycled. As a result, we anticipate a 70% decrease in the volume of waste disposed of by MEPPI.

Unpacking

Styrofoam-lined boxes that were being thrown away



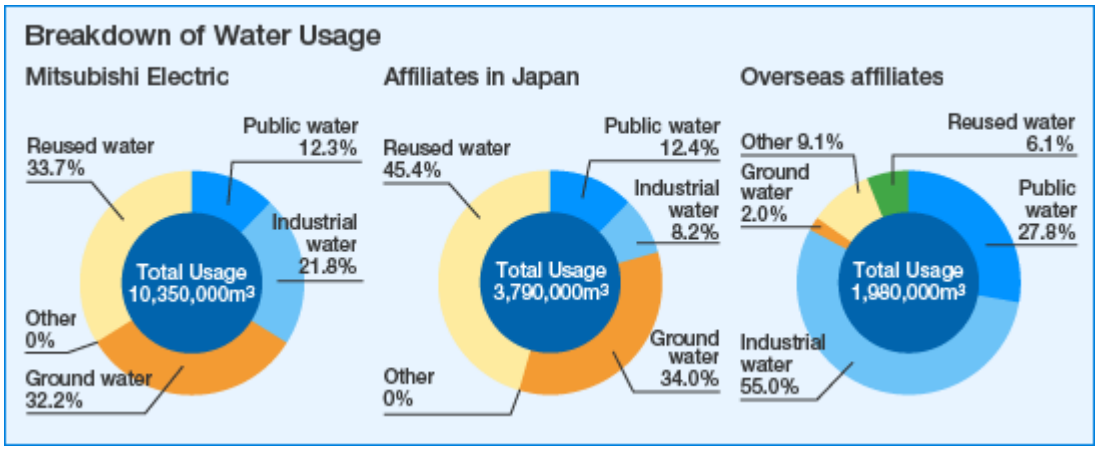
Using Water Effectively

Promoting the Recycling and Reuse of Water at Business Sites

The Mitsubishi Electric Group works toward the effective use of vital water resources, including public water, industrial water, and groundwater, from the same perspective of the 3R's (reduce, reuse, recycle) that we apply to production materials or energy.

In fiscal 2011, we used a total of 10.35 million m3 of water, an 8.0% increase over the 9.58 million m3 amount used in fiscal 2010. The total volume of water used at our affiliates in Japan was 3.79 million m3, a 3.8% rise year-on-year compared to the 3.65 million m3 mark from fiscal 2010. The volume of water used at our overseas affiliates totaled 1.98 million m3, a 20.0% increase over the 1.65 million m3 used in fiscal 2010. This upward trend in water use is attributable to increases in production.

Our water recycling ratio was 33.7% for Mitsubishi Electric, 45.4% for our affiliates in Japan, and 6.1% for our overseas affiliates, all higher than the previous year's percentages. We will continue to work toward effective water usage and contribute to the creation of a recycling-based society.



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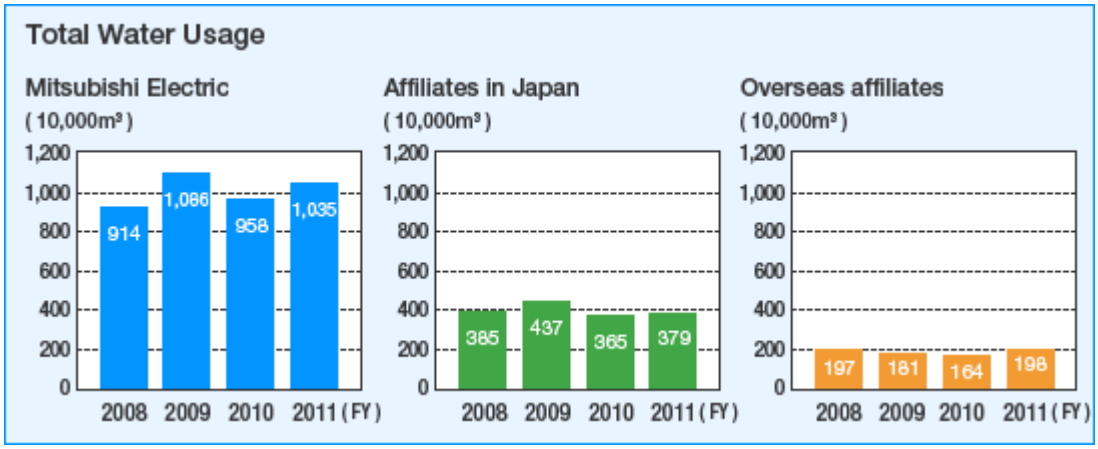

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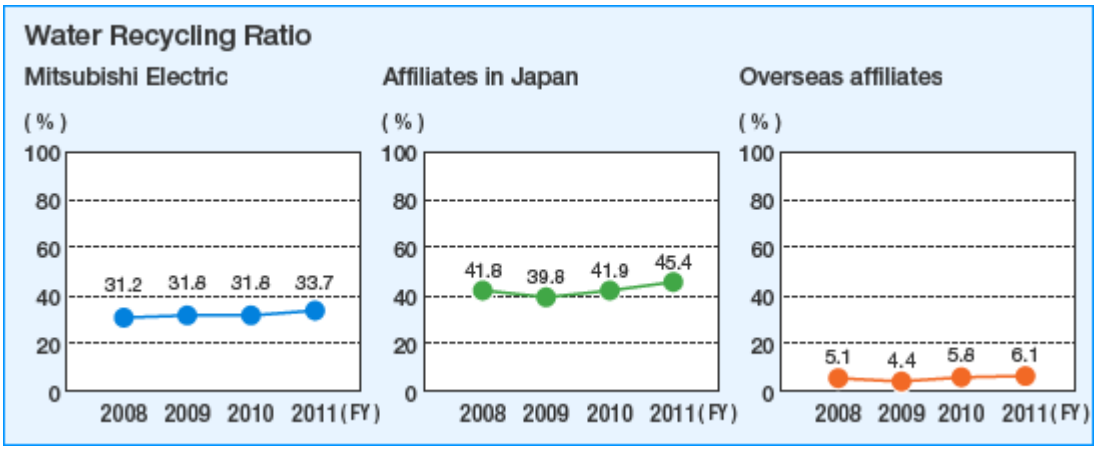

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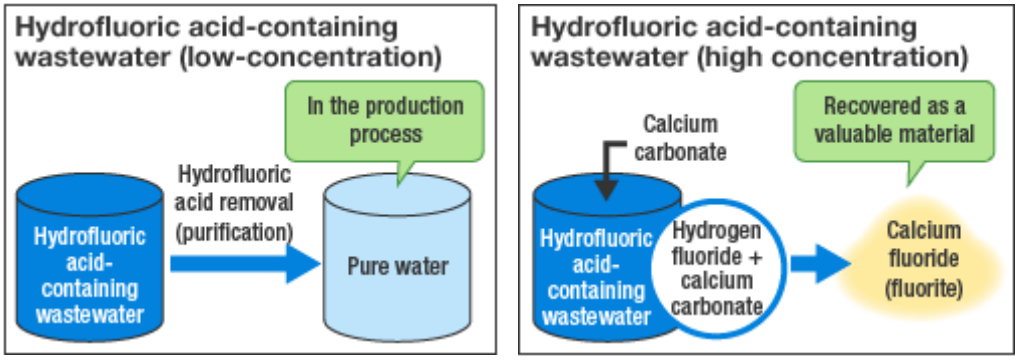
Processing wastewater according to hydrofluoric acid concentration, followed by recycling

At Nakatsugawa Works' Iida Factory, we use hydrofluoric acid (an aqueous solution of hydrogen fluoride) in the production of photovoltaic panels. The hydrofluoric acid-containing wastewater generated in this process is purified in treatment facilities within the factory, and is then released into the river (1,450 m^3 / day).

However, in searching for a way to utilize the two resources, water and hydrogen fluoride, contained in the wastewater, we began using a new type of recycling equipment in fiscal 2011. Using this equipment, we are able to pass water with relatively low concentrations of fluoride through the purification process to remove the hydrogen fluoride, and then recycle the wastewater as pure water for use in the production process. This results in savings of about 450 tons of water per day.

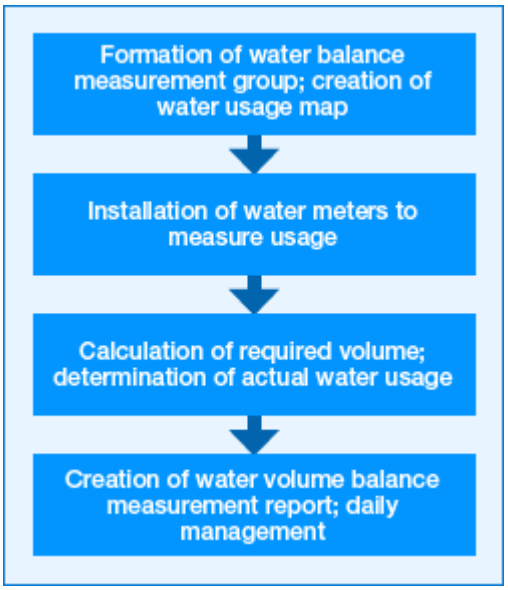
Wastewater with a fluoride concentration too high for reuse is treated with calcium carbonate, which reacts with the high concentration of hydrogen fluoride in the wastewater to produce calcium fluoride (fluorite). We recover and sell this to materials manufacturers as a valuable raw material, allowing for its effective use as a resource. Remaining wastewater is treated in our wastewater processing facilities to remove residual hydrogen fluoride, and is then released into the river.



Active initiatives to reuse water in China

Our affiliated companies in China are actively implementing measures to reduce their consumption of water.

In fiscal 2009, room air conditioner manufacturer Shangling Air-Conditioner and Electric Appliance Co., Ltd., mapped out the locations of water usage in its factory, and with water meters installed in strategic locations, began measuring the "water volume balance" to ascertain and manage water usage. This initiative has proved helpful in understanding and reducing wasteful usage of water. Based on collected data, the company has refurbished its equipment to reuse cooling water, and has removed coating lines from the plant by switching to procurement of pre-painted steel sheets for use in its products. As the result of such efforts, the company succeeded in reducing water consumption by 15% from fiscal 2009 levels to 125,318 m^3 in fiscal 2011.



Measuring water volume balance in four stages (Shangling Air-Conditioner and Electric Appliance)


Using recycled wastewater to water the grass on company grounds (Xi Ling Electric Power Products Manufacturing)

In addition, Xi Ling Electric Power Products Manufacturing Co., Ltd., a manufacturer of power switching device components, installed sewage treatment equipment in 2006. By processing factory wastewater and employees' domestic wastewater for reuse in watering plants on company grounds, the company is simultaneously reducing water usage while promoting greening. The company periodically requests external inspections of its processed water, and confirms that it passes sewage emissions standards for the factory's home base of Xian City. The factory's water consumption in fiscal 2011 was 12,800 m^3, a 5% reduction compared to fiscal 2007.

Environmental Topics: Water for Life, Water for Industry

Managing Chemical Substances

Managing Chemical Substances in Production

Report on the status of chemical substance management under our own Chemical Substance Management System.

Reducing VOC Emissions

Initiatives toward controlling atmospheric release of VOCs under the 6th Environmental Plan.

Managing Chemical Substances

Managing Chemical Substances in Production

Managing Controlled Chemical Substances using Our Own Chemical Substance Management System

Revising our list of voluntarily-managed chemical substances to 2,097 items

Mitsubishi Electric and its affiliates in Japan have been managing chemical substances on a voluntary basis since 1997. These include refrigerant fluorocarbons (HFCs[1] and HCFCs[2]) used in air conditioners and refrigerators, VOCs (volatile organic compounds), and the six RoHS substances. Combined with the 462 substances designated under the PRTR law[3] (PRTR[4]) revised in November 2009 (354 substances before revision), the above comprise a current list of 2,097 substances we voluntarily manage under our comprehensive Chemical Substance Management System that encompasses purchasing information about materials and components.

In fiscal 2011 Mitsubishi Electric used 142 different chemical substances totaling 6,840 tons (fiscal 2010: 115 substances, 5,013 tons), while affiliates in Japan used 49 substances totaling 1,686 tons (fiscal 2010: 50 substances, 1,885 tons). Details of the release and transfer of these substances is shown in the figure below, while the 10 substances with the highest volume of release and transfer by the Mitsubishi Electric Group are outlined in the table below. We'll continue to assess and manage our use of these substances while we make efforts to eliminate any waste.

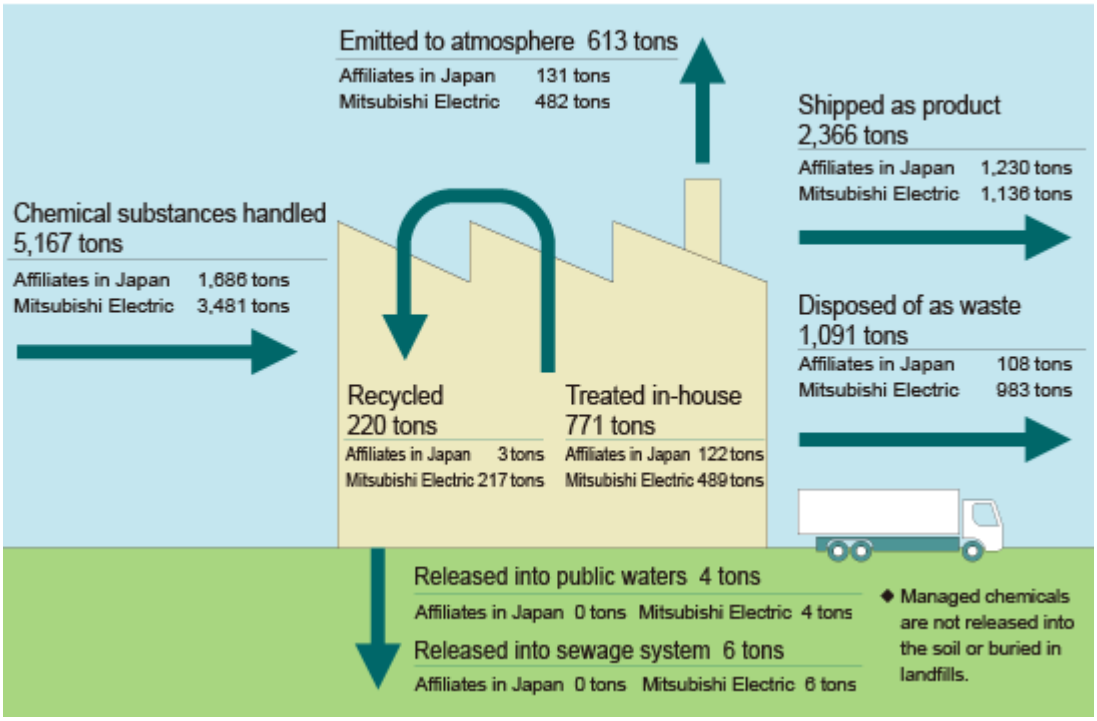
1 HFC: hydrofluorocarbon

2 HCFC: hydrochlorofluorocarbon

3 PRTR Law: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to their Management.

4 PRTR: Pollutant Release and Transfer Register, a system by which businesses assess and report to authorities the volume of potentially harmful chemical substances released into the environment and the volume transferred within waste. Authorities, in turn, compile and release information on total volumes based upon the reports and other statistics.

Material Balance of Chemical Substances Subject to Regulation



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Mitsubishi Electric Group Chemical Release/Transfer Ranking (Fiscal 2010)

Mitsubishi Electric (Unit: tons)

Rank	Substance	Amount handled (tons)	Amount released/ transferred (tons)	Amount eliminated/ recycled (tons)	Amount consumed (tons)
1	Isopropyl alcohol	779	154	588	37
2	Lead	726	48	0	669
3	Bis (4-isocyanatophenyl) methane	721	721	0	0
4	Styrene	228	109	0.3	119
5	Hydrogen fluoride and other water soluble salts	191	23	7	0
6	Antimony and antimony compounds	115	8	1	103
7	Toluene	85	53	7	13
8	Tetrahydromethylphthalic anhydride	85	3	3	79
9	Acetone	79	63	0	0
10	Xylene	71	56	7	8

Affiliates in Japan (Unit: tons)

Rank	Substance	Amount handled (tons)	Amount released/ transferred (tons)	Amount eliminated/ recycled (tons)	Amount consumed (tons)
1	Styrene	583	39	19	526
2	Methanol	116	13	29	73
3	Tetrahydromethylphthalic anhydride	115	1	0	114
4	Isopropyl alcohol	113	2	3	8
5	Maleic anhydride	95	5	0	90
6	Methyl ethyl ketone	87	10	22	55
7	Toluene	77	9	19	49
8	Phenol	57	1	0	55
9	Xylene	53	52	0	5
10	Acetone	47	6	12	30

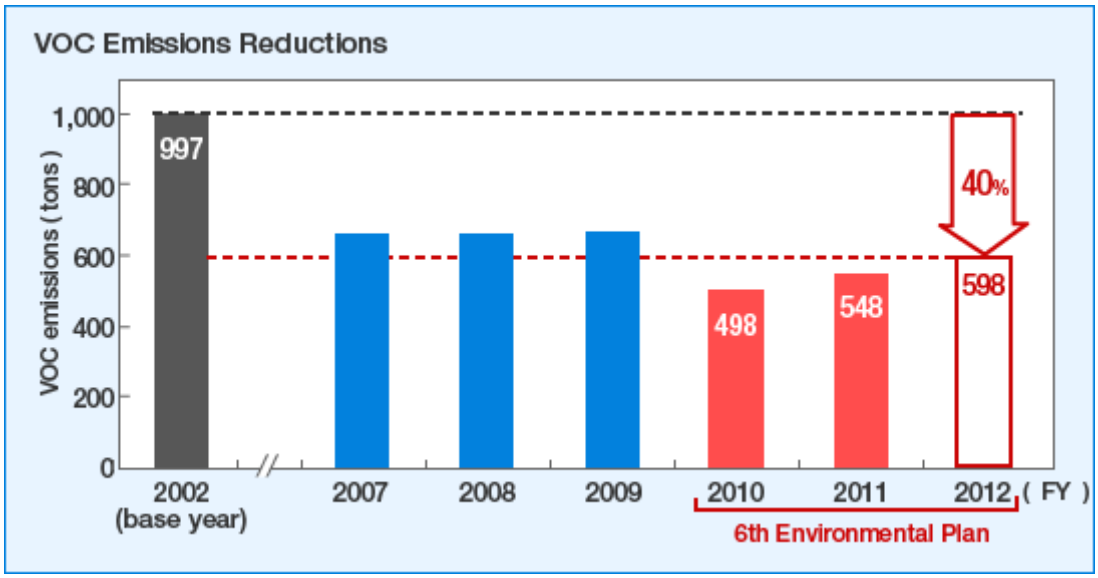
Managing Chemical Substances

Reducing VOC Emissions

Targets of the 6th Environmental Plan (fiscal 2010–2012) and Fiscal 2010 Progress

Reducing VOC Emissions					
Targets of the 6th Environmental Plan (Fiscal 2010–2012)	Fiscal 2010	Fiscal 2011			Fiscal 2012
	Results	Emissions target	Results	Self Evaluation	Target
40% reduction (base year FY2001) Emissions: 598 tons	Emissions: 498 tons	Emissions: 528 tons	Emissions: 548 tons	😐	Emissions: 598 tons

Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.



* During formulation of the 6th Environmental Plan, initially factories with high levels of emissions were targeted, but in fiscal 2010 we extended our activities to cover all factories.

Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

Activities to reduce the emissions of volatile organic compounds (VOCs) into the atmosphere in Japan are required by the Air Pollution Control Law. In response, the electrical and electronic products industry has adopted a voluntary action plan to cut fiscal 2011 emissions to 30% below fiscal 2001 levels. Mitsubishi Electric has set a voluntary plan with even stricter targets, and under the 6th Environmental Plan is taking action toward that goal, with the additional perspective of reducing resource inputs.

In addition to using alternative materials, the Company is reviewing processes that use VOCs and studying the redesign of these processes where possible. By fiscal 2012, we aim to reduce VOC emissions into the atmosphere by 40%, compared with fiscal 2001 levels.

Achieving 40% below fiscal 2001 emission levels for two consecutive years

The biggest challenge for the company with respect to chemical substances is controlling VOC emissions including styrene and xylene.

Even when our VOC emissions turned upward as production increased in line with the improving economy in 2011, we have strived to take all possible steps to reduce emissions. In addition to continuing with our ongoing activities to control emissions by reducing wastefulness, we also undertook the drafting and implementation of specific measures to control emissions, including improvements made to our work processes and equipment based on the results of a fiscal 2010 survey of production site emissions. We also launched a concerted investigation of reduction measures specifically focused on and suited to the conditions at our Power Systems Center, Nagoya Works, and Transmission & Distribution Systems Center—three locations with particularly high levels of emissions.

These actions have resulted in a number of best practices, such as distilling the thinner used in coating processes for reuse in other processes (see "Case of VOC Reduction" below), and reconsidering the size of purchased cans of solvents to promote quicker use of full cans and reduce the evaporation of VOCs from coatings during storage. We worked to expand such examples throughout the organization as we undertook emissions controls at all production sites.

As a result of these reduction activities, emissions totalled 548 tons, while the reduction rate stood at 45%. Although above our fiscal 2011 target of 528 tons, emissions have been below the final target of 598 tons (reduction rate of 40%) set out in the 6th Environmental Plan for two consecutive years.

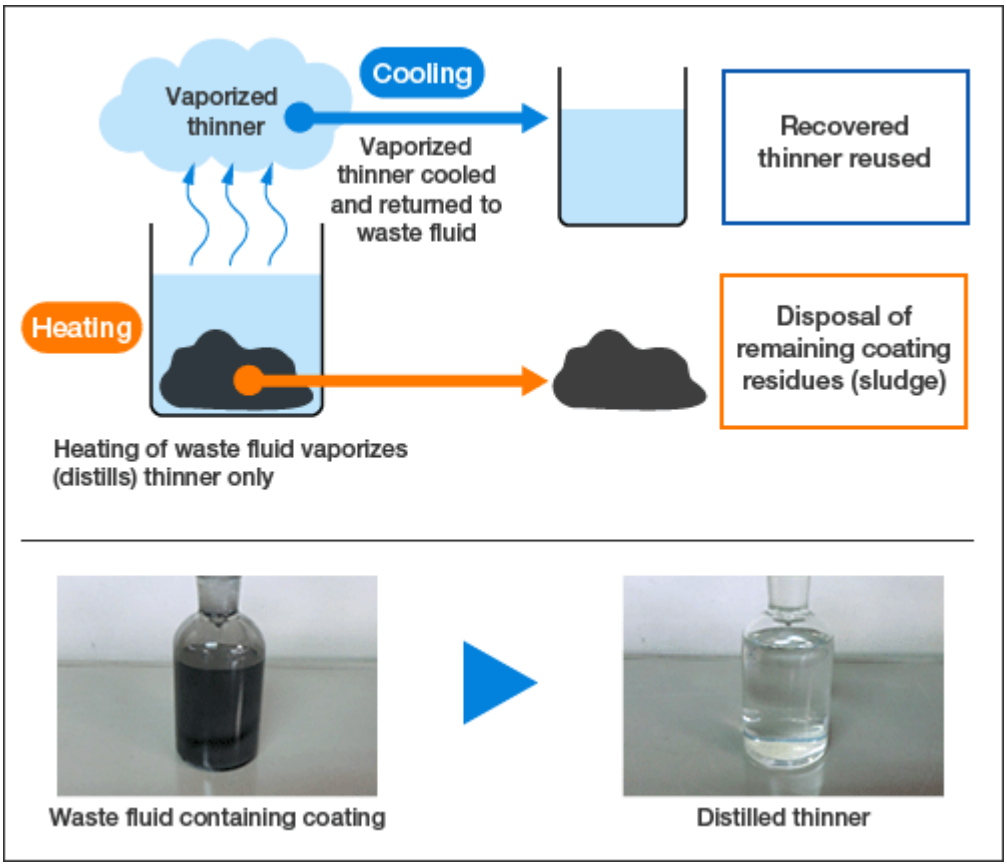
In fiscal 2012 we will continue our activities to reduce wastefulness in work processes, including the development of best practices. We will also continue to investigate full-fledged emission reduction measures for our locations with the highest emissions, as we further research VOC substitutes. We intend to continue our reduction activities so as to maintain the 6th Environmental Plan's target of a 40% reduction from fiscal 2001 levels, even after the Plan is completed.

Case of VOC Reduction

Distilling thinner used in the coating process for reuse in the cleaning process

In the manufacturing of motors, the Shinshiro Factory of our Nagoya Works uses organic solvents (thinners) containing VOCs in its coating process. The factory focused its attention on the disposal of waste fluid, which consists of coating dissolved into thinner, and in fiscal 2011 introduced specialized equipment to begin distillation and reuse of the waste fluid.

The recycled thinner is used for purposes including cleaning the equipment used in the coating process. The amount reused has reached 6 tons, which has enabled us to reduce new purchases of thinners that contain VOCs by 40% over fiscal 2010.


Vaporized thinner
Cooling
Vaporized thinner cooled and returned to waste fluid
Recovered thinner reused
Heating
Disposal of remaining coating residues (sludge)
Heating of waste fluid vaporizes (distills) thinner only
Waste fluid containing coating
Distilled thinner

Reducing CO_2 from Logistics

Basic Policies on Logistics

The Mitsubishi Electric Group carries out Just In Time Improvement Activities to improve logistics. These activities quantify logistics work to make it transparent, opening the door to greater efficiency and economy by eliminating irrational, irregular, and wasted efforts. We're also working to reduce environmental impact via "Eco-Logistics" (Economy & Ecology Logistics).

The Mitsubishi Electric Group's Fiscal 2011 Targets and Achievements

Target: **Cut CO_2 emissions 3% from fiscal 2009 levels in the fiscal years 2010–2012**

Result: **Fiscal 2011 CO_2 emissions were 116,000 tons, an 8,000-ton or 6.3% reduction from fiscal 2009**

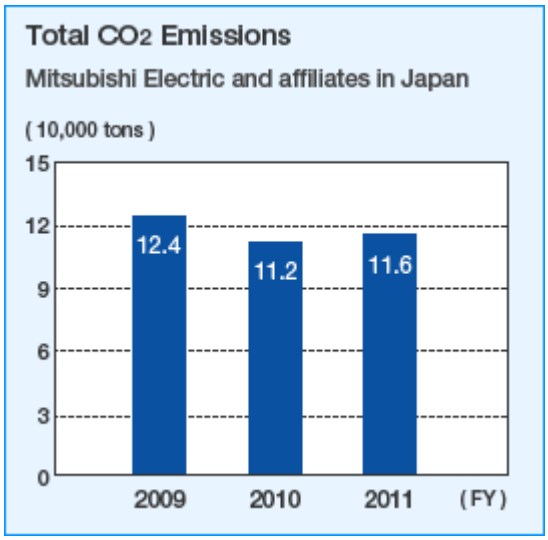
Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

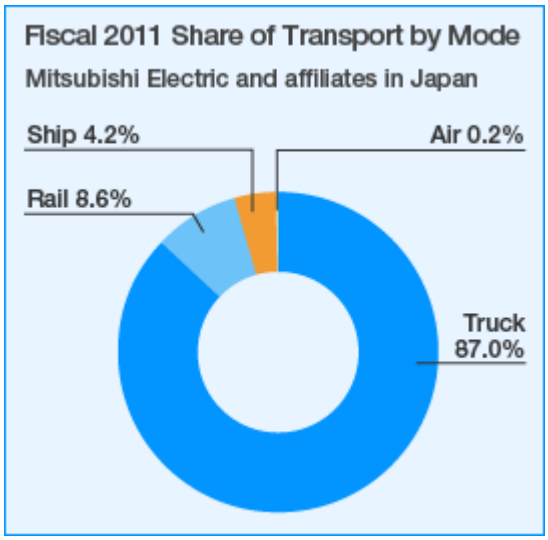
The 6th Environmental Plan (fiscal 2010–2012) for Mitsubishi Electric and our affiliates in Japan sets a CO_2 emissions target of 3% below fiscal 2009 levels. We took several steps to achieve this goal, including the following:

- Reducing the number of trucks and frequency of journeys (e.g. having multiple factories coordinate joint delivery of products to multiple destinations in the same area)
- Improving transport efficiency by optimizing operations to handle fluctuations in shipment volume
- A modal shift from truck to rail or marine transportation

CO_2 emissions for Mitsubishi Electric in fiscal 2011 were 97,000 tons (a 3,000-ton or 3.2% reduction from fiscal 2009). Emissions for affiliates in Japan were 19,000 tons (a 5,000-ton or 4.7% reduction from fiscal 2009).

Our overseas affiliates are making efforts to ascertain detailed information on CO_2 emissions and expanding reduction measures through the tailoring of transport methods to local conditions. In fiscal 2011 we collected data from 21 companies (compared with 19 in fiscal 2009). We calculated our CO_2 emissions to be 235,000 tons, a 56,000-ton increase from 179,000 tons in fiscal 2009.





Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

Example of CO_2 Reduction Activity in Logistics
Promotion of Eco-Logistics Activities

From April 2009 through March 2012, we are rolling out "Eco-Logistics" activities at all production sites in Japan. Eco-Logistics, an abbreviation of Economy & Ecology Logistics, is an initiative to increase logistics efficiency through better visibility and simplicity, reducing both costs and environmental impact.

Changing from air to sea transport to reduce CO_2 emissions

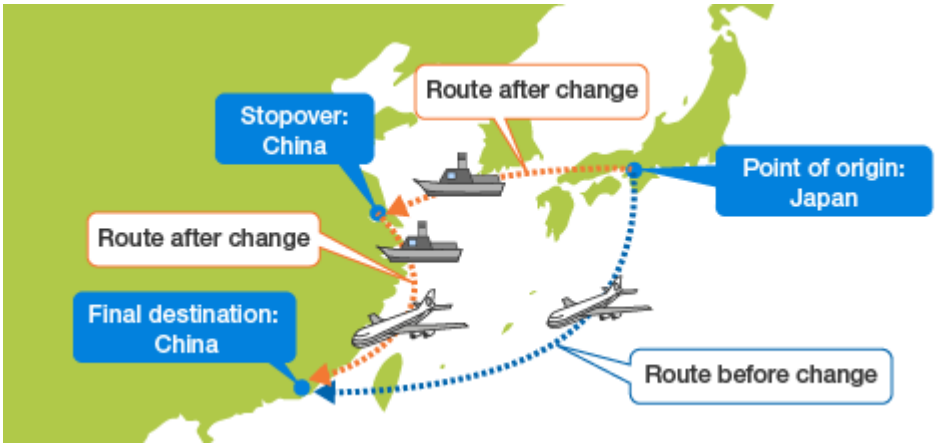
Products transported from Japan to other countries are generally sent via sea freight.

However, air cargo is used in some cases for faster shipping of products with short delivery schedules, such as semiconductors.

With the economy recovering in Asia, Europe, and other overseas regions, which is expected to boost shipments to countries outside Japan, we have begun reconsidering our transportation methods taking into account their impact on the environment.

As an example, cargo that had previously been shipped by air is now shipped partway by sea and consolidated at stopover points en route. From there, the cargo is shipped to final destinations by either air or sea transportation. By using sea transportation partway, even for cargo with short delivery schedules, we are able to reduce our CO_2 emissions during transportation to almost half the emissions generated by conventional air transportation.

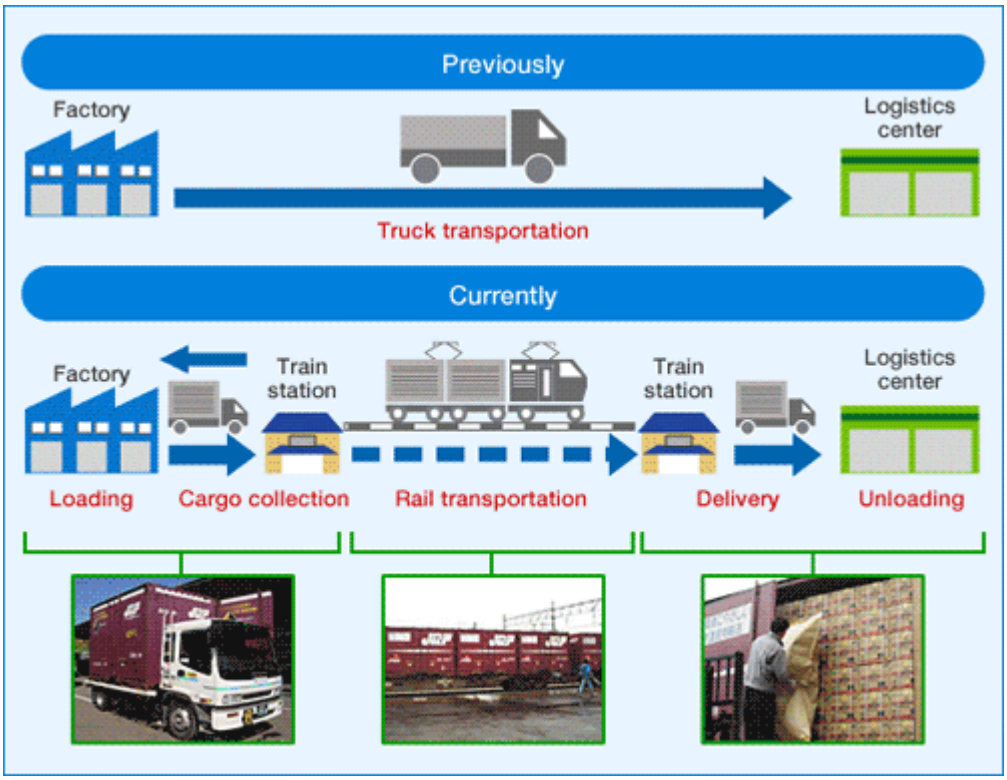
In the future, we intend to develop a system to more accurately account for the level of CO_2 generated by shipments of our products overseas.



Example of Modal Shift

Rail transportation of 500 km or more constitutes over 30% of product logistics for our Living Environment & Digital Media Equipment Group*, enabling certification by Japan's "Eco Rail Mark" system.

* Transportation of air conditioning equipment, residential equipment, appliances, digital media products, etc.


Previously
Factory
Logistics center
Truck transportation
Currently
Factory
Train station
Train station
Logistics center
Loading
Cargo collection
Rail transportation
Delivery
Unloading

Reducing the Use of Disposable Packaging Materials

Targets of the 6th Environmental Plan (fiscal 2010–2012) and Progress in Fiscal 2010

Reducing the use of disposable packaging materials				
Target of 6th Environmental Plan (fiscal 2010–2012)		Fiscal 2010	Fiscal 2011	
		Results	Results	Self Evaluation
Mitsubishi Electric	10% reduction per volume of shipment (base year Fiscal 2009)	3.3%	1.7%	☹
Affiliates in Japan	10% reduction per volume of shipment (base year Fiscal 2009)	4.8%	5.0%	☹
Overseas affiliates	Assessment of packaging material volume and product shipment volume	Completed assessment of packaging material volume in 22 companies and product shipment volume in 19 companies	Completed assessment of packaging material volume in 22 companies and product shipment volume in 19 companies	☺

Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

As part of the Mitsubishi Electric Group's Just In Time Improvement Activities, we're working to improve logistics. Within that area, we're promoting the "3Rs" of packaging: Reduce (simplify packaging), Reuse (expand use of returnable containers and packaging), and Recycle (recycle used packaging materials).

In our 6th Environmental Plan, we have set the goal of a 10% reduction compared to fiscal 2009 in the amount of packaging material used per volume of shipment by Mitsubishi Electric and affiliates in Japan, to be achieved by the end of fiscal 2012. For overseas affiliates, we will set activity targets based on an assessment of packaging material volume and product shipment volume at each site.

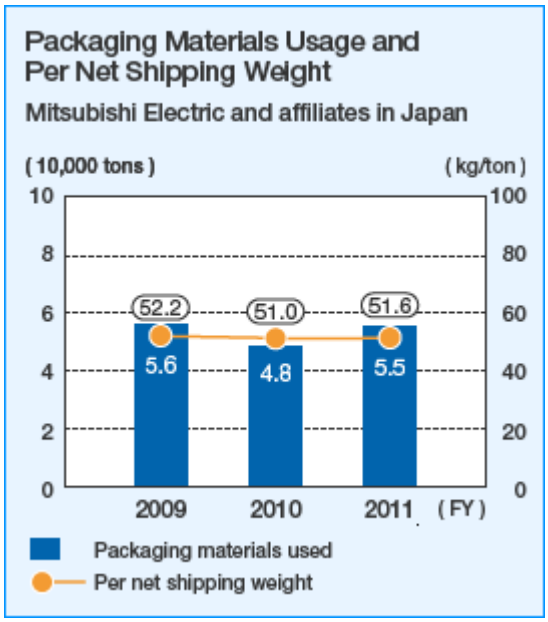
Packaging requirements per volume of shipment: 51.6 (1.1% reduction from fiscal 2009)

Volume of packaging used: 55,000 tons (1,000-ton reduction from fiscal 2009)

Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

Together with our affiliates in Japan, we are promoting packaging improvements through size and weight reduction. Our 6th Environmental Plan names the reduction of disposable packaging materials, an instance of "reduce" among the 3Rs of packaging, as a key item to be addressed. In fiscal 2011, we implemented initiatives including structural design modification of projectors at our Kyoto Works to improve the ratio of empty space in packaging. In fiscal 2012 we will undertake packaging improvements in cooperation with our product design departments, to promote simplified packaging and improved ratios of empty space.

At our overseas affiliates we completed a survey of the amount of packaging material used at 22 companies, and product shipment volumes at 19 companies. The amount of packaging material used at the 22 companies totaled 56,000 tons, a reduction of 11,000 tons since fiscal 2009.



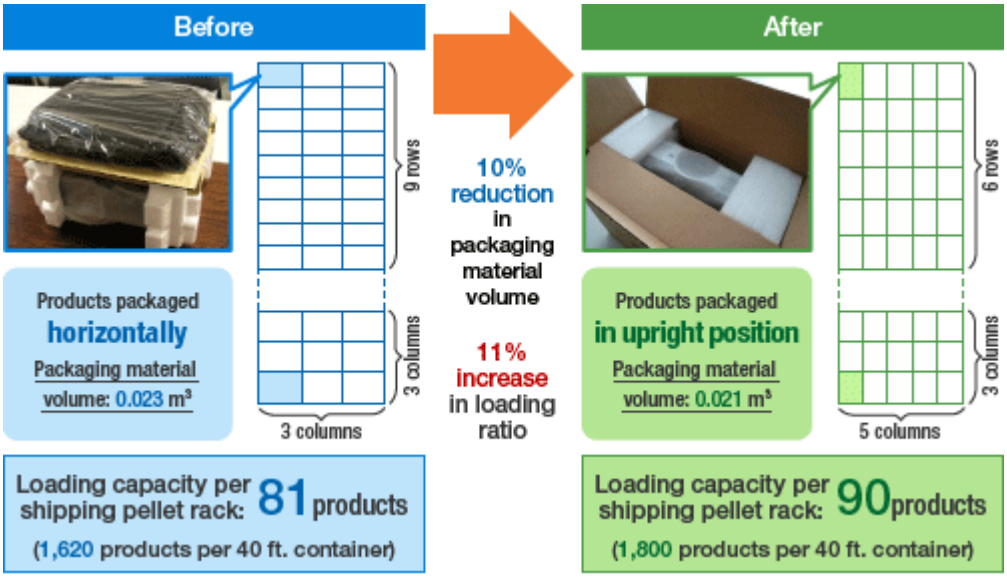
Note on aggregate values: Data for the Communication Network Center, Koriyama Factory, which incurred damage due to the Great East Japan Earthquake of 2011, is not included in these figures. Applicable data will be incorporated and published at a later date.

Example of Reduction in Disposable Packaging Material

Storage method modifications yield packaging material volume reduction and pallet loading ratio increase

As part of the Mitsubishi Electric Group's promotion of design for the environment, the Group is working to improve upon and reduce its use of disposable packaging material by reexamining product strength and accessory storage methods.

As an example of these efforts, the Group was able to reduce the packaging material volume for projectors being shipped overseas by 10%, as well as reduce by 10% the amount of disposable packaging material used. This was accomplished by packing products in an upright position instead of horizontally. This simple modification also resulted in an 11% increase in the number of stackable cargo items per pallet.
(Pallet platform on which multiple cargo items are placed for transport or storage.)



Environmental Report

Group Biodiversity Action Guidelines

Introduction to the Mitsubishi Electric Group Biodiversity Action Guidelines established in May of 2010.

Business Activities and Biodiversity

Overview of initiatives to consider biodiversity in all of our business activities and take appropriate action.

Fostering Environmental Awareness

Overview of environmental awareness training programs conducted as part of our activities to conserve biodiversity.

Mitsubishi Electric Outdoor Classroom

Introduction to the targets and fiscal 2011 initiatives and results of the "Satoyama" woodland preservation project, a volunteer-oriented program that restores the natural environment in nearby areas.

"Satoyama" Woodland Preservation

Introduction to the targets, as well as the fiscal 2011 initiatives and results, of the "Satoyama" woodland preservation project, a volunteer-oriented program that restores natural environments areas.

Group Biodiversity Action Guidelines

In May of 2010, Mitsubishi Electric established its Biodiversity Action Guidelines, a step toward ensuring all Group companies consider biodiversity in all of their business activities in order to contribute to the development of a sustainable society.

News Releases

May 18, 2010
Mitsubishi Electric Group Establishes Biodiversity Action Guidelines (26KB)

Mitsubishi Electric Group Biodiversity Action Guidelines

Respect for Biodiversity

The Earth's ecosystem is made up of the activities of diverse living organisms. All aspects of human civilization benefit from this ecosystem, but at the same time, we affect it in both direct and indirect ways. Today, damage to the ecosystem is said to be driving many species to extinction and otherwise eroding biodiversity.

Recognizing this, the Mitsubishi Electric Group has established Biodiversity Action Guidelines, which add to the Group's environmental activities aimed at the creation of a low-carbon and recycling-based society from a biodiversity conservation perspective. These guidelines define the role of business activities in preserving biodiversity, and outline the Group's efforts toward the development of a sustainable society through its business activities.

Action Guidelines

Resources & Procurement
Recognizing that we utilize globally procured natural resources such as minerals, fuels, and plants, we shall aim to preserve biodiversity in Japan and around the world by carrying out green procurement activities.

Product Design
In designing our products and services, we shall promote the effective utilization of resources and the efficient use of energy, as well as aim to prevent the emission of substances that pose a risk to the environment.

Manufacturing & Transportation
When commencing or making changes to land use such as when constructing factories or warehouses, we will give due consideration to protecting the biodiversity of the land in question. And In manufacturing and transportation, we aim to minimize energy use, waste generation, and the emission of chemical substances.

Sales, Usage & Maintenance
In our sales activities, we will work to promote better understanding among our customers of the impact that product/service usage and maintenance can have on biodiversity.

Collection & Recycling
We will actively develop recycling technologies and apply them to collected end-of-life products.

Understanding & Action
We will deepen our understanding of the importance of biodiversity and our relationship to it, and will actively and voluntarily take actions necessary to coexist in harmony with nature.

Cooperation
All companies in the Mitsubishi Electric Group, including overseas affiliates, will act as one, in cooperation with local communities, NGOs, and governments.

Environmental Topics: Respecting Biodiversity

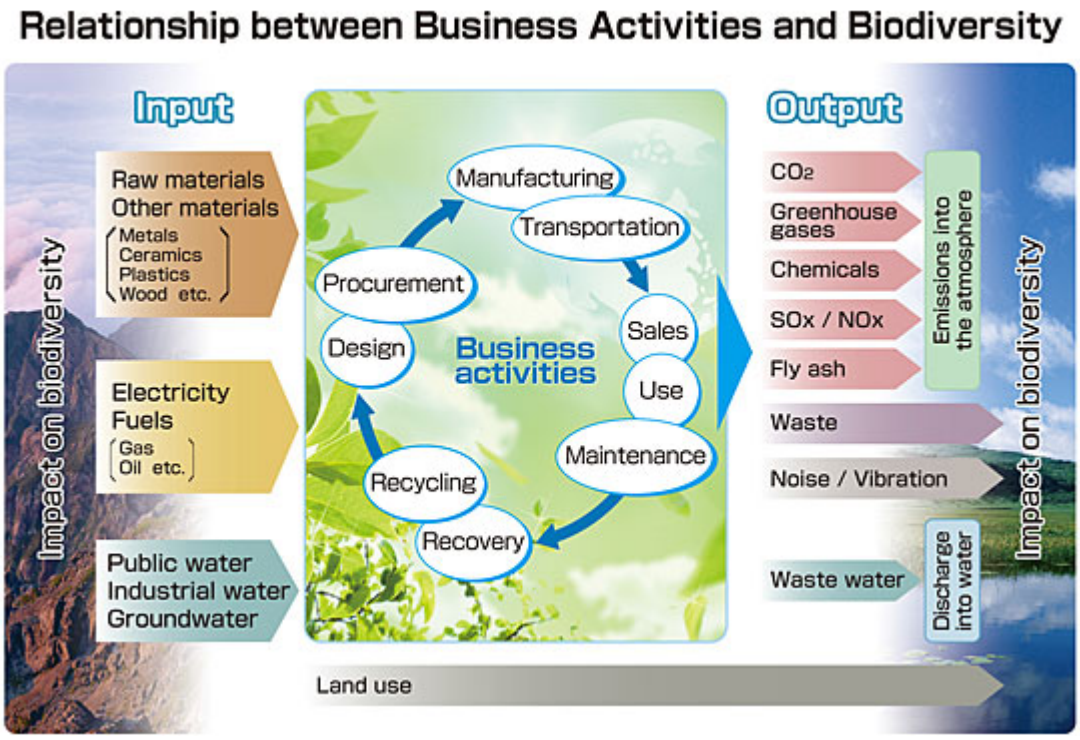
Business Activities and Biodiversity

Considering Biodiversity in All of Our Business Activities

All human activity benefits from the workings of the diverse life forms that live on the planet. At the same time, human activity also exerts a significant impact on biodiversity, including damage to ecosystems. Now, at a time when many species face extinction, the preservation of biodiversity is a shared issue for all of humanity.

Recognizing this, Mitsubishi Electric has established Biodiversity Action Guidelines to guide the entire Group in contributing to the preservation of biodiversity. Based on these Guidelines, we will expand existing initiatives that foster environmental awareness, like our "Satoyama" woodland preservation project and the Mitsubishi Electric Outdoor Classroom. We will bolster activities that reduce environmental impact, such as green procurement and large-scale, high-purity plastic recycling.

In addition, to deepen employee understanding of biodiversity, we have created a chart that shows the relationship between business activities and biodiversity. Using this chart as a tool, we will promote renewed awareness among all business sites both inside and outside Japan of the relationships between their activities and surrounding regions' ecosystems and natural environment, and link this awareness to concrete actions that contribute to communication with those regions and to the preservation of biodiversity.



"Living Creature Studies" at Factories — Field Guides, Posters and Booklets

Beginning in fiscal 2012, each environmental management organization will renew awareness of its relationship to surrounding ecosystems and the environment, review its own activities and identify new issues to tackle. To start things off, offices and works located in the Chubu region conducted "Living Creature Studies" to identify living organisms inhabiting the grounds of their factories and surrounding areas. Discoveries as a result of these activities were compiled in "Field Guides." Moreover, the Company put together a "Mitsubishi Electric and Water Map" poster as well as the "Mitsubishi Electric Experience of Life" booklet.

"Field Guides" compiled from observations of the types of living organisms inhabiting the grounds of factories and surrounding areas.

The "Mitsubishi Electric and Water Map" poster created as a project uniquely suited to sites in regions with an abundance of water.

The "Mitsubishi Electric Experience of Life" booklet describing observations of living organisms and findings.

Environmental Topics: Respecting Biodiversity

Fostering Environmental Awareness

Implemented as Part of Our Activities to Respect Biodiversity

Mitsubishi Electric positions respect for and the preservation of biodiversity as a pillar of our Environmental Vision 2021. As part of the effort, we promote the fostering of environmental awareness, one purpose of which is to allow us to consider what is necessary in our daily work to protect the nature that nurtures the diversity of life, and take action. With this aim in mind, we have been conducting the Mitsubishi Electric Outdoor Classroom since 2007.

We are also expanding our "Satoyama" woodland preservation project, an activity that gives back to communities by helping to directly restore nature. The rejuvenation of nature requires ongoing activities over an extended period, rather than one-time action, in order for the cause to serve its purpose. For this reason, we position the program as a social contribution activity rooted in volunteerism.

Mitsubishi Electric Outdoor Classroom

Progress in Fiscal 2010

Mitsubishi Electric Outdoor Classroom					
6th Environmental Plan (fiscal 2010–2012) Targets for each fiscal year	Fiscal 2010	Fiscal 2011			Fiscal 2012
	Results	Target	Results	Degree of achievement Self-assessment	Target
Add 5 regions each year Train 50 Outdoor Classroom leaders each year	30 classrooms in 19 regions (including 9 new); training of 46 Outdoor Classroom leaders	35 classrooms in 24 regions (including 5 new)	36 classrooms in 26 regions (including 7 new); training of 43 Outdoor Classroom leaders		38 classrooms in 28 regions (including 2 new)

The Mitsubishi Electric Outdoor Classroom is one means by which we foster environmental awareness, which is directed at biodiversity conservation advocated in Environmental Vision 2021. In this program, classrooms take place in a natural environment, including forests, river plains, parks, and beaches, where participants join a leader (role served by an employee) in experiencing the natural surroundings together. This experience aims to encourage all participants to consider their coexistence with nature, as well as foster their ability to take action in changing the environment for the better. The 6th Environmental Plan (fiscal 2010-2012) calls for annual expansion of the program, with classrooms held in 5 new regions and 50 leaders trained each year.

Mitsubishi Electric's Targets and Fiscal 2011 Achievements

Regions hosting the Outdoor Classroom expanded as planned, reaching 26. Increasing cooperation from NPOs and experts made the program more enriching than ever.

In fiscal 2011, we expanded the number of regions hosting the Mitsubishi Electric Outdoor Classroom by adding 7 new regions as planned in fiscal 2010 to reach 26. We had planned to hold classrooms 35 times, but managed to conduct 36 sessions despite unseasonable weather. We conducted our Outdoor Classroom leadership training course twice and designated 43 new leaders, bringing the total number of course participants to 154 people. We hope to see the Mitsubishi Electric Outdoor Classroom conducted by all workplaces —head office, branches, works, etc.— by 2021. Toward that end, we will continue to focus on leadership development.

In terms of Outdoor Classroom operations, we conducted regional block conferences to promote information exchange, activity coordination, and mutual support regarding implementation conditions. Also noteworthy in fiscal 2011 was our ability to offer a more enriching program than before, thanks to the cooperation of environmental NPOs with knowledge of natural sciences and experts versed in local environments. We will continue to promote such collaboration and further raise the quality of the Outdoor Classroom.

In fiscal 2011 we embarked upon Outdoor Classroom leader training for affiliated companies in Japan. At our affiliates overseas, activities to foster environmental awareness had been focused on tree planting. But as a first step toward taking the Outdoor Classroom across borders, in fiscal 2011 we introduced implementation examples from Japan at the annual Overseas Regional Environmental Conference. In the future, we will continue to support the activities of affiliated companies both inside Japan, and around the world.

Hokkaido Region (Hokkaido Branch)

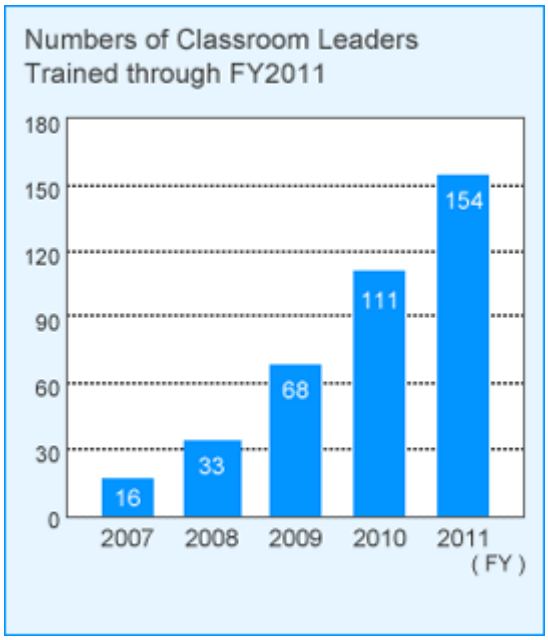
We conducted our Outdoor Classroom at Maruyama Park in Sapporo. With the co-host of the Maruyama Zoo, Nezumi, a non profit organization, and FM Hokkaido radio station, we together contributed to the enjoyment of nature in spring time for local families and families of our employees in the park.

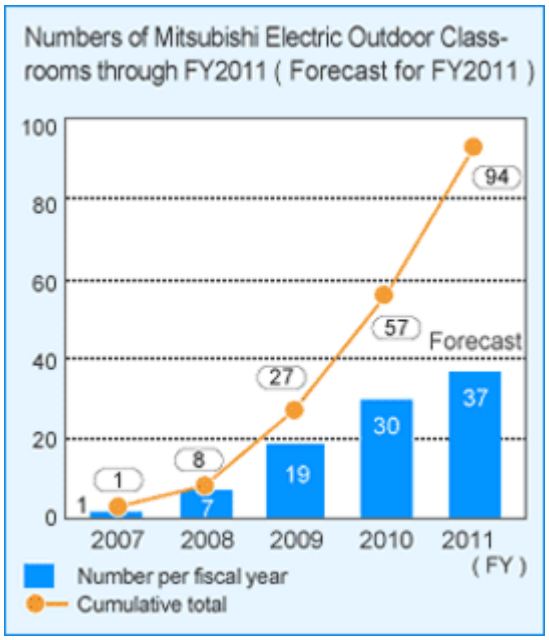
Itami region (in collaboration with Itami Works, Communication System Center, Communication and Networks Works, and Advanced Research Works)

We conducted observation of living organisms within factory grounds at these locations, finding many living creatures in our nearby environment.

Kumamoto region (Kumamoto Factory)

Our Kumamoto Factory is located in what used to be a park, and today abundant nature remains within the factory grounds. Under the guidance of a Kumamoto prefectural forest instructor, employees and their families spent a fun filled day observing a variety of trees.





Message from the Secretariat

Corporate Environmental Sustainability Group
Planning Group
Yoshio Isogai

Through contact with nature using all five senses, the Mitsubishi Electric Outdoor Classroom aims for both participants and the leaders who plan and conduct the classrooms to gain an appreciation of nature's richness and preciousness. As a manufacturer whose operation involves the use of many resources, we believe that it is our responsibility to think about the cyclical functions of nature in the ecosystem and the ties among living things.

The Outdoor Classroom is made possible by those people in the community who agree with and support the objectives as well as employees who devote their time outside of work to the program. Since the program began in 2007, we have gradually expanded the scope of its activities, and so far have held the classroom a total of 94 times, for over 2,000 participants. Our Outdoor Classroom leaders now number over 150, all of whom devise ingenious means to vividly convey the drama of nature in their own words. As these leaders grow, so does the Outdoor Classroom. We hope to continue carrying the program forward smoothly as we expand it nationwide.

Environmental Topics: Mitsubishi Electric Outdoor Classroom

"Satoyama" Woodland Preservation

Progress in Fiscal 2010

"Satoyama" Woodland Preservation					
6th Environmental Plan (fiscal 2010–2012) Targets for each fiscal year	Fiscal 2010	Fiscal 2011			Fiscal 2012
	Results	Target	Results	Degree of achievement Self-assessment	Target
Add 1 or more region each year	Activities in 5 regions (including 1 new)	Activities in 6 regions (including 1 new)	Activities in 8 regions (including 3 new)		Activities in 9 regions (including 1 new)

Our "Satoyama" woodland preservation project is a social contribution activity rooted in volunteerism. With the understanding of local governments and people in the community, our employees work to restore parks, forests, rivers, and other natural environments near our workplaces. As landscapes and biodiversity continues to deteriorate, the conservation and regeneration of nature has become a pressing need. The "Satoyama" project aims to make contributions to the areas around our business sites, as well as give back to nature, which provides countless blessings and makes life itself possible. In order to do so, each business site is encouraged to plan and implement a course of new activities that best give back to nature and the community. While the 6th Environmental Plan (fiscal 2010-2012) sets a target of adding at least one new site for program activities every year, our ultimate goal is for every workplace to develop activities suited to its region.

Mitsubishi Electric's Targets and Fiscal 2011 Achievements

We conducted activities in 3 new regions.
We also conducted preparatory activities in regions slated for activities in fiscal 2012.

In fiscal 2011 we surpassed our target of conducting activities in 1 new region and 6 total regions, by launching 3 new regions (the Kita Itami region in Hyogo Prefecture, Fukuyama region in Hiroshima Prefecture, and our Chubu Branch region in Aichi Prefecture) with the number of regions now totaling 8 regions.

Zugaike Park in Itami City, Hyogo Prefecture is the site of our activities in the Kita Itami region, which build on the cherry tree preservation work we began in 1986. Although fiscal 2011 marked only the first year since our activities began under the "Satoyama" woodland preservation project banner in the region, nonetheless we were recognized for our many years of activities, and received a fiscal 2010 commendation for distinguished service for our work with the cherry trees. Our activities in the Fukuyama region took place at Kannabeshiki-no-mori Forest in Fukuyama City, Hiroshima Prefecture, where we planted blight-resistant seedlings to restore pine groves. Meanwhile, our Chubu Branch joined hands with our Nagoya Works, who has been continuing forest maintenance and beautification (from the first "Satoyama" program) at the Togokusan prefectural woods in Nagoya City, to launch activities in the Nagoya region. As an early corporate participant in forest development, and acting under Aichi Prefecture's first agreement for lending prefectural woods to a company, we received many visitors to observe our activities during the convening of COP10 (Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity) in Nagoya.

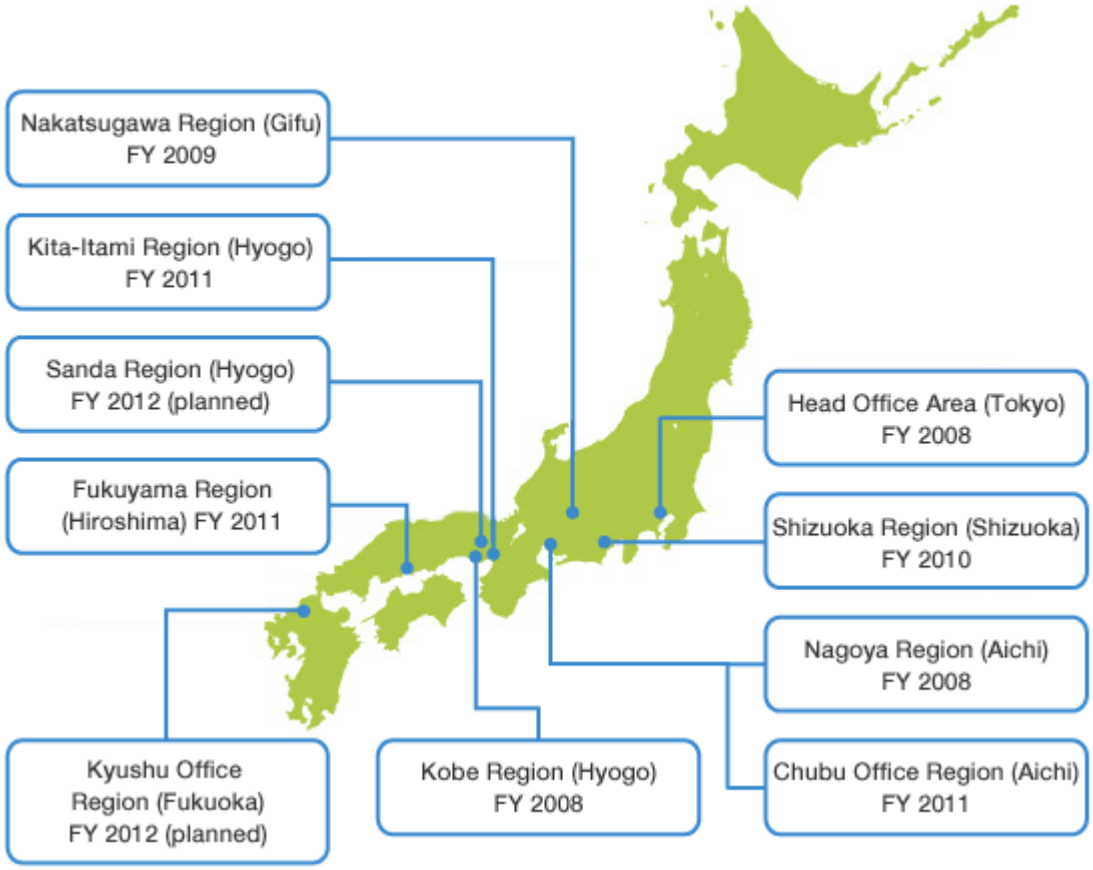
In fiscal 2012, full scale "Satoyama" woodland preservation project activities in prefectural parks of the Sanda region in Hyogo Prefecture and Kyushu region in Fukuoka Prefecture will be launched. In fiscal 2011 we conducted the preparatory work including the clearing of weeds and bushes that prevent the growth of saplings.

In cooperation with the City of Itami and local community associations, we cared for 6,000 cherry trees and performed clean-up activities. (Kita Itami region)

We planted about 1,000 seedlings with local citizens to rejuvenate dying pine groves. (Fukuyama region)

Together with the Nagoya Works, we performed forest maintenance and conducted nature observation meetings. (Chubu Branch region)

Regions conducting "Satoyama" Woodland Preservation



Environmental Topics: "Satoyama" Woodland Preservation

Philanthropic Activities: Environmental Preservation

Environmental Report

Scope of Report

Overview of reporting period and scope.

Material Balance

Report on the environmental impacts that accompany our business activities, following the lifecycle of "factory," "logistics," "product," and "recycle."

Environmental Accounting

Report on fiscal 2011 totals, calculated under the Environmental Accounting Guidelines (fiscal 2006 edition) by Japan's Ministry of the Environment.

Environmental Performance Data

Data on the results of fiscal 2011 activities, examples of domestic and overseas activities related to respecting biodiversity, and participation in exhibitions and events.

Awards

Awards received in Japan and overseas.

Environmental Site Navigation

Listing contents of Environmental Report and Environmental Topics.

Scope of Report

Mitsubishi Electric reports on environmental matters in two-parts: the Environmental Report and Environmental Topics.

Environmental Report

Our 6th Environmental Plan (fiscal 2010 - 2012) takes a backcasting approach to achieving Environmental Vision 2021, setting forth points to be strengthened and giving concrete form to its measures. The Environmental Report covers fiscal 2011 targets, activities, and achievements with the PDCA cycle in mind, and reports on topics for fiscal 2012, the final year of the Plan. (There are also activities which are not contained within the 6th Environmental Plan but which we naturally undertake as steps toward the realization of a sustainable society. These too are addressed under the PDCA focus of the Report.)

Period Covered

April 1, 2010 to March 31, 2011

* The report also includes some information on policies, targets and plans for fiscal 2011 and beyond.

Scope of Report

Mitsubishi Electric, 101 affiliates in Japan, and 66 overseas affiliates (Total 168)

* Through fiscal 2009, the scope of the Environmental Report was limited to those companies that had drawn up an environmental plan to carry out governance from an environmental conservation perspective. But under the policy of expanding global environmental management, we have extended the scope to all companies starting from fiscal 2010.

About data compilation: Data for our Communication Network Center, Koriyama Plant, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date.

Environmental Topics

This section introduces a selection of our initiatives as a global, leading green company, and activities aimed at achieving the goals of Environmental Vision 2021, as well as offers easy-to-understand animated content to explain our environmental technologies. The section also includes content from the Environmental Management Dialogue session held in fiscal 2011 together with experts in the field.

We embrace our responsibility to engage society and expand the circle of our communication with all stakeholders. We would greatly appreciate your honest opinions and encouragement.

Inquiries

We accept inquiries via the the contact form.

Material Balance

Overall Environmental Impact

Period: April 1, 2010 - March 31, 2011
Scope of Data Compilation : Mitsubishi Electric, 101 affiliates in Japan, and 66 overseas affiliates (Total 168)

IN

Materials for Manufacturing				
		Mitsubishi Electric	Affiliates (Japan)	Affiliates (Overseas)
Materials [1]		2540,000 tons	240,000 tons	320,000 tons
Manufacturing				
Electricity		1,049 million kWh	363 million kWh	332 million kWh
Natural gas		21,860,000 m3	2,050,000 m3	9,590,000 m3
LPG		2,314 tons	3,004 tons	1,555 tons
Oil (crude oil equivalent)		7,004 kl	3,387 kl	674 kl
Water		6,860,000 m3	2,070,000 m3	1,860,000 m3
	Public water	1,270,000 m3	470,000 m3	550,000 m3
	Industrial water	2,260,000 m3	310,000 m3	1,090,000 m3
	Groundwater	3,330,000 m3	1,290,000 m3	40,000 m3
	Others	0 m3	0 m3	180,000 m3
Reuse of water		3,490,000 m3	1,720,000 m3	120,000 m3
Controlled chemical substances (amounts handled)		6,840 tons	1,686 tons	2,700 tons
Ozone depleting substances (amounts handled)		1.5 tons	168.5 tons	1,150 tons
Greenhouse gases (amounts handled)		3,499.5 tons	49.2 tons	1,135 tons
Volatile organic compounds (amounts handled)		1,877.1 tons	1435.9 tons	237 tons

1: Materials: Sum of shipping weight of "Design for Environment" (DfE) products, plus amount of product packaging materials used, plus total amount of waste

Emissions (From Manufacturing)				
		Mitsubishi Electric	Affiliates (Japan)	Affiliates (Overseas)
Discharge into water	Water	7,300,000 m^3	1,260,000 m^3	1,190,000 m^3
	Controlled chemical substances	10.0 tons	0.0 tons	44.2 tons
	BOD (biological oxygen demand)	51.0 tons	6.4 tons	18.2 tons
	COD (chemical oxygen demand)	52.7 tons	6.0 tons	45.2 tons
	Nitrogen	87.9 tons	14.2 tons	0.1 tons
	Phosphorus	3.9 tons	0.1 tons	0.0 tons
	Suspended solids	54.7 tons	8.2 tons	24.0 tons
	n-hexane extracts (mineral)	1.5 tons	0.4 tons	3.1 tons
	n-hexane extracts (active)	1.0 tons	0.1 tons	0.1 tons
	Total emissions of zinc	0.5 tons	0.1 tons	0.0 tons
Emissions into the atmosphere	Carbon dioxide(CO_2)	508,000 tons-CO_2	191,000 tons-CO_2	267,000 tons-CO_2
	Controlled chemical substances (excluding amounts contained in other waste)	582.0 tons	130.9 tons	217.4 tons
	Ozone depleting substances	0.29 ODP t	0.27 ODP t	0.45 ODP t
	Greenhouse gases	114,000 tons-CO_2	73,000 tons-CO_2	33,000 tons-CO_2
	Volatile organic compounds	548.0 tons	285.8 tons	39.7 tons
	Sulfur oxide (SOx)	3.8 tons	1.08 tons	4.5 tons
	Nitrogen oxide (NOx)	10.0 tons	17.9 tons	11.1 tons
	Fly ash	0.9 tons	1.7 tons	53.2 tons
Amount of CFCs recovered		1.2 tons	239.1 tons	—
Waste				
Total waste emissions		84,887 tons	54,708 tons	54,130 tons
Amount recycled		76,356 tons	45,509 tons	44,067 tons
Waste treatment subcontracted out		17,675 tons	31,610 tons	7,480 tons
Final disposal		2 tons	24 tons	954 tons
In-house weight reduction		1,369 tons	0 tons	0 tons
Products [2]				
Weight of all "DfE" Products sold		2,410,000 tons	180,000 tons	210,000 tons
Weight of packaging materials		47,000 tons	8,000 tons	56,000 tons

2: Products: Weight related to products designed for the environment

Logistics

IN

Sales and Logistics [3]			
	Mitsubishi Electric	Affiliates (Japan)	Affiliates (Overseas)
Fuel for trucks (gasoline)	12,200 kl	1,300 kl	320 kl
Fuel for trucks (diesel)	25,200 kl	6,200 kl	21,000 kl
Fuel for rail (electricity)	2,150 MWh	450 MWh	0 MWh
Fuel for marine transport (bunker oil)	340 kl	10 kl	49,000 kl
Fuel for air transport (jet fuel)	480 kl	160 kl	16,000 kl

3: Sales and logistics: Includes 11 sales companies in Japan. Figures for overseas affiliated companies include transportation between countries.

OUT

Emissions [4]			
	Mitsubishi Electric	Affiliates (Japan)	Affiliates (Overseas)
Carbon dioxide (CO_2)	97,000 tons-CO_2	19,000 tons-CO_2	235,000 tons-CO_2

4: Emissions: Includes 11 sales companies in Japan. Figures for overseas affiliated companies include transportation between countries.

Products (Customer)

IN

Energy Consumption [5]			
	Mitsubishi Electric	Affiliates (Japan)	Affiliates (Overseas)
Annual power consumption from use of "Design for Environment" (DfE) products	7,050 million kWh	310 million kWh	11,700 million kWh

5: Energy Consumption: Amount related to "Design for Environment" (DfE) products

OUT

Emissions [6]			
	Mitsubishi Electric	Affiliates (Japan)	Affiliates (Overseas)
Annual CO_2 emissions from use of "Design for the Environment" (DfE) products (corresponding value)	2,975,000 tons-CO_2	131,000 tons-CO_2	—

6: Emissions: Amount related to "Design for Environment" (DfE) products

Recycle

IN

End-of-Life Products [7]	
	Mitsubishi Electric
Air conditioners	17,587 tons
Televisions	35,605 tons
Refrigerators	23,753 tons
Washing machines / Clothes dryers	7,135 tons
Personal computers	69 tons

7: End-of-Life Products: Weight of products taken back and weight of recovered resources of four types of appliances subject to Japan's Home Appliance Recycling Law, plus personal computers

OUT

Resources Recovered [8]	
	Mitsubishi Electric
Metals	36,607 tons
Glass	18,482 tons
CFCs	367 tons
Others	17,542 tons

8: Resources Recovered: Weight of products taken back and weight of recovered resources of four types of appliances subject to Japan's Home Appliance Recycling Law, plus personal computers

Environmental Accounting

Scope and Period of Data Compilation and Basis of Calculation

Scope and Period of Data Compilation

- Period: April 1, 2010 – March 31, 2011
- Scope of Data Compilation: Mitsubishi Electric Corporation and 167 of its domestic and overseas affiliates and subsidiaries

* The scope of data compilation is the same as the scope covered in this Environmental Report.

About data compilation: Data for our Communication Network Center, Koriyama Factory, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date.

Basis of Calculation

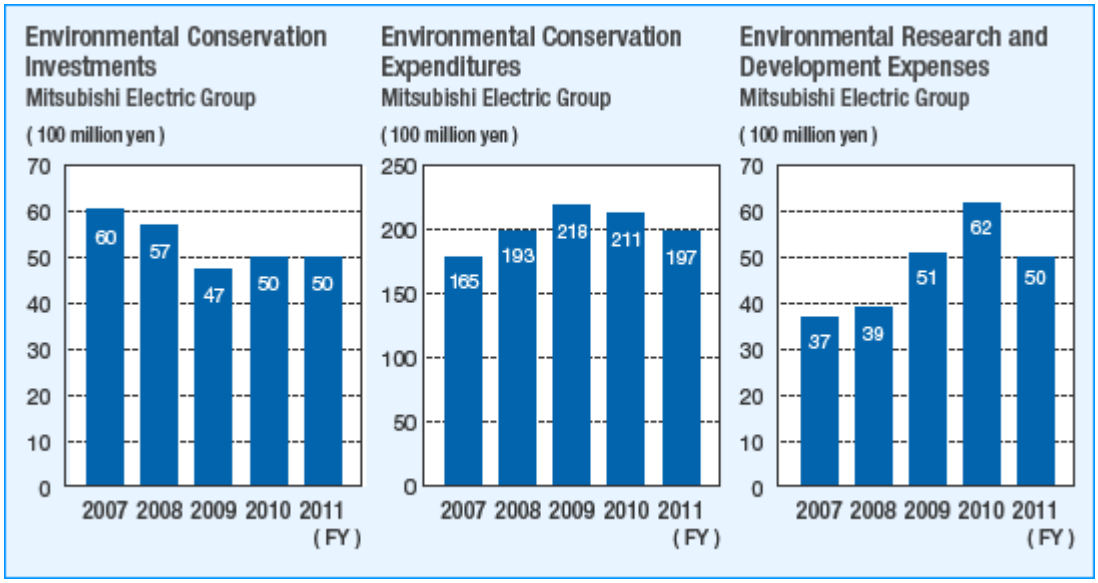
- Data is calculated for environmental conservation costs, environmental conservation benefits (environmental performance) and economic benefits from environmental conservation activities (actual profit or cost-saving benefits) in accordance with the Environmental Accounting Guidelines (fiscal 2006 edition) issued by Japan's Ministry of the Environment.
- Economic benefits are ascertained in terms of real benefits, which consist of earnings and savings, and estimated benefits. Estimated benefits include the economic benefits to customers of using our products, such as lower electricity bills, and environmental improvements produced outside our business sites.

* Environmental conservation costs reflect straight-line depreciation for capital investments made over the past five years and assumed to have useful lives of five years. The annual benefits of earnings and savings attributable to capital investments, too, are assumed to have resulted from investments over the past five years.
* For comparisons to the previous year, the previous year's data has also been revised to reflect changes in the scope/range of data.

Environmental Conservation Costs

Environmental capital investment for fiscal 2011 was on par with the previous fiscal year, while environmental costs were down slightly compared with the previous fiscal year.

- **Environmental capital investment**
  Capital investment for the Mitsubishi Electric Group as a whole was roughly unchanged from the previous fiscal year at ¥5.0 billion, and ¥3.5 billion for Mitsubishi Electric (a ¥0.3 billion increase over the previous year). Continuing from the previous fiscal year, we actively invested in high-efficiency energy-saving equipment and energy conservation support equipment.
- **Environmental costs**
  Environmental costs for the Mitsubishi Electric Group as a whole were ¥19.7 billion (a ¥1.4 billion decrease from the previous fiscal year), and ¥14.7 billion for Mitsubishi Electric (a ¥1.1 billion decrease from the previous fiscal year).
  The decline from the previous fiscal year is mainly attributable to ¥5.0 billion in environmental R&D costs for the Mitsubishi Electric Group as a whole, which was ¥1.2 billion less than the previous fiscal year. The reasons for the decrease in environmental R&D expenses include the completion of development of a Joint Article Management Promotion-consortium (JAMP) information platform system launched in fiscal 2010 and put into operation from fiscal 2011 for use in our green procurement efforts. Similarly, in development of energy conservation-related products, development of a portion of semiconductor products was completed and put into production. We continue pursuing technology development to support energy-saving equipment and energy conservation measures.



About data compilation: Data for our Communication Network Center, Koriyama Factory, which suffered damage in the Great East Japan Earthquake, is not included. Compilations that include this data will be released at a later date.

Environmental Conservation Benefits (Environmental Performance of the Group)

Compared with the previous fiscal year, total energy and water used, total wastewater and waste discharged by the Group in fiscal 2011 increased. At the same time, final disposal volume of waste declined due to recycling. Emissions of greenhouse gases (HFC, PFC, SF_6) and of chemical substances into water areas and soil declined. Viewed per unit of sales, total energy inputs, total atmospheric releases and transfers of chemical substances, and total wastewater discharge increased slightly for the Group, but generally decreased for Mitsubishi Electric itself.

Economic Benefits from Environmental Conservation Activities (Actual Benefits)

Revenue from saleable materials increased, and real effects increased as energy savings were significantly increased through the introduction of high-efficiency equipment, and purchasing was reduced through the recycling of waste resources.

Economic Benefits from Environmental Considerations in Products and Services (Estimated Benefits)

Through measures such as switching thermoelectric generation plants to combined cycle operation, and use of low power consumption power modules (CE power supply), photovoltaic systems, commercial Lossnay systems, and energy-conserving air conditioning, lighting, and elevators, we were able to reduce customers' electric power costs during use of our products, and improve the environment.

■ Environmental Conservation Costs

Top figure: Mitsubishi Electric Group / Bottom figure: Mitsubishi Electric / Unit: 100 million yen

Item		Capital Investment	Costs*	Year-on-Year Change	Main Costs
Business Area Activities		85.8	111.0	9.4	–
		32.1	65.4	3.3	
	Pollution Prevention	38.6	7.4	(12.2)	Installation and maintenance of wastewater treatment facilities
		17.5	(1.0)	(6.5)	
	Global Environmental Conservation	42.1	6.1	3.6	Implementation of energy-conservation and global-warming prevention measures, such as replacement of cooling and heating sources, conversion to high-efficiency air conditioning and lighting, and installation of photovoltaic systems and low-emission vehicles
		29.9	5.3	2.3	
	Resource Recycling	30.3	(4.1)	6.0	Outsourcing of recycling center operations; renewal of public water and industrial water piping to prevent leakage, etc.
		18.0	(1.0)	1.9	
Green purchasing/procurement and product-related activities upstream and downstream from production		0.6	8.6	(2.3)	Examination of chemical substances contained in procured products, procurement of products that support energy conservation
		0.3	5.7	(2.3)	
Management Activities		1.1	33.1	0.9	EMS activities, development and operation of waste management system and management system for chemical substances in products, environmental education, etc.
		1.1	23.2	(0.3)	
R&D activities for reducing environmental impact		28.1	55.5	(6.4)	Development of energy conservation equipment and technologies, photovoltaic cells, etc.
		27.9	52.2	(8.1)	
Community activities		0.1	1.3	0.1	Greening of facility rooftops, premises, etc.
		0.0	1.0	0.0	
Environmental Damage		0.1	4.6	1.5	Water quality surveys on soil and groundwater, etc.
		0.1	4.6	1.5	
Total		115.8	214.1	3.2	–
		61.5	152.1	(5.9)	
Year-on-Year Change		66.0	3.2	–	–
		29.5	(5.9)	–	

* Includes depreciation of capital investment over the past five years.

■ Environmental Conservation Benefits (Environmental Performance)

Top figure: Mitsubishi Electric Group / Bottom figure: Mitsubishi Electric / Unit: 100 million yen

Item	Unit	Fiscal 2011	Year-on-Year Change	Year-on-Year Per Net Sales
Total energy used	10,000 GJ	1,916	248	106%
		1,151	97	96%
Total water used	10,000 m^3	1,079	59	97%
		686	33	92%
Total greenhouse gas emissions	10,000 tons CO_2	119	6	97%
		62	(0)	88%
CO_2 (Energy Consumption)	10,000 tons CO_2	97	11	104%
		51	4	95%
HFC,PFC,SF_6	10,000 tons CO_2	22	(5)	75%
		11	(4)	67%
Total releases and transfers of chemical substances into the atmosphere	tons	930	126	106%
		582	(63)	79%
Total wastewater discharged	10,000 m^3	975	118	105%
		730	101	102%
Total releases and transfers of chemical substances into the water and soil	tons	54	(4)	86%
		10	(3)	68%
Total waste discharged	tons	193,725	22,273	104%
		84,887	9,907	100%
Final disposal	tons	980	(654)	55%
		2	(30)	6%

■ Economic Benefits from Environmental Conservation Activities (Real Benefits)

Top figure: Mitsubishi Electric Group / Bottom figure: Mitsubishi Electric / Unit: 100 million yen

Item	Amount	Year-on-Year Change	Main Benefits
Earnings	34.9	10.6	Profit from the sale of saleable materials resulting from recycling of scrap metal, paper waste, etc.
	18.3	8.1	
Savings	116.8	42.3	Lower electricity costs due to introduction of high-efficiency equipment, reuse of waste materials, and productivity improvements; reduction in the use of wood packaging materials through use of returnable packaging materials.
	88.0	39.6	
Total	151.7	52.9	–
	106.3	47.7	

■ Economic Benefits from Environmental Consideration in Products and Services (Estimated Benefits)

Top figure: Mitsubishi Electric Group (consolidated basis) / Bottom figure: Mitsubishi Electric / Unit: 100 million yen

Item	Amount	Main Products
Economic Benefits to Customers	2,616.7	Combined cycle thermoelectric generation stations, low-consumption power supply modules (CE power supply), photovoltaic systems, industrial-use total heat exchange ventilators (Lossnay), energy-saving air conditioners, LED lighting and elevators, etc.
	2,561.2	
Environmental improvement effects	68.3	
	67.5	

Environmental Performance Data

Results of Activities in Fiscal 2011

Plan for reducing CO_2 from product usage under Environmental Vision 2021
Plan for reducing resource inputs under Environmental Vision 2021
Home appliance recycling plant product recycling results
Groupwide plan to reduce CO_2 from production
Total CO_2 emissions [Mitsubishi Electric]
Total CO_2 emissions (CO_2 conversion) [Affiliates in Japan]
Total CO_2 emissions (CO_2 conversion) [Overseas affiliates]
Breakdown of energy usage (CO_2 conversion) [Mitsubishi Electric]
Breakdown of energy usage (CO_2 conversion) [Affiliates in Japan]
Breakdown of energy usage (CO_2 conversion) [Overseas affiliates]
Emissions of non-CO_2 greenhouse gases
Total waste output and final disposal ratio
Total waste output [Mitsubishi Electric]
Total waste output [Affiliates in Japan]
Total waste output [Overseas affiliates]
Breakdown of water usage
Total water usage
Water recycling ratio
VOC emissions reductions
Emissions of CO_2 from logistics [Mitsubishi Electric and affiliates in Japan]
Fiscal 2011 share of transport by mode [Mitsubishi Electric and affiliates in Japan]
Packaging materials usage and per net shipping weight
Number of classroom leaders trained
Number of Mitsubishi Electric outdoor classrooms
Environmental Accounting

Respecting Biodiversity (Japan)

Mitsubishi Electric outdoor classroom sessions
  Mitsubishi Electric
Leader Training Seminar Sessions
Other Environmental Activities (Nature Preservation, Environmental Philanthropic Activities, Biodiversity Awareness Activities etc.)
  Mitsubishi Electric
  Affiliates in Japan
(Personnel, Financial, and Other) Support to NGOs and NPOs for Nature Preservation and Environmental Philanthropic Activities

Respecting Biodiversity (Overseas)

Nature Preservation, Environmental Philanthropy and Biodiversity Awareness Activities
Supporting the Nature Preservation and the Environmental Philanthropy of NGOs / NPOs (Human Resources, Financial etc.)

Exhibitions / Events

Non-Mitsubishi Electric Exhibitions and Events

Mitsubishi Electric

Affiliates in Japan

Mitsubishi Electric Exhibitions and Events

Mitsubishi Electric

Affiliates in Japan

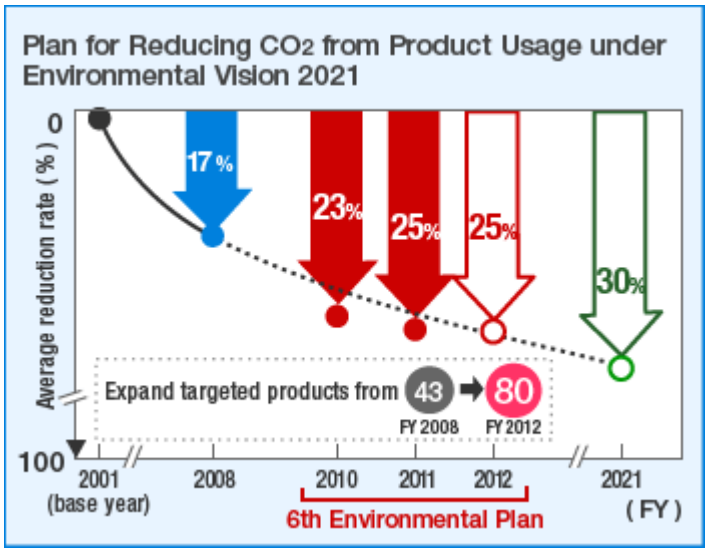
Exhibitions / Events (Overseas)

Overseas Exhibitions / Events, Communication Activities

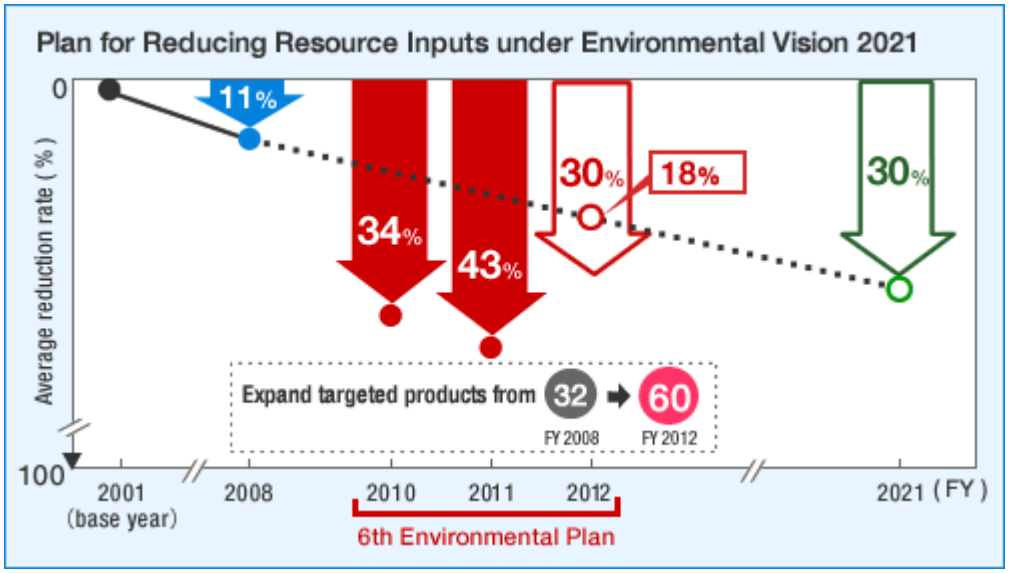
Results of Activities in Fiscal 2011

About data compilation:
Data for our Communication Network Center, Koriyama Plant, which suffered

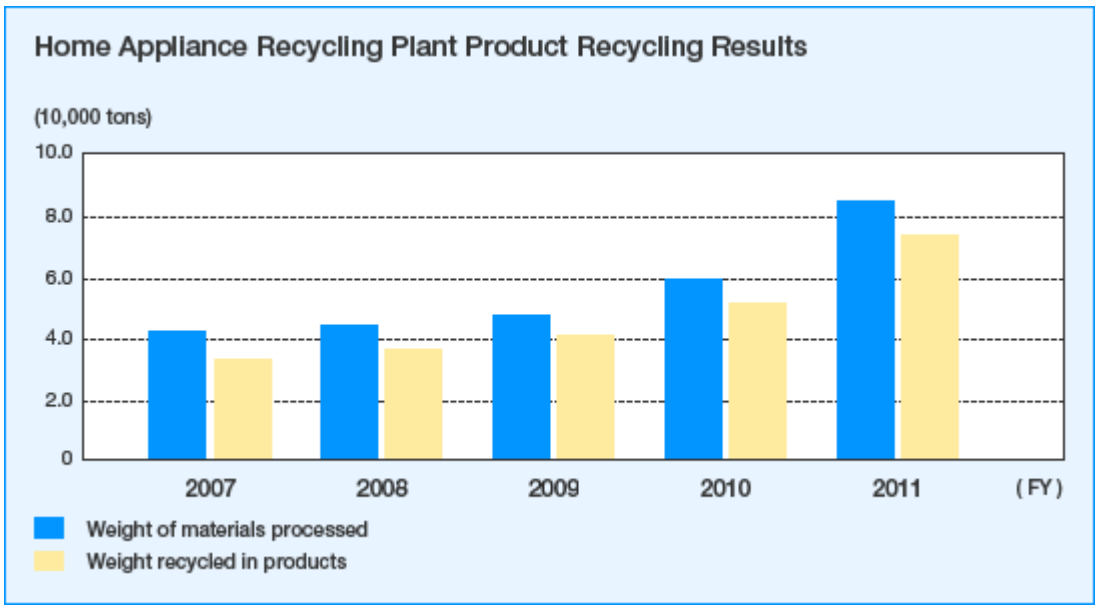
Reducing CO_2 from Product Usage



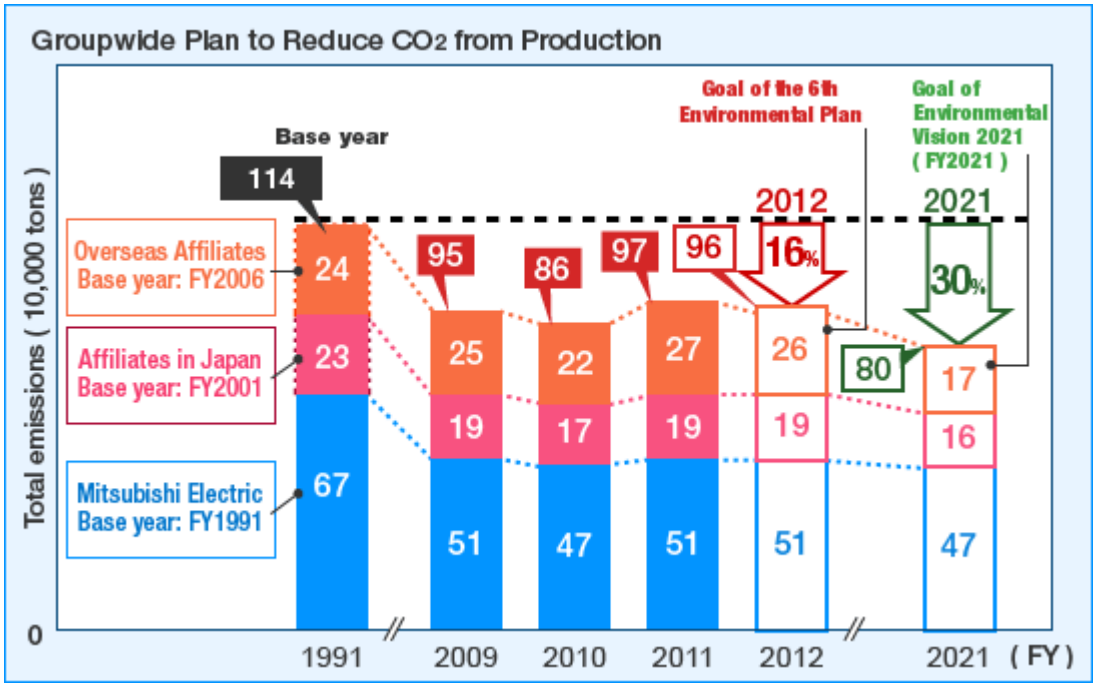
Reducing Resource Inputs



Recycling End-of-Life Products

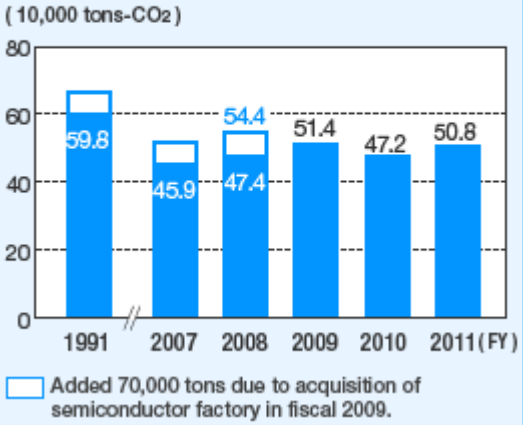


Reducing CO_2 from Production



Total CO_2 Emissions

Mitsubishi Electric

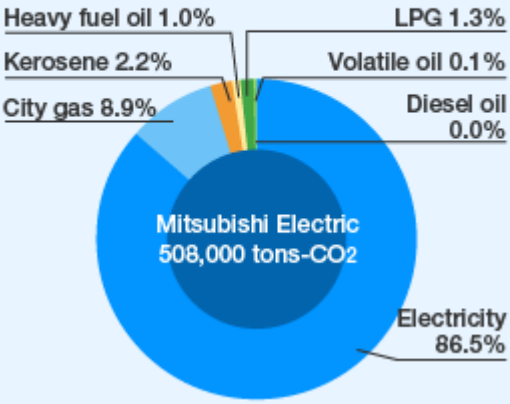


Added 70,000 tons due to acquisition of semiconductor factory in fiscal 2009.

Breakdown of Energy Usage

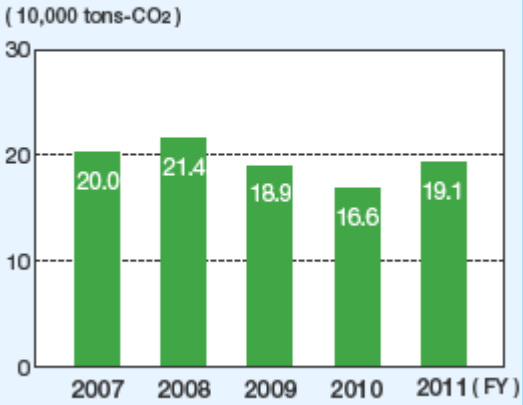
(CO_2 Conversion)

Mitsubishi Electric



Total CO_2 Emissions

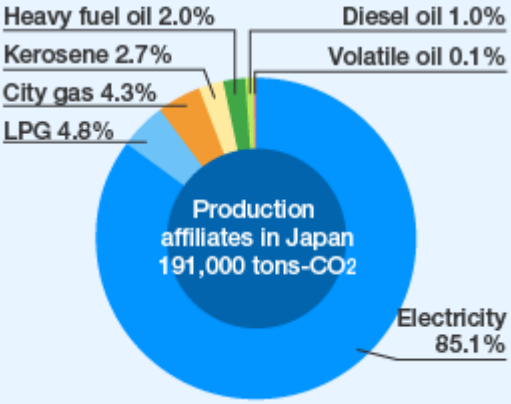
Affiliates in Japan



Breakdown of Energy Usage

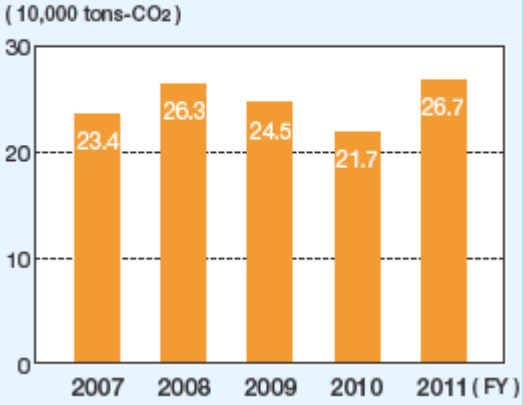
(CO_2 Conversion)

Affiliates in Japan



Total CO_2 Emissions

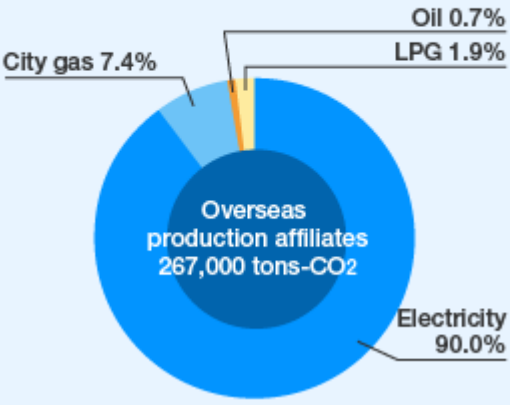
Overseas Affiliates



Breakdown of Energy Usage

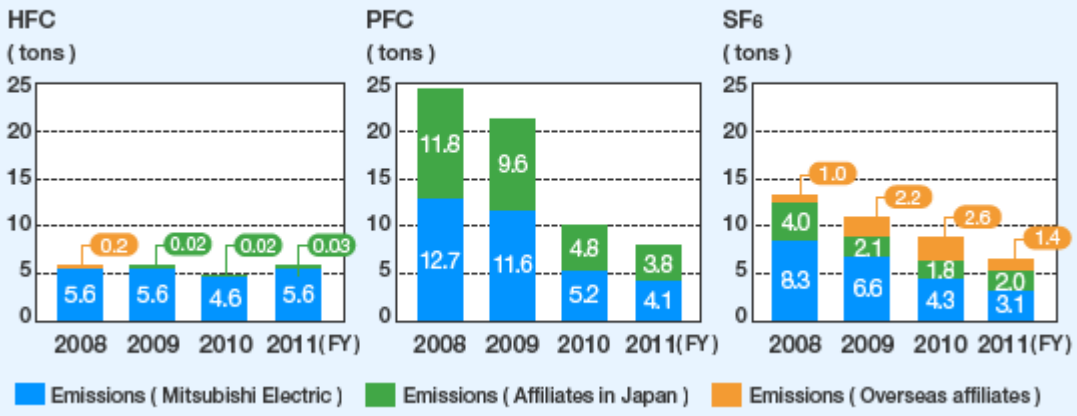
(CO_2 Conversion)

Overseas Affiliates



Reducing Emissions of Non-CO_2 Greenhouse Gases

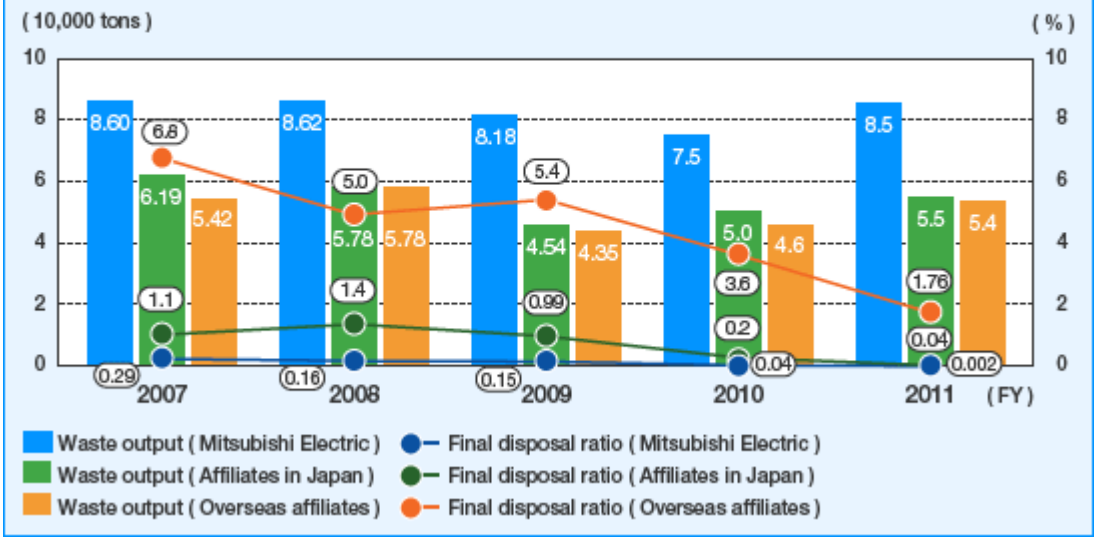
Emissions of Non-CO_2 Greenhouse Gases



Zero Emissions

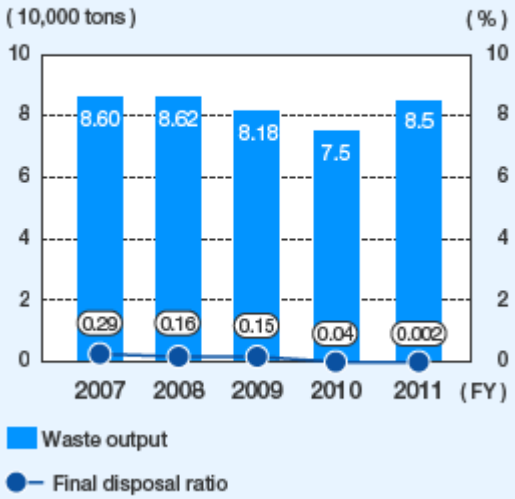
Total Waste Output and Final Disposal Ratio

Mitsubishi Electric Group



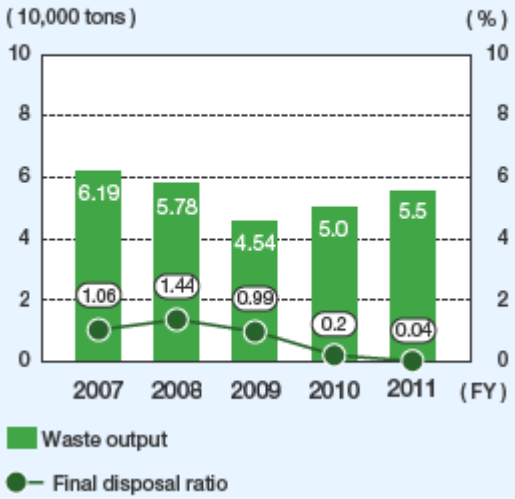
Total Waste Output

Mitsubishi Electric



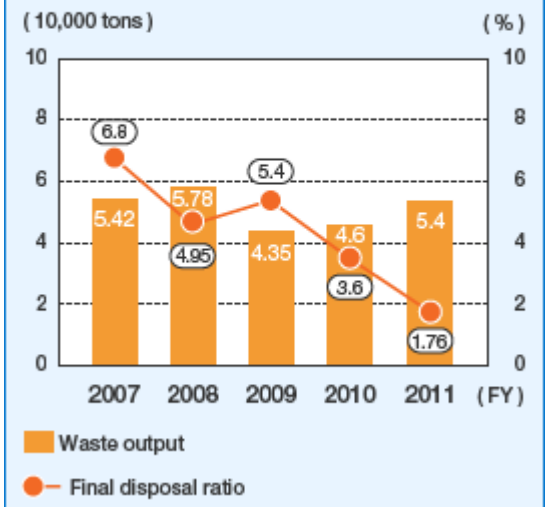
Total Waste Output

Affiliates in Japan

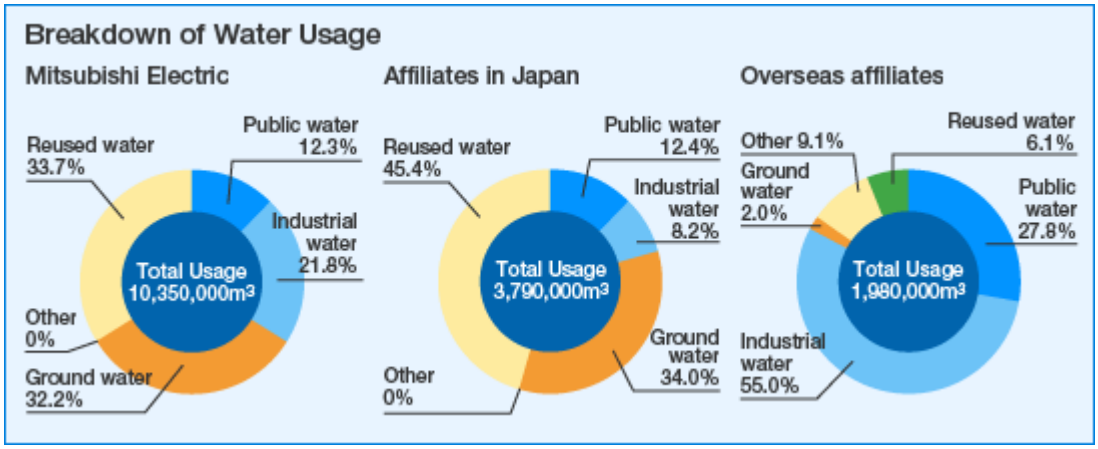


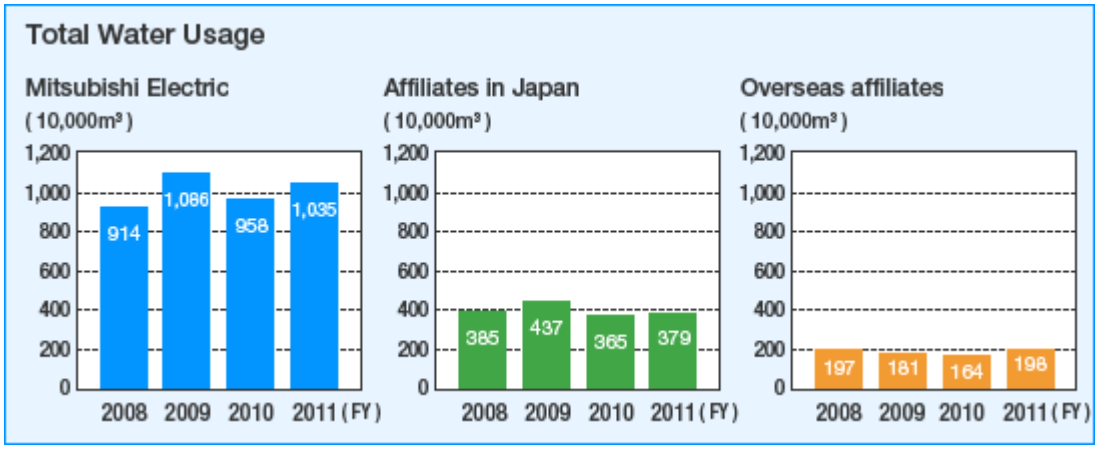
Total Waste Output

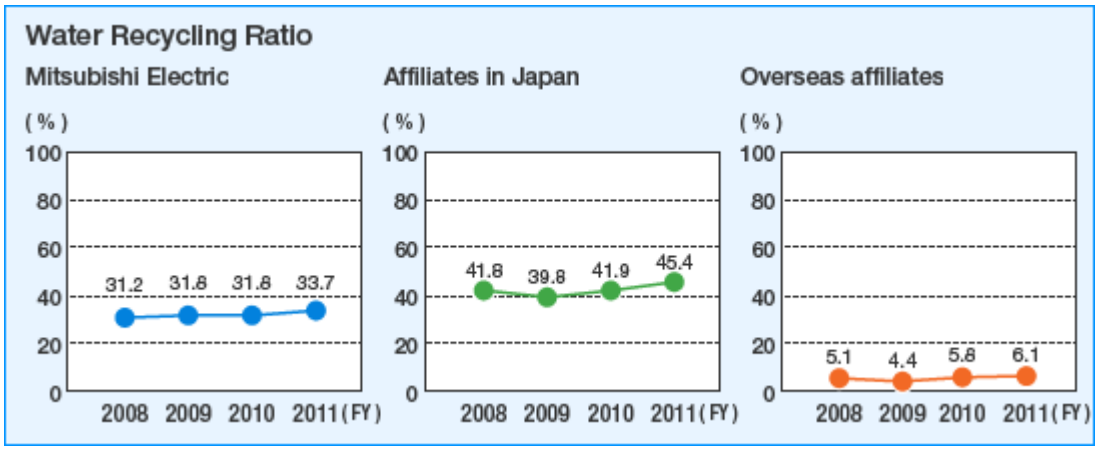
Overseas affiliates



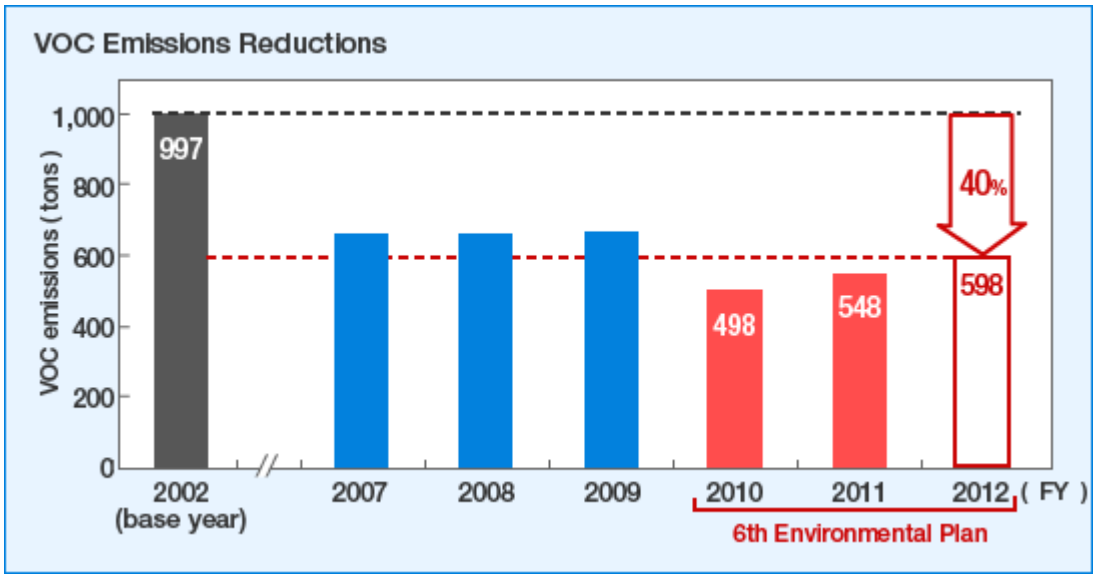
Effective Water Usage



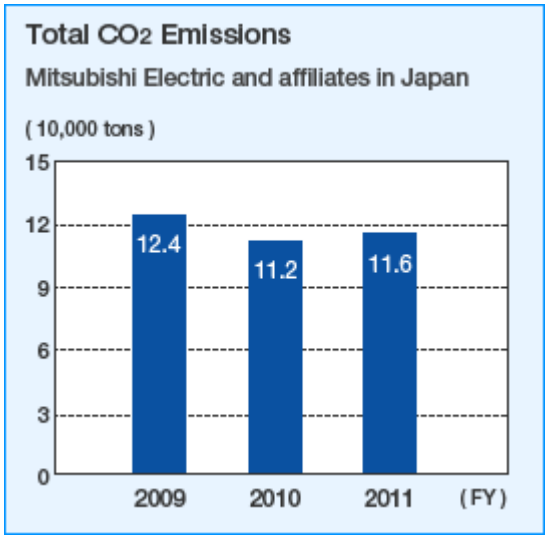


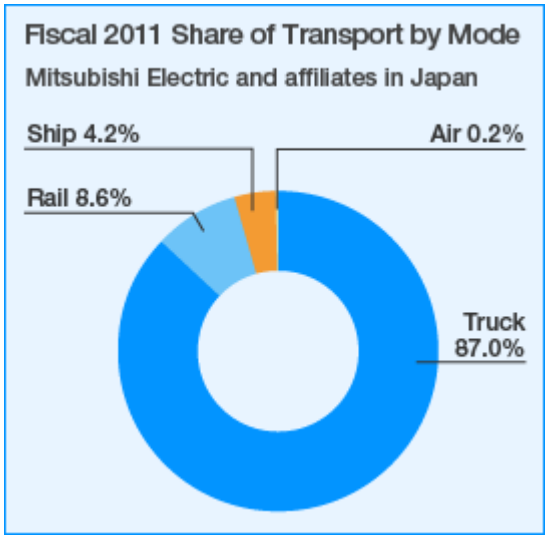


Managing Chemical Substances

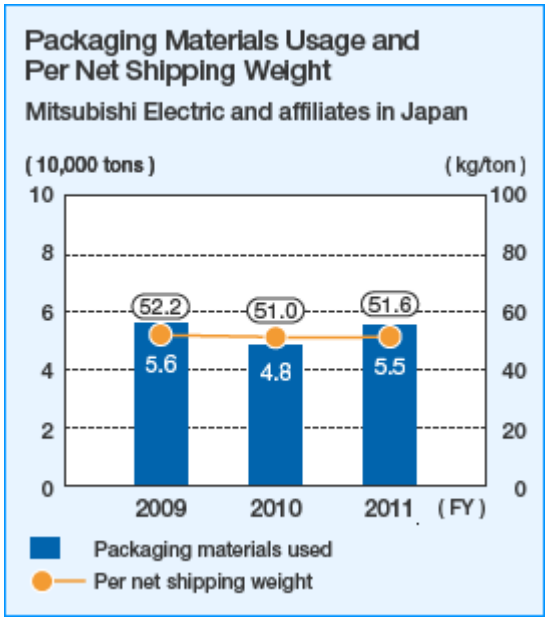


Reducing CO_2 from Logistics

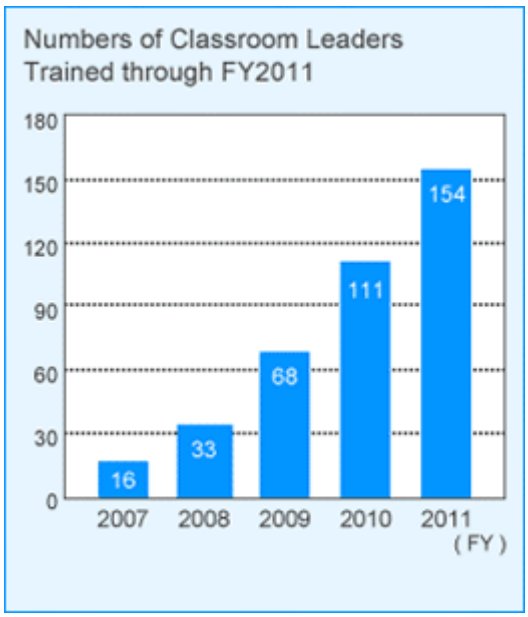


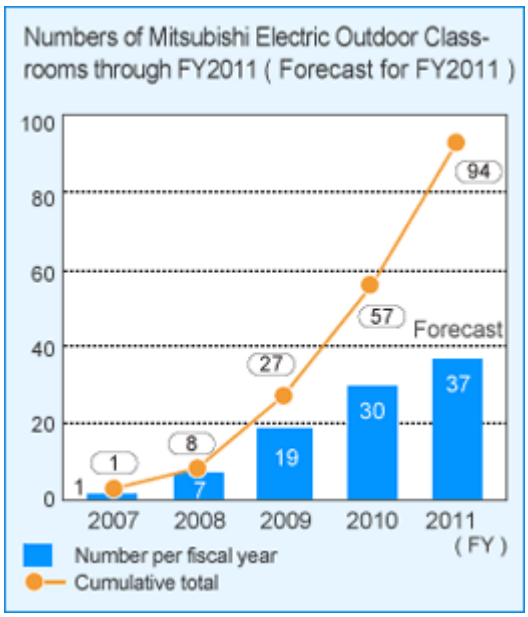


Reducing the Use of Disposable Packaging Materials

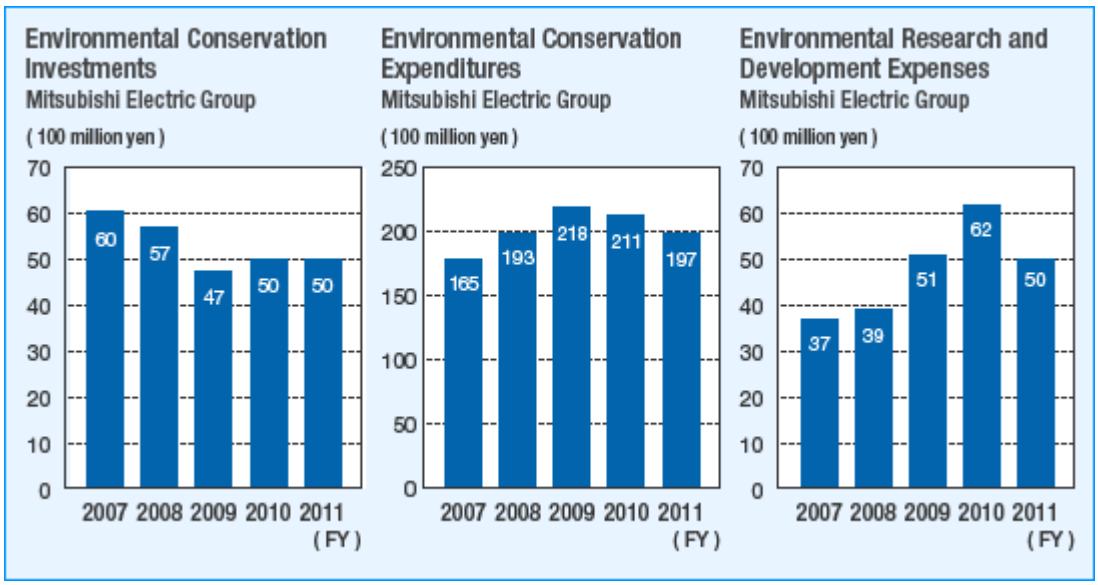


Fostering Environmental Awareness





Environmental Accounting



Mitsubishi Electric Outdoor Classroom Sessions

Mitsubishi Electric

Location	Date	Details / Theme	Participants	Office or site
Kanagawa Prefecture, Fujisawa City, Katase-kaigan Beach	September 11, 2010	Seine fishing experience at Enoshima.	137	Head Office
Itami region	November 6, 2010	"Living Creature Studies" program held within the premises of the factory.	88	Itami Works, Transmission & Distribution Systems Center, Communication System Center, Advanced Technology R&D Center co-hosting
Sapporo City, Maruyama-koen Park	June 26, 2010	Nature observation organized as part of an event hosted by FM Hokkaido. Participants experienced the workings of the nature around them and learnt about coexisting harmoniously with nature.	76	Hokkaido Branch
Enoshima Beach	November 6, 2010	"Marine Living Creature Studies" program, with explanations provided by the Curator of Enoshima Aquarium.	44	Kanagawa Branch
Flowerbeds of Heiwa Avenue, Hiroshima	May 29 and November 6, 2010	The children of employees of the company and affiliate companies participated in the "Flowerbed Maintenance Changing the flowers for spring" activity.	Total of 27	Chugoku Branch
Fukuoka, Aburayama Nature Sanctuary	May 21, 2010	Nature observation session for Futaba Hoikuen (nursery), organized with the support of the Wild Bird Society of Japan.	42	Kyushu Branch
Fukuoka, Aburayama Nature Sanctuary	October 15, 2010	Nature observation session for parents and children, organized with the support of the Wild Bird Society of Japan.	44	Kyushu Branch
Sanuki Mannou National Park	November 28, 2010	"Family Nature Walk Rally" organized.	51	Power Distribution Systems Center
Mihama Town, Yanashi Beach	April 17, 2010	Gathering shells. Marine Living Creature study organized.	171	Inazawa Works
The Minami-chita Beach Land, Toys' Kingdom	October 16, 2010	"Seine Fishing Class" organized.	72	Inazawa Works
Okamamoto Farm, Inouchi, Nagaokakyo City	October 16, 2011	Potato harvesting at the farm.	42	Kyoto Works
Abe River	April 24 and July 10, 2010	Nature observation session at the field by the Abe River.	Total of 50	Shizuoka Works (Participants included Chubu Branch, Mitsubishi Electric Engineering Co., Ltd., and others)
Nenoue-kogen	June 5, 2010	Observation of rich vegetation while going around the shores of Nenoue Lake.	6	Nakatsugawa Works
Nenoue-kogen	September 11, 2010	Games based on themes of living things, held on the lawn.	11	Nakatsugawa Works
Nenoue-kogen	November 13, 2010	Observation of rich vegetation while going around the shores of Nenoue Lake, together with the local residents.	7	Nakatsugawa Works
Kannabe-cho, Doudou-koen Park	March 5, 2011	Shiitake inoculation work, under the instruction of the National Federation of Forest Owners' Co-operative Association.	40	Fukuyama Works
Aichi public forest (Tougokusan)	August 28 and November 20, 2010 & March 26,	With the theme "Young families enjoying nature at Tougokusan," nature observation and Living Creature Studies in the rural areas. *In conjunction with Aichi Moriyama	Total of 155	Nagoya Works

	2011	Nature Association (a member organization of the Moriyama Shizen Fureai School)		
Hyogo Prefecture, Sanda City	July 31, 2010	Full-scale insect collecting under the supervision of researchers at The Museum of Nature and Human Activities, Hyogo.	32	Sanda Works
Fukuoka, Aburayama Nature Sanctuary	October 2, 2010	Nature observation and bread-baking experience.	30	Power Device Works
Within the premises of the Kumamoto Factory	November 3, 2010	Nature observation within the premises of the factory, with the cooperation of Kumamoto prefectural forest instructors.	20	Power Device Works Kumamoto Factory
Nagai Uminote Park, Le Soleil	October 23, 2010	Bus hiking.	44	Sagami Administration Center
Katase Enoshima Beach	May 15, 2010	"Rocky Shore Living Creature Studies" program, with explanations provided by the Curator of Enoshima Aquarium.	246	Information Technology R&D Center
Wakayama Prefecture, Kataonami Beach	April 17, 2010	Mitsubishi Electric Outdoor Classroom organized by the labor union.	150	Advanced Technology R&D Center

Leader Training Seminar Sessions

Location	Date	Details / Theme	Participants	Office or site
Hyogo Prefecture, Tamba City, Jinchiji-Kaikan; Fukuoka Prefecture, Aburayama Shimin-no-Mori	June 4 and 5, August 27 and 28 & September 10 and 11, 2010	Acquiring Outdoor Classroom leadership skills and knowledge	Total of 43	Head Office (Participants included various branches, works, affiliate companies)

Other Environmental Activities (Nature Preservation, Environmental Philanthropic Activities, Biodiversity Awareness Activities etc.)

Mitsubishi Electric

Location	Date	Details / Theme / Activities	Participants	Office or site
Chubu district (Nenoue-kogen, Tougokusan, Fujimae Tidal Flat, areas near each factory)	April to September 2010	Living Creature Studies and exchange of opinions with the Biodiversity Society, environmental NPOs and local experts, and thinking about the relationship between businesses and ecological systems.	20	Head Office, Chubu Branch, Inazawa Works, Nakatsugawa Works, Nagoya Works
Mt. Fuji "Manabi no Mori"	July 18 and December 18, 2010	Forest nurturing activities (weeding and thinning) at Mt. Fuji.	Total of 140	Head Office
Hirose River	June 12, July 10, September 11, October 9, November 13 and December 11, 2010	Participated in the cleanup of the Hirose River organized by the NPO "Hirosegawa no seiryu wo mamoru kai."	Total of 42	Tohoku Branch
Saitama New City Center (assigned section)	November 4, 2010	Participated in the Saitama New City Center Green Strategy organized by the Saitama New City Development Promotion Association.	115	Kanetsu Branch
Saitama New City Center (all sections)	January 26, 2011	Local cleanup activities.	46	Kanetsu Branch
Nomi City, Iwamoto-cho district	August 1, 2010	Weeding of chestnut tree planting grounds aimed at conserving the rural environment, together with the "Ishikawa Ryoyu Kai" comprising Mitsubishi Group employees within Ishikawa Prefecture.	7	Hokuriku Branch
Park near Toyama Prefectural Office	June 26, 2010	Cleanup activities at the Toyama Kenchomae Park, together with the "Toyama Mitsubishi Kai" comprising Mitsubishi Group employees within	16	Hokuriku Branch

		Toyama Prefecture.		
Nagoya City, Naka-ku, Hisaya-odori Park	September 29, 2010	Participated in the Nagoya Machi-Pika for COP10 campaign cleanup activities.	3	Chubu Branch
Near the Kintetsu Dojima Building (around Nakanoshima Park)	November 1, 2011	Participated in the "Osaka City Cleanup, Clean Osaka 2010."	69	Kansai Branch
Flowerbeds of Heiwa Avenue, Hiroshima	May 29 and September 29, 2010	Flowerbed maintenance: Changing the flowers for spring (Hiroshima Green Partner businesses)		Chugoku Branch
Hiroshima Peace Memorial Park	August 3, 2010	Participated in the cleanup of Hiroshima Peace Memorial Park.	32	Chugoku Branch
Hiroshima Peace Memorial Park	December 11, 2010	Participated in the Trees of Hiroshima Peace Memorial Park volunteer work.	20	Chugoku Branch
Takamatsu Central Avenue	Every month	Participated in the cleanup organized by Takamatsu City.	Total of 64	Shikoku Branch
Aibahama Park	Three times a year	Participated in a park cleanup under the Tokushima Prefectural "ADOPT" (a road) project.	Total of 27	Shikoku Branch
Fukuoka City, Ohori Park	June 6, 2010	Love the Earth Cleanup 2010 activities (organized by NPO Clean Fukuoka).	127	Kyushu Branch, Mitsubishi Electric Building Techno-Service Co., Ltd.
Commuter road from Hyogo Station to the company	September 27, 2010 and January 24, 2011	Participated in the Hyogo-ku Machi-Kado Clean Strategy.	Total of 182	Kobe Works
Around the factory	April and May 2010	Cleanup of areas around the factory by new employees.	30	Nagasaki Works
Around the factory	Throughout the year	Cleanup of areas around the factory by employees.	Total of 148	Nagasaki Works
Kanzaki Park	May and November 2010	Kanzaki Park cleanup.	Total of 130	Nagasaki Works
Togitsu 7 Ward	August 6, 2010	Togitsu 9th Ward cleanup.	12	Nagasaki Works
Inasa International Cemetery	September 23, 2010	Inasa International Cemetery cleanup.	300	Nagasaki Works
Togitsu, Nagasaki	October 17 and 31, 2010	Urban area cleanup.	Total of 111	Nagasaki Works
Togitsu School for the Blind	November 13, 2010	Togitsu N Association School for the Blind cleanup.	14	Nagasaki Works
Around the factory	Every month	Cleanup of roads around the factory.	Total of 612	Itami Works, Transmission & Distribution Systems Center
Within the factory premises	July 30, 2010	Participated in the Amagasaki Sprinkler Strategy (reducing temperature of the road surfaces by sprinkling water in areas within the factory).	20	Itami Works, Transmission & Distribution Systems Center, Communication System Center
In the neighborhood outside the company premises (commuter roads along the JR lines)	June 30, 2010	Cleanup of the commuter line between JR Tenna Station to Tomon Station.	15	Transmission & Distribution Systems Center
Facilities for disabled persons in the city (Sakuraen)	August 9, 2010	Voluntary cleanup activities organized by Ako Voluntary Study Group.	32	Transmission & Distribution Systems Center
In the neighborhood outside the company premises (Koigahama Beach)	August 25, 2010	Cleanup of Koigahama Beach, located south of the Ako Factory.	88	Transmission & Distribution Systems Center
In the neighborhood outside the company premises (commuter roads along JR lines)	December 28, 2010	Cleanup of the commuter line between JR Tenna Station to Tomon Station.	15	Transmission & Distribution Systems Center
Around the factory	June 19 and November 13, 2010	Cleanup of areas around the factory as part of the "Team Leader Group Cleanup Activity."	Total of 58	Power Distribution Systems Center
Rice paddy fields south of Inazawa City Hall	May 22 and November 6,	Rice planting (art of Welcaru Inazawa—Plant and Reap).	Total of 70	Inazawa Works

	2010			
Inazawa Main Street	April 17, 2011	Participated in RENGO's Clean Campaign.	78	Inazawa Works
Parking lots near the company	June 23, 2011	Participated in the Craftsmen Associations' Joint Clean Campaign.	244	Inazawa Works
China, Hebei Province, Fengning County	July 24 to 31, 2010	Participated in the forestation volunteer activity organized by the Japanese Electrical Electronic & Information Union, and planted about 10,000 oil pine seedlings.	Total of 85	Inazawa Works
Commuter roads, and around Kamakura Works and affiliate companies	Every other week from June 2010 to March 2011	Cleanup of commuter roads and areas around the works.	Total of 811	Kamakura Works
In Kamakura city	May 5 and 30 & September 23 and 26, 2010	Cleanup Kamakura: cleanup of various areas of seas, mountains and towns organized by Kamakura City.	Total of 163	Kamakura Works
Neighborhood Elementary School (Fujiduka Elementary School)	December 16, 2010	Environmental education visit to explain Mitsubishi Electric's environmental management to Grade 5 students at the nearby Fujiduka Elementary School, with the aim of raising awareness among elementary school students on what they can do for the environment.	31	Kamakura Works
Around the factory (Hyogo Prefecture, Amagasaki City)	Every month	Cleanup of the region outside the premises.	Total of 144	Communication System Center
Around the factory (Kyoto Prefecture, Nagaokakyo City)	August 25 and November 6, 2011	Organized a litter-free campaign.	35	Kyoto Works
Near the west side of the factory (Shizuoka Prefecture, Shizuoka City)	May 21, 2010	Cleanup activities in areas around the factory.	21	Shizuoka Works
Ohama Beach	June 5, 2010	Participated in the voluntary cleanup activities organized by the Association for Environmental Safeguards of Shizuoka City.	7	Shizuoka Works
Around the factory	November 15, 2010	Cleanup activities in the neighborhood.	20	Shizuoka Works
Abe and Warashina Rivers	April 24 and July 10, 2010	Participated in the local environmental volunteer activity "Abe River, Warashina River ADOPT program," and volunteered to clean up the river areas.	Total of 100	Shizuoka Works
Nakatsugawa City, Sakashita Nursery School	May 15, 2010	Cleanup of the ventilator fans and fans at Sakashita Nursery School. * Together with the alumni association of Hishinomi-kai	29	Nakatsugawa Works
Nakatsugawa City, Naegi Nursery School	August 22, 2010	Cleanup of the ventilator fans and fans at Naegi Nursery School. * Together with Hishinomi-kai (alumni association)	15	Nakatsugawa Works
Along the Tenryu River	June 6, 2010	Environmental picnic along the Tenryu River.	1,000	Nakatsugawa Works
Iida Art Museum	September 4, 2010	Support for FY2010 children's science classes (making solar cars).	40	Nakatsugawa Works
Nakatsugawa City, East Mino Fureai Center	September 12, 2010	Set up a booth for MV (Mitsubishi Electric Volunteer) Club at the Health and Welfare Festival.	2	Nakatsugawa Works
Nakatsugawa City Health and Welfare Hall	February 8, 2011	Volunteer Council Ichinomiya City Exchange Session (introduction of "Mori no megumi juku").	45	Nakatsugawa Works
Nakatsugawa City Health and Welfare Hall	February 26, 2011	Volunteer Council Nakatsugawa City Exchange Session (introduction of "Mori no megumi juku").	104	Nakatsugawa Works
Nakatsugawa Works	March 10, 2011	Nakatsukawa Social Welfare Council, Fukuoka branch factory study tour (introduction of "Mori no	32	Nakatsugawa Works

		megumi juku").		
City roads on the south side of Gunma Works	July 10, 2010	Participated in volunteer activities involving tree pruning along the roads in front of the company.	61	Gunma Works
Kaneyama, Ohta	September 5, 2010	Participated in Kaneyama cleanup volunteer work.	32	Gunma Works
Ohta City Retirement Community	December 4, 2010	Volunteered to help with tree pruning at houses of elderly people who live alone.	29	Gunma Works
Bizenjima Water Purification Tank, Ohta	March 6, 2010	Participated in volunteer activity to weed moss phlox planting grounds at Bizenjima.	22	Gunma Works
Around the factory (Wakayama Prefecture, Wakayama City)	May 14, 2010	Cleanup activities in areas around the factory,	41	Air Conditioning & Refrigeration System Works
Around Wakayama castle	November 14, 2010	Cleanup activities at the Wakayama castle area and near the factory.	20	Air Conditioning & Refrigeration System Works
Roads near the factory (Hiroshima Prefecture, Fukuyama City)	October 24, 2010	Cleanup of roads near the factory on Fukuyama City's designated cleanup day.	34	Fukuyama Works
Roads near the factory (Hiroshima Prefecture, Fukuyama City)	May 25 to 27, 2010	Cleanup of rivers near the factory.	Total of 31	Fukuyama Works
Rivers near the factory (Hiroshima Prefecture, Fukuyama City)	October 18 to 29, 2010	Cleanup of rivers near the factory.	Total of 31	Fukuyama Works
Within the premises of Nagoya Works	August 2, 2010	Living Creature Studies organized with experts. * In conjunction with Aichi Moriyama Nature Association (a member organization of the Moriyama Shizen Fureai School)	18	Nagoya Works
Sanda City Hall vicinity	May 26, 2010	Volunteered with the Mitsubishi Electric labor union, Sanda area group, to pick up litter.	20	Sanda Works
Commuter roads from the station to the company	June 23, September 22 and October 26, 2010	Cleanup of commuter roads by the Mitsubishi Electric Team Leader Group.	Total of 89	Sanda Works
Sanda Works	July 2010 to March 2011	Japanese Electrical Electronic & Information Union Participated in the COCO-chan Campaign of the Japanese Electrical Electronic & Information Union, and reported on the electricity consumption at employees' homes.	All union members	Sanda Works
Main roads around the company (Hyogo Prefecture, Himeji City)	June 25 to August 27, 2010	Cleanup activities in the neighborhood as part of the CI activities of supervisors from Himeji Works.	102	Himeji Works
Main roads around the company (Hyogo Prefecture, Himeji City)	May 31 & October 25, 2010	Litter-free campaign (cleanup activity) by Himeji Works and the labor unions of affiliate companies.	91	Himeji Works
Main roads around the company	April to June and September to October, 2010 (once a month)	Cleanup of areas around the company by Himeryo Technica Company Limited volunteers.	Total of 120	Himeji Works
Around the factory	Every month	Cleanup activities around Imajuku Station and the factory.	Total of 120	Power Device Works
Around the factory	June 16, September 29 and November 17, 2010	Beautification of areas around the factory.	Total of 229	Power Device Works Kumamoto Factory
Wabu River	July 24, 2010	Beautification and cleanup of Wabu River (organized by Koshi City).	21	Power Device Works Kumamoto Factory
Around the factory	March 26, 2011	Periodic cleanup of river in the Kumamoto area, and beautification of areas around the factory.	148	Power Device Works Kumamoto Factory
Nagatare Beach and around the factory	June 6, 2010	Participated in "Love the Earth" Cleanup 2010.	307 (Including	Power Device Works

			employees and families of affiliate companies)	
Zugaike Park	May 25, August 25, September 24, October 26, November 25 and December 24, 2010 & January 25 and February 25, 2011	Periodic cleanup activities with "Hokushikai."	Total of 75	High Frequency & Optical Device Works
Zugaike Park	March 23, 2011	Cleanup of Zugaike Park near the company.	75	High Frequency & Optical Device Works
Sagami River	June 6 and August 8, 2010	Participated in the "Sagami River Clean Strategy" organized by the "We love Sagamigawa" association.	Total of 2,400	Sagami Administration Center
Within and outside the Sagami district	June 30 and September 15, 2010	Clean Campaign organized for inside and outside the area.	Total of 290	Sagami Administration Center
Within and outside the Sagami district	November 12, 2010	Cleanup of areas around the office.	250	Sagami Administration Center (Participants included Kyoei Sangyo Co., Ltd., AGC Matex, Saxa, Nifco, Inc., and Yamada Lighting)
Kanagawa Environmental Research Center	November 6, 13 & 21, 2010	Participated in the themed lecture on environmental activity "Local Ecosystem Conservation Course."	3	Information Technology R&D Center
Sanki Engineering Co., Ltd.	November 10, 2010	Audited the lecture "Biodiversity and the role of corporations."	1	Information Technology R&D Center

Affiliates in Japan

Location	Date	Details / Theme / Activities	Participants	Office or site
Information Systems & Network Service Group, Shonan district, around Shonan district	May 25 and 28, June 2, 4, 9 and 11 and December 8, 2010 & February 9, 2011	Morning cleanup volunteer activities organized in conjunction with Kamakura Works.	98	Information Systems & Network Service Group, Shonan district
Kamakura City	May 5 and 30 & September 23 and 26, 2010	Participated in the spring and fall city cleanup activity "Cleanup Kamakura 2010-Seas, Towns, Mountains"	Total of 5	Information Systems & Network Service Group, Shonan district
Information Systems & Network Service Group, Shonan district	October 4, November 4 and December 1, 2010 & January 5, February 3 and March 1, 2011	Released news on energy conservation.	2,250	Information Systems & Network Service Group, Shonan district
Hikamicho Sakura Park	June 9, 2011	Participated in beautifying activities (cleanup of parks in the region) at Hikamicho Sakura Park.	236	Toyo Electric Corporation
Kasai City Industrial Park	Every month	Participated in cleanup campaign.	16	SGC Company Ltd.
Around the factory (Hyogo Prefecture, Kasai City)	April to October (beginning of the month)	Cleanup of areas around the factory.	7-9	SGC Company Ltd.
Okudaike	May 8, 2010	Participated in cleanup activities organized by the Okudaike Irrigation Association.	12	Ryosan Industry Corporation

Nagao district	June 9, 2010	Cleanup of the Nagao region organized in conjunction with the labor union.	40	Ryosan Industry Corporation
Owariasahi City	May 27, 2010	Participated in the event commemorating the 40th anniversary of the municipalization of Owariasahi City.	3	Ryosan Industry Corporation
Within and outside the company premises of Ryoden Kasei Co., Ltd.	Every month	Organized company-wide beautification activities.	Approx. 100 every month	Ryoden Kasei Co., Ltd.
Within and outside the factory premises (Hyogo Prefecture, Sanda City)	Once a month	Beautification activities within and outside the factory premises.	Total of 200	Ryoden Kasei Co., Ltd.
Around the factory (Hyogo Prefecture, Amagasaki City)	Every month	Weeding and cleanup of the areas around the factory,	Total of 48	Ryosai Technica Inc.
System Plaza (Tokyo, Arakawa-ku)	June 29 and October 4, 2010 & February 21, 2011	Participated in the maintenance of flowerbeds in the town in the Arakawa district.	45	Mitsubishi Electric Building Techno-Service Co., Ltd.
Omiya City	August 27, 2010	Participated in cleanup activities in Omiya City.	15	Mitsubishi Electric Building Techno-Service Co., Ltd.
Around the office (Aichi Prefecture, Nagoya City)	Twice a week (Monday, Thursday)	Cleanup of the areas around the bus stop in front of the Chubu Materials Center office.	96	Mitsubishi Electric Building Techno-Service Co., Ltd.
Around the office (Fukuoka Prefecture, Hakata City)	Once a month	Cleanup activities in areas around the Kyushu Materials Center office.	18	Mitsubishi Electric Building Techno-Service Co., Ltd.
Mino City, around the Nagara River	October 31, 2010	Picking up litter at the Nagara River area near the Mino Bridge.	19	Mitsubishi Hitachi Home Elevator Corporation
Izumigo Neo Oriental Resort Yatsugatake Kogen	August 6 to 8, 2010	Experience of harvesting vegetables.	30	Mitsubishi Precision Co. Ltd.
Hokkaido, Eniwa City	April 27, 2010	Participated in the Technopark spring cleanup.	20	Mitsubishi Electric TOKKI Systems Corporation
Kanagawa Prefecture, Kamakura City	May 5, 2010	Participated in Kamakura's spring cleanup (seas).	2	Mitsubishi Electric TOKKI Systems Corporation
Hokkaido, Eniwa City	May 30, 2010	Participated in the litter-free day "Clean Walking 2010."	2	Mitsubishi Electric TOKKI Systems Corporation
Kanagawa Prefecture, Kamakura City	May 30, 2010	Participated in Kamakura's spring cleanup (towns and mountains)	4	Mitsubishi Electric TOKKI Systems Corporation
Kanagawa Prefecture, Kamakura City	September 23, 2010	Participated in Kamakura's fall cleanup (seas).	3	Mitsubishi Electric TOKKI Systems Corporation
Kanagawa Prefecture, Kamakura City	September 26, 2010	Participated in Kamakura's fall cleanup (towns and mountains).	4	Mitsubishi Electric TOKKI Systems Corporation
Hokkaido, Eniwa City	November 5, 2010	Participated in the Technopark fall cleanup.	20	Mitsubishi Electric TOKKI Systems Corporation
Kanagawa Prefecture, Kamakura City	June 9, 2010, to March 9, 2011	Organized clean commuter road activity.	130	Mitsubishi Electric TOKKI Systems Corporation, Mitsubishi Space Software Co., Ltd., Ryoden Shonan Electronics Corporation, Mitsubishi

				Electric Engineering Co., Ltd.
Kanagawa Prefecture, Kamakura City	July 1, 2010	Donated to the Kanagawa Trust Midori Fund.	–	Mitsubishi Space Software Co., Ltd.
Kamakura City	May and September, 2010	Participated in Cleanup Kamakura 2010.	2	Mitsubishi Space Software Co., Ltd.
Kamakura City	May 5 and September 23, 2010	Participated in the Cleanup Kamakura, Kamakura City Cleanup, Clean Kamakura Association (Kamakura City).	1	Ryoden Shonan Electronics Corporation
Commuter roads	June 2010 to last Wednesday of the month	End-of-month cleanup and weeding at commuter roads.	500	Ryoden Shonan Electronics Corporation
Yuigahama Beach	April 13, 2010	Beach cleanup and beautification by new employees.	5	Ryoden Shonan Electronics Corporation
Around the company	Every last Wednesday of the month	Local cleanup (picking up litter).	–	Mitsubishi Electric Home Appliances Co., Ltd.
Internal activity	Ongoing	Ecocap Movement Set up containers for the collection of ecocaps, and sent them to the Ecocap Movement organization once a certain number of caps have been collected.	–	Mitsubishi Electric Home Appliances Co., Ltd.
Mitsubishi Electric Lighting Corporation, head office (Ofuna)	August 24, 2009	Summer study sessions for children for energy conservation in lighting.	30	Mitsubishi Electric Lighting Co., Ltd.
–	January 18, 2011	Concluded the "Kakegawa STOP Global Warming, Energy Conservation Promotion Partnership Agreement."	–	Mitsubishi Electric Lighting Co., Ltd.
Kanisawa drainage canal	March 29, May 17 and July 23, 2010	Picking up litter near drainage canals and roads near the company (participation in local cleanup activities by new employees).	Total of 207	Mitsubishi Electric Home Appliance Co., Ltd.
Areas that employees reside in	June and September 2010	Participated in cleanup activities in the city.	100	Sowa Technica Inc.
Public roads near the factory	Twice a month	Weeding (summer) and cleanup of roadside drains.	1	Sowa Technica Inc.
Ichikawa City, Chiba Prefecture	September 5, 2010	Ichikawa Environment Sun Festa	–	Hyper Cycle Systems Co., Ltd.
Ichikawa City, Chiba Prefecture	April 16, 2010	Local roads cleanup activity.	2	Hyper Cycle Systems Co., Ltd.
Within Hyper Cycle Systems Co., Ltd.	Any time	Factory study tours.	Total of 1,400 participated in the tours	Hyper Cycle Systems Co., Ltd.
Funabashi Sanbanze Ocean Park	October 24, 2010	Participated in the Funabashi Sanbanze Cleanup activity.	27	Mitsubishi Electric Applied Refrigeration Systems Co., Ltd.
Industrial park	September 28, 2010	Local cleanup activity.	25	Mitsubishi Electric Osram Ltd.
Nagatare Beach	June 6, 2010	Participated in "Love the Earth" Cleanup 2010.	10	Mitsubishi Electric FA Industrial Products Corporation
Around the factory and in front of Imajuku Station	March 23, 2011	Cleanup activities around the factory and in front of Imajuku Station.	10	Mitsubishi Electric FA Industrial Products Corporation
Near village wastewater treatment facilities and boundaries of company premises	FY2010	Cleanup near village wastewater treatment facitlites and boundaries of company premises.	Total of 96	Kouryou Denki Corporation
Around the Fukusaki Factory	May 31, 2010	Zero garbage campaign.	16	DB Seiko Co., Ltd.
Kodera Factory	May 31 to	Acceptance of five students from	5	DB Seiko Co.,

	June 4, 2010	Kodera High School during the "Try and Do Week."		Ltd.
Kodera Factory	January 25, 2011	Acceptance of five students from Himeji Technical High School for work experience learning.	5	DB Seiko Co., Ltd.
Kumamoto district	March 27, 2010	River cleanup.	4	Sanshin Electronics Co., Ltd.
Koshi City	July 24, 2010	River cleanup in conjunction with the FY2009 "Kumamoto Day for Everyone to Create Rivers and Oceans."	5	Sanshin Electronics Co., Ltd.
Around the factory	June 16, September 15 and November 17, 2010	Participated in a Power Device Works Kumamoto Factory event.	Total of 26	Sanshin Electronics Co., Ltd.
Roads near the company	January 20, 2011	Cleanup of parking lots and roads near the company.	35	MELCO Advanced Devices
Abe and Warashina Rivers	April 24, July 10 and October 9, 2010	Participated in cleanup activities organized by the Shizuoka Works.	7	Mitsubishi Electric Engineering Co., Ltd.
Nakatsugawa	April 29, 2010	Cleanup of rivers.	Approx. 75	Mitsubishi Electric Engineering Co., Ltd.
Around the office	June, September and December 2010	Cleanup of areas around the office.	Approx. 15	Mitsubishi Electric Engineering Co., Ltd.
Fukuoka City, Ohori Park, Karatsu City, Higashinohama	June 6, 2010	Participated in "Love the Earth" cleanup activities.	7	Mitsubishi Electric System & Service Co., Ltd.
Around the Hokuriku Branch	March 29, 2011	Cleanup for agricultural water and city roads, and picking up litter.	63	Mitsubishi Electric System & Service Co., Ltd.
Ishikawa Prefecture, Kanezawa City	August 1, 2010	Participated in the "Rural area weeding volunteer" activity organized by the NPO, Ishikawa Forest Supporters Association.	103	Mitsubishi Electric System & Service Co., Ltd.
Kamakura	May 5 & 30 and September 23 & 26, 2010	Participated in the spring and fall Kamakura cleanup, and helped to clean up Kamakura's seas, towns, and mountains.	20	Mitsubishi Electric Engineering Co., Ltd.
Nursery schools in the neighborhood (Itami)	June and October 2010	Donated colored paper.	–	Mitsubishi Electric Documentex Ltd..
Near the mouth of the Kikugawa River	July 24, 2010	Cleanup activities near the mouth of the Kikugawa River. * Organized by the Japan Chamber of Commerce and Industry.	56	Melco Techno-Rex Co., Ltd.
Ohama Park	March 19, 2010	Cleanup of Ohama Park. * Organized by the Japan Chamber of Commerce and Industry.	52	Melco Techno-Rex Co., Ltd.
Sapporo City, Chuo-ku	August 5, 2010	Cleanup of parks (six locations) near the head office.	79	KITA KOUDENSHA Corporation
Sapporo City, Chuo-ku	October 5, 2010	Concluded the "ADOPT" system for Chuo-ku, Sapporo City.	–	KITA KOUDENSHA Corporation
Sapporo City, Chuo-ku	October 20, 2010	Clean up activities in line with the "ADOPT" system for Chuo-ku, Sapporo City (six parks near the head office).	61	KITA KOUDENSHA Corporation
Miyoshi High Tech apartment complex (Miyoshi Industrial Park)	October 7, 2010	Participated in the beautification of the Miyoshi High Tech apartment complex area.	82	Miyoshi Electronics Corp.
Miyoshi City, Ozekiyama Park	March 26, 2011	Participated in the volunteer cleanup activities for Ozekiyama Park. * Organized by Miyoshi City Government and Business Coordination Conference.	207	Miyoshi Electronics Corp.

Kanagawa Prefecture, Sagamihara City	June 30 and September 15, 2010	Clean campaign within and outside the premises.	145	Mitsubishi Electric Metecs Co., Ltd.
Sagami River	June 6 and August 8, 2010	Participated in the Sagami River clean strategy.	Total of 52	Mitsubishi Electric Metecs Co., Ltd.
Local rivers	September 7 and November 14, 2010	Participated in the clean-up strategy under local governments, and cleaned up local rivers.	Total of 4	Ryoden Asahi Technica Co., Ltd.
Local rivers	June 2 and November 10, 2010	Cleaned up areas around the company under local cleanup activities.	Total of 60	Ryoden Asahi Technica Co., Ltd.

(Personnel, Financial, and Other) Support to NGOs and NPOs for Nature Preservation and Environmental Philanthropic Activities

Mitsubishi Electric

Date	Support recipient and contents of support	Participants	Office or site
January 8, 2011	NPO Nippon Volunteer Network Active in Disaster: Participated in charity calendar initiative (sent surplus calendars and organizers (four cardboard boxes))	All departments at the branch	Kansai Branch
October 31, 2011	Collection of clothing for relief activity: Collected and delivered clothing to be sent overseas as relief.	3	Inazawa Works
March 5, 2011	Establishment of the Togokusan (Aichi prefectural forest) Wetlands Conservation Group by volunteers from the Moriyama Shizen Fureai School. Members of the Nagoya Works "Satoyama" woodland preservation committee also participated. The group carries out conservation activities once a month with the aim of protecting the wetlands.	13	Nagoya Works

Nature Preservation, Environmental Philanthropy and Biodiversity Awareness Activities

Location	Date	Topics / Themes	Participants	Office or site
Pittsburgh	April and November 2010	MEPPI personnel participated in the Sakura Project – planting of trees at a local park.	44	Mitsubishi Electric Power Products Inc.
–	January 15, 2011	Mitsubishi Thai Foundation: Donation from employees, donation to Watboatwittaya school, Muang District, Prachinburi (Repair school and plant 50 trees).	152	Mitsubishi Electric Consumer Products. (Thailand) Co., Ltd.
Sunrise Lake Outdoor Education Center	April 23, 2010	Volunteer Day at Outdoor Education Center.	31	Mitsubishi Electric Automation Inc.
Dalian Nationalities University	May 31, 2010	Organized the First Mitsubishi Electric Environmental Protection Design Competition, producing design work series and holding an awards ceremony.	700	Mitsubishi Electric Dalian Industrial Products Co., Ltd.
Mason, Ohio	April 20, 2010	MEAA Mason apple tree planting by management team.	18	Mitsubishi Electric Automotive America, Inc.
Maysville, Kentucky	April 15, 2010	MEAA Maysville Tree Giveaway.- 2000 small trees given to local school children to raise environmental awareness.	21	Mitsubishi Electric Automotive America, Inc.
Mason, Ohio	June 10, 2010	MEAA Mason registered as a national wildlife preserve.	–	Mitsubishi Electric Automotive America, Inc.
Klaeng Rayong	August 6, 2010	Planted 2500 trees and protected island birds in Klaeng Rayong in cooperation with the Ministry of Natural Resources and Environment, Rayong.	2,500	Mitsubishi Electric Thai Auto-Parts Co., Ltd.
Lamcor, Sta Rosa City Laguna	April 22, 2010	Tree nurturing & labeling of planted trees	Approx. 50	Laguna Auto-Parts Manufacturing Corporation
Lamcor, Sta Rosa City Laguna	July 19, 2010	TREE Planting with VIP (Shingo Tanimoto)	Approx. 10	Laguna Auto-Parts Manufacturing Corporation
Lamcor, Sta Rosa City Laguna	August 6, 2010	TREE Planting with VIP (Kouhei Hara)	Approx. 10	Laguna Auto-Parts Manufacturing Corporation
Lamcor, Sta Rosa City Laguna	October 5, 2010	TREE Planting with VIP (Kenichiro Yamanishi)	Approx. 10	Laguna Auto-Parts Manufacturing Corporation

Supporting Nature Preservation and Environmental Philanthropic Activities of NGOs / NPOs (Human Resources, Financial etc.)

Location	Date	Topics / Themes	Participants	Office or site
–	April 1, 2010	Donations given to Red Cross and contributions to address natural disasters in Japan.		Mitsubishi Electric de Mexico S.A. de C.V
Oriental Green Boat	February 6, 2010	Donated 300 cherry blossom trees to the Oriental Green Boat Tree-Planting Ceremony hosted by the Japan Cherry Blossom Association, Shizuoka Prefecture, and Shanghai Japanese Commerce & Industry Club, and participated in the tree-planting ceremony. Donated 135,000 yuan. Total number of cherry blossom trees donated by the company and individuals thus far is 2,000.	Approx. 100	Shanghai Mitsubishi Electric & Shangling Air-Conditioner and Electric Appliance Co., Ltd.
Shanghai World Financial Center	August 31, 2010	First Financial Summit on Energy and Environmental Conservation, 12,500 yuan	–	Shanghai Mitsubishi Electric & Shangling Air-Conditioner and Electric Appliance Co., Ltd.
Huajing Zhen	November 20, 2010	Tree-planting by Green Xuhui volunteers	15	Shanghai Mitsubishi Electric & Shangling Air-Conditioner and Electric Appliance Co., Ltd.
Sta Rosa City Laguna	April 25, 2010	Lakeshore cleanup drive (Brgy. Sinalhan Sta Rosa City Laguna)	9	Laguna Auto-Parts Manufacturing Corporation
Sta Rosa City Laguna	October 15, 2010	Donation of used batteries (in cooperation with HCPI)	–	Laguna Auto-Parts Manufacturing Corporation
Lamcor, Sta Rosa City Laguna	June 7, 2010	Distribution of toothbrush cases for employees (EMS Souvenir)	Approx. 450	Laguna Auto-Parts Manufacturing Corporation
Oriental Mindoro	May 1, 2010	Donation of school supplies (in cooperation with SAKKAT Mountaineers)	Approx. 15	Laguna Auto-Parts Manufacturing Corporation
Lamcor, Sta Rosa City Laguna	July 24, 2010	Blood donation activity (in cooperation with PNRC)	82 donors	Laguna Auto-Parts Manufacturing Corporation
HCPI, Sta Rosa City Laguna	June, 2010	Donation of musical instruments (in cooperation with HCPI)	18	Laguna Auto-Parts Manufacturing Corporation
Batangas	July 15, 2010	Seed planting (in cooperation with HCPI)	HCPI Suppliers	Laguna Auto-Parts Manufacturing Corporation
Batangas	November 27, 2010	Tree planting (in cooperation with HCPI)	HCPI Suppliers	Laguna Auto-Parts Manufacturing Corporation
Sta Rosa City Laguna	December 10, 2010	HCSA Outreach Program	HCPI Suppliers	Laguna Auto-Parts Manufacturing Corporation
Sta Rosa City Laguna	March 31, 2011	Donation of school supplies to elementary students	4	Laguna Auto-Parts Manufacturing Corporation

Non-Mitsubishi Electric Exhibitions and Events

Mitsubishi Electric

Event	Date	Details / Products shown	Office or site
Eco-Products 2010	December 9 to 11, 2010	Focusing on the theme "Helping create a low-carbon, recycling-based society through a broad range of businesses and products," environmental products that will become representatives of the environmental statement "Eco Changes" were selected to draw attention to the company's wide product range, while its large-scale, high-purity plastic recycling system was introduced.	Mitsubishi Electric Group
Eco-Products International Fair	February 10 to 12, 2011	Promotion of Mitsubishi Electric in India through "Eco Changes." Introduction of environmentally advanced technology, including 3D video of a home appliance recycling factory, SiC-equipped room air conditioner, and demonstration of advanced FA technology, as well as the contribution of Mitsubishi Electric's components to the Delhi subway. In the India Business Zone, the exhibition focused on the main businesses (air conditioning, photovoltaic power, factory automation) of MEI, Mitsubishi Electric's general sales company in India.	Mitsubishi Electric Group
Chicago High-Speed Rail Seminar	June, 2010	A seminar organized by the Japanese government. Participated as a member of the Japanese Trade Union Confederation (RENGO).	Head Office
Shanghai Environmental Forum	August, 2010	Panel exhibition, working groups (presentation to clients).	Head Office
InnoTrans	September, 2010	Introduction of Mitsubishi Electric's railroad businesses in Europe at the world's largest railroad-related exhibition.	Head Office
Brazil Transport Conference	November, 2010	Introduction of Mitsubishi Electric's railroad businesses at a railroad business exhibition in Brazil.	Head Office
Poland High-Speed Rail Seminar	December, 2010	Introduction of Japan's bullet train technology to Poland's Ministry of Infrastructure and Polskie Koleje Panstwowe (Polish State Railways) at a seminar organized by the Japan External Trade Organization (JETRO).	Head Office
UIC High speed	December, 2010	Participation in an international conference on rapid transit railway that was hosted by the International Union of Railways (UIC).	Head Office
Modern Railways	December, 2010	Introduction of Mitsubishi Electric's products at an exhibition held in Beijing, targeting the Chinese urban transport market.	Head Office
TECHNO-FRONTIER 2009 [25th] Power System Japan	July 21 to 23, 2010	Exhibition of Mitsubishi Electric's power device products that contribute to the conservation of the environment through energy conservation and development of new energy, providing a solution for power control and motor control through advanced technologies and a rich lineup of products.	Head Office
Mini exhibition on photovoltaic power and LED lighting in Iwate	July 13, 2010	–	Tohoku Branch
Mini exhibition on photovoltaic power and LED lighting in Iwate	July 15, 2010	–	Tohoku Branch
Mini exhibition on photovoltaic power and LED lighting in Iwate	September 16, 2010	–	Tohoku Branch
Mini exhibition on photovoltaic power and LED lighting in Iwate	November 25, 2010	–	Tohoku Branch
ENE-WAY 2010	September 8 to 12, 2010	Participation in an energy conservation exhibition organized by CHUBU Electric Power.	Chubu Branch
Messe Nagoya 2010	October 27 to	Introduction of environmental	Chubu Branch

	30, 2010	technologies, products and services.	
Kyoto Environmental Festival 2010	December 11 and 12, 2010	–	Kansai Branch
Biwako Environmental Business Exhibition	October 20 to 22, 2010	–	Kansai Branch
Shizuoka Monozukuri Fair (commemorative event of the merging of The Shizuoka Chamber of Commerce and Industry)	February 19 to 20, 2011	Introduction of energy-efficient home appliances manufactured in Shizuoka Works.	Shizuoka Works
Niigata Prefecture, Mitsuke City, groundbreaking ceremony for a photovoltaic (PV) plant	September 16, 2010	Lectures to officials in the municipal office, elementary schools and students. Lecture Theme: Environmental Issues and Photovoltaic Power Generation	Nakatsugawa Works
Nakatsugawa City, Environment Festa	October 9, 2010	Exhibition of photovoltaic systems.	Nakatsugawa Works
Iida City, Kawaji District Cultural Festival	October 17, 2010	Exhibition of photovoltaic systems.	Nakatsugawa Works
Nakatsugawa Furusato Jiman Matsuri	October 29, 30, 31, 2010	Exhibition of photovoltaic systems.	Nakatsugawa Works
Ena City, Environment Festa	November 6, 2010	Exhibition of photovoltaic systems.	Nakatsugawa Works
Energy Solutions and Thermal Storage Fair 2010	July 28 to 30, 2010	Introduction of heat pump, all-electric home appliances, and photovoltaic systems.	Gunma Works
ENE-WAY 2010	September 8 to 10, 2010	–	Fukuyama Works
METI KANSAI, Energy Conservation Fair 2011	January 18 to 19, 2011	–	Fukuyama Works
INT'L SMART GRID EXPO	March 2 to 3, 2011	–	Fukuyama Works
Neighborhood association conference	October 22, 2010	Exposition of Mitsubishi Electric's environmental initiative.	Fukuyama Works
Himeji Environment Festival 2010	October 2 to 3, 2010	Display of panels on environmental activities and introduction of environmental products.	Himeji Works
TECHNO-FRONTIER [Power System Japan]	July 21 to 23, 2010	Promotion of energy efficiency of products.	Power Device Works
Lecture on EV and test drives; study tour of photovoltaic power generation facility	May 7, 2010	Briefing on electric vehicles and test drive sessions were held, and the Information Technology R&D Center's photovoltaic power generation facility was introduced as part of the environmental activities organized by the Kanagawa Environmental	Information Technology R&D Center
FY2010 workshops for those responsible for controlling pollution	February 4, 2011	Environmental activity seminar organized by Kanagawa Environmental Conservation Association in the area.	Information Technology R&D Center

Affiliates in Japan

Event	Date	Details / Products shown	Office or site
18th Toyo Electric Corporation Summer Festival	July 23, 2010	–	Toyo Electric Corporation
Automotive Engineering Exposition 2010	May 19 to 21, 2010	–	Ryoden Kasei Co., Ltd.
EV Japan	November 26, 2010	–	Ryoden Kasei Co., Ltd.
Enezo 2010 (Organized by Kansai Electric Power Co. Inc.)	May 26 to 28, 2010	Introduction of environmentally-friendly IH appliances.	SPC Electronics Corp.
ENE-WAY2010 (organized by CHUBU Electric Power Co., Ltd.)	September 8 to 10, 2010	–	SPC Electronics Corp.
Energy Solutions and Thermal Storage Fair 2010	July, 2010	–	Mitsubishi Electric Home Appliance Co., Ltd.
National Research Convention for Cut Roses	November 5, 2010	Promotion of straight power fans (circulating fans) to rose producers.	Sowa Technica Inc.
Agro-Innovation Japan 2010	November 24 to 26, 2010	Promotion of straight power fans (circulating fans) at Mitsubishi Electric's booth.	Sowa Technica Inc.
Ichikawa City Environmental Sun Festa	September 5, 2011	Panel exhibition and briefing session.	Hyper Cycle Systems Co., Ltd.
Electrical Construction Equipment and Materials Fair	May 26 to 28, 2010	Exhibition of supervisory control systems (SA-1) at the Electrical Construction Equipment and Materials Fair.	Mitsubishi Electric System & Service Co., Ltd.
SC Fair 2011 in the Tokyo Metropolitan Area	January 20 to 21, 2010	Exhibition of installation of energy conserving management system, photovoltaic system, etc.	Mitsubishi Electric System & Service Co., Ltd.
Participated in business partners' exhibitions	July 21 to 22, 2010 January 26 to 27, 2010	Exhibition of supervisory control systems (SA-1). Exhibition held by TAKEBISHI CORPORATION. Exhibition held by TACHIBANA ELETECH CO., LTD.	Mitsubishi Electric System & Service Co., Ltd.
Miyoshi Chamber of Commerce and Industry Festival	October 23 to 24, 2010	Panel exhibition introducing environmental initiatives, displayed in Mitsubishi Electric product introduction corner.	Miyoshi Electronics Corp.

Mitsubishi Electric Exhibitions / Events

Mitsubishi Electric

Event	Date	Activity	Office or site
Energy Conservation and Environment Seminar and Mini Exhibition	October 20 to 21, 2010	–	Kanetsu Branch
Energy Conservation and Power Distribution Equipment Exhibition, and Technical Lecture	March 2, 2011	–	Kanetsu Branch
Mitsubishi Electric Group Exhibition in Kanagawa	October 27 to 28, 2010	Public relations efforts for environmental and energy conserving business, environment-related seminars.	Kanagawa Branch
2010 Launch of Mitsubishi all-electric new products, and private exhibition	May 13 and 18, 2010	Annual private exhibition featuring new products released in the market in early spring.	Chubu Branch
"All-electric" experience event	July 4 and November 27 to 28, 2010	A collaborative event between LE and Chubu Electric Power. An exhibition to promote the spread of all-electric systems to general users.	Chubu Branch
Private exhibition for Living Environment & Digital Media Equipment Group new products	August 25 to 26, 2010:Tokyo September 2 to 3, 2010: Nagoya September 7 to 9, 2010: Osaka	Implemented as part of the sales promotion activities centering on the Living Environment and Digital Media Equipment Group's products. Exhibition of 202 items, 350 appliances with a focus on environment and energy conservation features that are attracting the attention of the market, centering on new products launched in FY 2010 (air conditioning and refrigeration systems,	Living Environment & Digital Media Equipment Group Chubu Branch, Kansai Branch

		living facilities, AV and home appliances, projectors for businesses, and photovoltaic systems), based on the theme of "Making Mitsubishi Electric the driving force of your energy conservation business."	
Mitsubishi Electric Group Environment and Energy Conservation Seminar	October 19 to 20, 2010 (Nagoya Works) November 9 to 10, 2010 (Shizuoka Works)	Alongside the opening of COP10, introduction of Mitsubishi Electric Group's efforts in biodiversity, and products and solutions effective for energy conservation and CO_2 reduction under the theme of "Coexistence with the environment." Implementation of lectures and factory observation tours.	Chubu Branch, Nagoya Works
Mitsubishi Electric Group Dynamic Energy Conservation Seminar	October 25 and 26, November 2, 4, 5, 2010	Introduction of the efficacy of energy conservation in LED lights and photovoltaic power within 5 districts.	Chugoku Branch
"Realize Energy Conservation" Seminar	July 13, 2011	Briefings and observation tours on the realization of energy conservation in factories.	Shikoku Branch
"Group Exhibition" Sun Messe Kagawa	February 23, 24, 2011	Appeal for environmental and energy conservation efforts through products.	Shikoku Branch
Mitsubishi Electric's Eco Changes Mitsubishi Electric Group's Energy Conservation Seminar	November 4 to 5, 2010 (Kitakyushu venue) and November 11 to 12, 2010 (Kumamoto venue)	Seminar held, which offered concrete references for business people who are reviewing the implementation of energy conservation measures.	Kyushu Branch
Mitsubishi Electric Sun Sun Festa	May 22 to 23, 2010	Introduction of Shizuoka Works' efforts toward global environment conservation and "uni" and "eco" products.	Shizuoka Works
Kamakura "FY2010 Summer Festival Second-Hand Book Festival"	July 30, 2010	Contribution to the promotion of environmental protection by enabling books discarded as waste to be utilized from the perspectives of reusing and recycling, as well as funds raised to be donated to Kanagawa Trust Fund.	Information Systems & Network Service Group, Shonan district Mitsubishi Electric Engineering Co., Ltd. Mitsubishi Electric TOKKI Systems Corporation Ryoden Shonan Electronics Corporation
Mitsubishi Electric Group Exhibition "Eco Change" Fair	October 20 to 21, 2010	–	Fukuyama Works
e-F@ctory Partner Meeting	March 8, 2011	–	Nagoya Works, Fukuyama Works
Autumn Festival (Sanda Works)	October 27, 2010	–	Sanda Works

Affiliates in Japan

Event	Date	Activity	Office or site
Festival to Celebrate Establishment of Business	October 9, 2009	Study tours of the factory, product briefing sessions, taiko drumming and dance performances, sales at booths, and lucky draws were held, as well as exchanges with the local residents.	Mitsubishi Electric Home Appliance Co., Ltd.
Conference with local representatives, summer festival	June 19 and August 6, 2010	Exchanges of opinions held on environmental conservation at conferences with local representatives. I ntroduction of environmental activities to local residents at the summer festival.	Ryoden Asahi Technica Co., Ltd.
Study tours of workplace	March 11, 2011	Workplace study tours organized for second year high school students in the Shimabara district.	Toyo Engineering Co., Ltd.
Study tours of energy conserving factory	September 7 and November 16, 2010	Acceptance of high school students from Kakegawa City Nishi High School at an energy conserving factory.	Mitsubishi Electric Osram Ltd.
Mitsubishi Electric Group Exhibition in Kagawa	February 23 and 24, 2011	Introduction of energy conserving inverter hoist.	Mitsubishi Electric FA Industrial Products Corporation
Photography fair and study tours of factory	August 21, 2010	Photography fair and study tours of the factory organized at the Shisui Factory.	Melco Display Technology Incorporated
Study tours of factory	November 9 and 10, 2010	Acceptance of students of electronics courses at Tamana Technical High School for study tours of the factory. Acceptance of students of information and telecommunications technology course from Kumamoto Prefectural College of Technology for study tours of the factory. Acceptance of students from the Faculty of Engineering, Kumamoto University, for study tours of the factory.	Melco Display Technology Incorporated
Mitsubishi Private Fair	March 3 to 4, 2010	Exhibition of supervisory control systems (SA-1) at the Mitsubishi Private Fair.	Mitsubishi Electric System & Service Co., Ltd.

Overseas Exhibitions / Events, Communication Activities

Event	Date	Details / Products shown	Office or site
SEPA acccreditation	Every year	SEPA accredits the environmental performance of all emissions systems and the management systems for M-ACE operation; excellent achievement and best practice awarded.	Mitsubishi Electric Air Conditioning Systems Europe Ltd.
Local companies	June 9, 2010	Local company visit to look at good waste management system.	Mitsubishi Electric Air Conditioning Systems Europe Ltd.
Carbon Trust	November 9, 2010	Carbon Trust promotion of environmental awareness used M-ACE site to show good environmental practice.	Mitsubishi Electric Air Conditioning Systems Europe Ltd.
Local Recycling Events (Government)	Various	SWALCO Recycling Event (Internal Announcement).	Mitsubishi Electric Automation Inc.
Activity for cost reduction & environmental awareness	April 2010 to March 2011	1.1 General waste by 3R concept (reduce, reuse, recycle). 1.2 Change the waste disposal method. 1.3 Plant growing activity decreases CO_2. Limit the waste keeping area and control the transportation fee for disposal. 1. To survey the type and quantity of waste. 2. To separate the type of waste. - General waste to be collected every day. - Salable waste to be collected every day. - Hazardous waste to be collected twice a month. 3. To improve the containers of waste for sufficiency. 4. To survey the new supplier which will collect the hazardous waste and buy the salable waste. 5. To display the type of waste and training the controller;to set up the waste container correctly.	Mitsubishi Electric Thai Auto-Parts Co., Ltd.

Awards

Japan

Award	Sponsor	Description / Product	Awardee
The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology, 2010 (Development Category)	Minister of Education, Culture, Sports, Science and Technology	Development of environmentally-conscious air conditioning equipment reusing existing ducts, and associated renewal technology	Mitsubishi Electric Corporation, Air-Conditioning & Refrigeration Systems Works, Mitsubishi Electric Air Conditioning & Refrigeration Plant Co., Ltd.
23rd Technical Award	Japan Society of Energy and Resources	Development of plastic material recycling technology for used household appliances	Mitsubishi Electric Corporation, Advanced Research R&D Center
37th Environmental Award Minister of the Environment Prize, Award for Excellence	The Hitachi Environment Foundation The Nikkan Kogyo Shimbun, Ltd.	Development of advanced plastic material recycling technology for used household appliances	Mitsubishi Electric Corporation, Advanced Research R&D Center, Production Technology Center and Living and Digital Media Technology Division, Shizuoka Works
2010 Commendation for Meritorious Service in Reduce, Reuse, and Recycle Promotion, Chairman's Prize	Reduce, Reuse, and Recycle Promotion Council	Development of comprehensive 3R activities through cooperation among Mitsubishi Electric's Kyushu region workplaces	Mitsubishi Electric Corporation, Nagasaki Works, Power Device Works, Power Device Works Kumamoto Factory, Fukuyama Works, Mitsubishi Electric FA Industrial Products Corporation, Sanshin Electronics Corporation, Nagasaki Ryoden Technica Co., Ltd.

12th Commendation for Electrical Load Leveling Devices and Equipment, Ministry of Economy, Trade and Industry, Chief of the Agency for Natural Resource and Energy's Prize	Heat Pump & Thermal Storage Technology Center of Japan	Air-cooled heat pump ice thermal storage unit Compact Cube ICE: Award for contributing greatly to electrical load leveling and CO_2 emissions reduction by drastically enhancing efficiency of nighttime heat storage operation	Mitsubishi Electric Nagasaki Works
40th Machinery Industry Design Award, Award for Particular Excellence; Minister of Economy, Trade and Industry's Prize	The Nikkan Kogyo Shimbun, Ltd.	Mitsubishi MELSEC-L Series Sequencer: 75% volume and 70% weight of conventional units achieved through various interfaces installed in compact enclosure	Mitsubishi Electric Nagoya Works
2010 (59th) Commendation for Achievements in Electrical Industrial Technology, Award for Superior Performance	Japan Electrical Manufacturers' Association	Development of energy-conserving ZW/ZXV series air conditioner, achieving APF7 and over in 22 classes	Mitsubishi Electric Shizuoka Works
2010 (59th) Commendation for Achievements in Electrical Industrial Technology, Award for Superior Performance	Japan Electrical Manufacturers' Association	Development of hybrid nano-coating material which prevents adhesion of both hydrophobic and hydrophilic dirt	Mitsubishi Electric Advanced Technology R&D Center
2010 (59th) Commendation for Achievements in Electrical Industrial Technology, Award for Superior Performance	Japan Electrical Manufacturers' Association	Development and commercialization of wind-cooled converter-inverter apparatus for Shinkansen trains	Mitsubishi Electric Itami Works
2010 (59th) Commendation for Achievements in Electrical Industrial Technology, Award for Superior Performance	Japan Electrical Manufacturers' Association	Diagnostic technology for remaining lifespan of insulation in power distribution equipment	Mitsubishi Electric Advanced Technology R&D Center Power Distribution Systems Center Advanced Technology R&D Center
2010 (59th) Commendation for Achievements in Electrical Industrial Technology, Award for Superior Performance	Japan Electrical Manufacturers' Association	Production innovations for automotive high-capacity power modules	Mitsubishi Electric Corporation, Manufacturing Engineering Center, Power Device Works
2010 (59th) Commendation for Achievements in Electrical Industrial Technology, Award for Superior Performance	Japan Electrical Manufacturers' Association	Development of MELSEC-L Series programmable logic controllers, pursuing compactness and construction of efficient production facilities	Mitsubishi Electric Nagoya Works
2010 (59th) Commendation for	Japan Electrical Manufacturers'	Development of "Steamless IH" Mitsubishi electric rice	Mitsubishi Electric

Achievements in Electrical Industrial Technology, Household Appliance Division, Award for Superior Performance	Association	cooker, achieving both safety/convenience and taste	Corporation, Living Environment System Laboratory, Mitsubishi Electric Home Appliance Co., Ltd.
2010 (59th) Commendation for Achievements in Electrical Industrial Technology, Award for Excellence	Japan Electrical Manufacturers' Association	Development of ML605GTW - 5200U laser processing machine for drilling substrate holes, achieving high-precision, high-speed processing of over 2000 holes/second	Mitsubishi Electric Nagoya Works
2010 (59th) Commendation for Achievements in Electrical Industrial Technology, Award for Excellence	Japan Electrical Manufacturers' Association	World's-first standard application of active dampening device for high-speed elevators	Mitsubishi Electric Advanced Technology R&D Center
2010 National Invention Award Invention Award	Japan Institute of Invention and Innovation	Invention of frame-compliant structure for compressors	Mitsubishi Electric Shizuoka Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Remote control for air conditioners	Mitsubishi Electric Shizuoka Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Air conditioner equipped with easy maintenance functions	Mitsubishi Electric Shizuoka Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Installation method for refrigerator defrosting heaters	Mitsubishi Electric Shizuoka Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Propeller blower and refrigerator	Mitsubishi Electric Shizuoka Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Water heater that opperates while considering heat dissipation loss	Mitsubishi Electric Gunma Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Water heater temperature controllers with consideration of boiling while hot water supply is stopped	Mitsubishi Electric Gunma Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Thin waveguide polarizer	Mitsubishi Electric Corporation, Information Technology R&D Center, Communication System Center

2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Multi power supply distribution circuit-type amplifier	Mitsubishi Electric Corporation, Information Technology R&D Center, Kamakura Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Inverter apparatus with lifespan diagnostic functions	Mitsubishi Electric Nagoya Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Laser pulse control method for laser processing machines	Mitsubishi Electric Nagoya Works
2010 Commendation for Kanto Region Invention Award to Encourage Invention	Japan Institute of Invention and Innovation	Mounting apparatus for photovoltaic panels	Mitsubishi Electric Nakatsugawa Works
2010 Commendation for Kinki Region Invention, The Award to Encourage Invention by the Minister of Education, Culture, Sports, Science and Technology	Japan Institute of Invention and Innovation	Power supply for ozone generator with frequency optimization control	Mitsubishi Electric Advanced Technology R&D Center Nakatsugawa Works, Kobe Works
2010 Commendation for Kinki Region Invention, Award by the Wakayama Branch Chief	Japan Institute of Invention and Innovation	Injection circuit for refrigeration devices	Mitsubishi Electric Corporation, Air-Conditioning & Refrigeration Systems Works, Mitsubishi Electric Engineering Co., Ltd.
2010 Commendation for Kinki Region Invention, Award to Encourage Invention	Japan Institute of Invention and Innovation	Cooling structure for fully-enclosed motors	Mitsubishi Electric Itami Works
2010 Commendation for Kinki Region Invention, Award to Encourage Invention	Japan Institute of Invention and Innovation	High-frequency return wire current reduction filter circuit	Mitsubishi Electric Itami Works
2010 Commendation for Kinki Region Invention, Award to Encourage Invention	Japan Institute of Invention and Innovation	Torque pulse reduction technology for permanent magnet motors	Mitsubishi Electric Corporation, Advanced Technology R&D Center, Nagoya Works, Diamond Personnel Company Limited
2010 Commendation for Chugoku Region Invention, Hiroshima Prefecture Governor's	Japan Institute of Invention and Innovation	Electrical power metering correction circuit	Mitsubishi Electric Fukuyama Works, Advanced

Award			Technology R&D Center
2010 Commendation for Kyushu Region Invention, Award to Encourage Invention	Japan Institute of Invention and Innovation	Transfer mold-type IPM	Mitsubishi Electric Power Device Works
66th Electrical Engineering Promotion Awards, Progress Award	The Institute of Electrical Engineers of Japan	Development and demonstration of supply and demand control and self-operation technology in Hachinohe Microgrid	Mitsubishi Electric Advanced Technology R&D Center
2010 Japanese Electrotechnical Committee Achievement Award	The Institute of Electrical Engineers of Japan	For serving a central role and making significant contributions in Japan in promoting development, enhancement, and standardization in the field of electrical power transformers, including the promotion of upgrades to environmentally-oriented transformers that are made compact and energy-conserving via degradation diagnostic technology for aging transformers	Mitsubishi Electric Transmission & Distribution Systems Center Noboru Hosokawa
31st (2010) Commendation for Excellent Energy Equipment, Chief of the Agency for Natural Resource and Energy's Prize	The Japan Machinery Federation	Compressor-cooled, adsorption-type gasoline vapor liquefaction collection device for filling stations (EcoStage L, D)	Mitsubishi Electric Corporation, Tatsuno Corporation
42nd Shimura Industrial Award Contribution Award	The New Technology Development Foundation	SF6 gas elimination through serializing dry air insulated switchgear for power distribution	Mitsubishi Electric Advanced Technology R&D Center Power Distribution Systems Center Advanced Technology R&D Center
2010 Cryogenics and Superconductivity Society of Japan Industrial Technology Achievement Award	Cryogenics and Superconductivity Society of Japan	Contribution to the advancement of Japan's superconductor industry through industrialization of superconducting magnets for MRI	Mitsubishi Electric Transmission & Distribution Systems Center
Commendation by Head of High Pressure Gas Safety Institute of Kumamoto Prefecture	High Pressure Gas Safety Institute of Kumamoto Prefecture	Contributor to High Pressure Gas Safety	Mitsubishi Electric Power Device Works Kumamoto Factory
Commendation by Head of High Pressure Gas Safety Institute of Kumamoto Prefecture	High Pressure Gas Safety Institute of Kumamoto Prefecture	Specific High Pressure Gas Handling Supervisor Excellence	Mitsubishi Electric Power Device Works Kumamoto Factory

Commendation by Head of High Pressure Gas Safety Institute of Kumamoto Prefecture	High Pressure Gas Safety Institute of Kumamoto Prefecture	Specific High Pressure Gas Handling Supervisor Excellence	Sanshin Electronics Co., Ltd.
2010 Commendation for Rationalization of Electricity Usage, Commendation by Kanto Committee Chairperson, Award for Particular Excellence	The Japan Electric Association, Kanagawa Electric Association	Recognition of contributions in energy conservation and electrical power demand leveling through upgrading to ice thermal storage system-type air conditioning in two whole buildings, and CO_2 reduction and electrical power leveling through introduction of 100kW photovoltaic systems.	Mitsubishi Electric Corporation, Information Technology R&D Center
Nakatsugawa City Environmental Promotion Association, Commendation for Meritorious Service	Nakatsugawa City Environmental Promotion Association	For major contribution to environmental preservation and pollution prevention through promotion of environmental preservation and development of pollution prevention technologies and facilities.	Mitsubishi Electric Nakatsugawa Works
Best Paper Award	The Japanese National Committee of CIGRE (JNC)	New materials technology to achieve GIS/GCB with low environmental impact (eco-friendly, hybrid insulation, etc.)	Mitsubishi Electric Transmission & Distribution Systems Center

Overseas

Award	Sponsor	Description / Product	Awardee
Microgeneration scheme	UK Government / Micropower	Achievement of accreditation to Microgeneration to allow ATW systems to obtain grant from government on installations	Mitsubishi Electric Air Conditioning Systems Europe Ltd.
Ecolable for Heat pumps	Ecolabel Accreditation Board	ATW system accreditations for best performance in the industry	Mitsubishi Electric Air Conditioning Systems Europe Ltd.
Dalian City 3rd Environmental Protection for top ten leaders	Dalian City PR Section	Education for environmental protection awareness, and promotion of energy conservation activities	Mitsubishi Electric Dalian Industrial Products Co., Ltd.
Certificate of Recognition	HONDA Cars Phil.	Corporate Social Responsibility	Laguna Auto-Parts Manufacturing Corporation
Plaque of Recognition	Laguna Technopark Inc.	EMS Projects & Community Services	Laguna Auto-Parts Manufacturing Corporation
Outstanding Environmental Performer Award (Category IB : Large Industries - Others)	PEZA	EMS Projects & Community Services	Laguna Auto-Parts Manufacturing Corporation

Environmental Site Navigation

Mitsubishi Electric's environmental initiatives are introduced in two parts:
"Environmental Report" and "Environmental Topics."

Environmental Report

Environmental Policy, Vision & Plan

Specific Targets and Achievements in Fiscal 2011

Features and Initiatives of Environment Management

Product - and Technology - related Environmental Plans and Initiatives

Product Environmental Performance and Environmental Impact Data

Environmental Contribution in Business

Environmental Plans and Initiatives in Production and Logistics

Guidelines and Initiatives for Respecting Biodiversity

Scope of Report and Data

From the President
Mitsubishi Electric is aiming to be a global leading green company that helps to enrich society locally and regionally.

Guide to Environmental Technologies
Mitsubishi Electric's photovoltaic systems, EGR valve, SiC power device, dry air insulated switchgear and other products and technologies feature energy savings and energy-efficient operation for reduced carbon dioxide emissions.

Plastic Recycling Comes of Age
Creating an entirely new and viable eco-business, Japan's first large-scale, high-purity plastic recycling center. It's the genesis of a sustainable recycling industry, expected to thrive as a mission-critical business for a recycling-based society.

Dialog on Environmental Management
Experts discuss Mitsubishi Electric's environmental conservation efforts, in a quest for outside assessments of the company's activities, fresh insight, and indicators that can provide for more effective planning for the future.

Water for Life, Water for Industry
Mitsubishi Electric leads Japan in the development and implementation of systems for wastewater treatment in manufacturing, water purification for public consumption, and more effective industrial cleaning processes.

Eco Changes in the Making
Mitsubishi Electric's environmental stance, Eco Changes – for a greener tomorrow, expresses the company's commitment to environmental initiatives for a better future, and is a guiding light for sustainable growth in India.

Respecting Biodiversity
Mitsubishi Electric makes efforts to ensure its workforce worldwide understands the relationship between business activities and biodiversity, and strives for all Mitsubishi Electric Group companies to preserve biodiversity.

Guideline Comparison Tables

GRI Guideline Comparison Sheet

Japan Ministry of the Environment
Guideline Comparison Sheet

Guideline Comparison Tables

GRI Guideline Comparison Table

Item	Indicator	CONTENTS
1 Vision and Strategy		
1.1	Statement of the organization's vision and strategy regarding its contribution to sustainable development.	President's Message
		From the President
1.2	Statement from the CEO (or equivalent senior manager) describing key element of the report.	From the President
2 Profile		
Organizational Profile		
2.1	Name of the organization.	Corporate Data
2.2	Primary brands, products, and/or services.	Products
		Business Overview
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	Corporate Data
		Organization
2.4	Location of organization's headquarters.	Corporate Data
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	Locations
2.6	Nature of ownership and legal form.	Corporate Data
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	Locations
2.8	Scale of the reporting organization, including: ● Number of employees; ● Net sales (for private sector organizations) ; ● Total capitalization broken down in terms of debt and equity (for private sector organizations); and ● Quantity of products or services provided.	Corporate Data
2.9	Significant changes during the reporting period regarding size, structure, or ownership	-
2.10	Awards received in the reporting period.	Awards
		Awards
3 Report Parameters		
Report profile		
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	About the Report
		Scope of Report
3.2	Date of most recent previous report (if any).	June, 2010
		Back Issues
3.3	Reporting cycle (annual, biennial, etc.)	Annual
3.4	Contact point for questions regarding the report or its contents.	Contact
Report Scope and Boundary		
3.5	Process for defining report content.	About the Report
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers).	About the Report
		Scope of Report
3.7	State any specific limitations on the scope or boundary of the report.	-

3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.	-
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	-
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons or such re-statement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods).	-
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	About the Report
		Scope of Report
GRI content index		
3.12	Table identifying the location of the Standard Disclosures in the report.	GRI Guideline Comparison
Assurance		
3.13	Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).	-
Governance, Commitments, and Engagement		
Governance		
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	Corporate Governance
4.2	Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement).	-
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	-
4.4	Mechanisms for shareholders and employees to provide recommendations or direction of the highest governance body.	-
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	-
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	Corporate Governance
4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics.	-
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	Corporate Mission
		Compliance
		Group Environmental Policy
		Environmental Statement: Eco Changes
		Environmental Vision 2021
		Aiming to Become a Global, Leading Green Company
		6th

		Environmental Plan (Fiscal 2010-2012)
		Group Biodiversity Action Guidelines
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and provide opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	Corporate Governance
		Compliance
		Risk Management
		Ensuring Consistent Quality
		Expanding Global Environmental Management
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	-
Commitments to external initiatives		
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	Compliance
		Risk Management
		Ensuring Consistent Quality
		Environmental Risk Management
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	-
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization: ● Has positions in governance bodies; ● Participates in projects or committees; ● Provides substantive funding beyond routine membership dues; or ● Views membership as strategic.	Status of REACH Compliance
Stakeholder Engagement		
4.14	List of stakeholder groups engaged by the organization.	Social Responsibility
4.15	Basis for identification and selection of stakeholders with whom to engage.	-
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	To Customers
		To Business Partners
		To Shareholders & Investors
		To Employees
		As a Corporate Citizen
		Exchanging Ideas with Experts
		Dialog on Environmental

		Management
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization as responded to those key topics and concerns, including through its reporting.	Exchanging Ideas with Experts
		Dialog on Environmental Management
5 Disclosure on Management Approach and Performance		
Economic		
Management Approach		President's Message
		President's Message
Economic Performance Indicators		
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	Annual Report
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	Environment-Related Business
EC3	Coverage of the organization's defined benefit plan obligations.	Annual Report
EC4	Significant financial assistance received from government.	-
EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation.	-
Market Presence		
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.	To Business Partners
EC7	Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation.	-
Indirect Economic Impacts		
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	Philanthropic Activities
		As a Corporate Citizen
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.	-
Environmental		
Management Approach		President's Message
		From the President
		90th Anniversary President's Message Video
		CSR Philosophy
		Group Environmental Policy
		Environmental Statement: Eco Changes
		Environmental Vision 2021
		Aiming to Become a Global, Leading Green Company

		6th Environmental Plan (Fiscal 2010-2012)
		Group Biodiversity Action Guidelines
		Environmental Management
		Targets & Achievements of the 6th Environmental Plan
Materials		
EN1	Materials used by weight or volume.	Material Balance
EN2	Percentage of materials used that area recycled input materials.	-
Energy		
EN3	Direct energy consumption by primary energy source.	Material Balance
EN4	Indirect energy consumption by primary source.	-
EN5	Energy saved due to conservation and efficiency improvements.	Reducing CO_2 from Production
		Environmental Performance Data
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	Reducing CO_2 from Product Usage
		Environment-Related Business
		Environmental Statement: Eco Changes
EN7	Initiatives to reduce indirect energy consumption and reductions achieved. EN21 Total water discharge by quality and destination.	-
Water		
EN8	Total water withdrawal by source.	Material Balance
		Environmental Performance Data
		Using Water Effectively
EN9	Water sources significantly affected by withdrawal of water.	-
EN10	Percentage and total volume of water recycled and reused.	Environmental Performance Data
		Using Water Effectively
Biodiversity		
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	-
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	-
EN13	Habitats protected or restored.	-
EN14	Strategies, current actions, and future plans for managing impacts on	President's

	biodiversity.	Message
		Respecting Biodiversity
		What We Can Do to Protect Biodiversity
EN15	EN2 Percentage of materials used that are recycled input materials. Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	-
Emissions, Effluents, and Waste		
EN16	Total direct and indirect greenhouse gas emissions by weight.	Material Balance
		Environmental Performance Data
		Reducing CO_2 from Production
		Reducing Emissions of Non-CO_2 Greenhouse Gases
EN17	Other relevant indirect greenhouse gas emissions by weight.	-
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.	Reducing CO_2 from Production
		Reducing Emissions of Non-CO_2 Greenhouse Gases
EN19	Emissions of ozone-depleting substances by weight.	Reducing Emissions of Non-CO_2 Greenhouse Gases
EN20	NO, SO, and other significant air emissions by type and weight.	Material Balance
EN21	Total water discharge by quality and destination.	
EN22	Total weight of waste by type and disposal method.	Material Balance
		Environmental Performance Data
		Zero Emissions
EN23	Total number and volume of significant spills.	-
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	-
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	-
Products and Services		
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	Reducing Resource Inputs
		Recycling End-of-Life Products
		Plastic Recycling Comes of Age
		Environmental Statement: Eco Changes

EN27	Percentage of products sold and their packaging materials that are reclaimed by category.	Recycling End-of-Life Products
		Plastic Recycling Comes of Age
Compliance		
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	-
Transport		
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	Material Balance
		Environmental Performance Data
		Reducing CO_2 from Logistics
Overall		
EN30	Total environmental protection expenditures and investments by type.	Environmental Accounting
Social Performance Indicators		
Management Approach		President's Message
		CSR Philosophy
		Compliance
		To Employees
Employment		
LA1	Total workforce by employment type, employment contract, and region.	Workforce Diversity & Equal Opportunity
LA2	Total number and rate of employee turnover by age group, gender, and region.	-
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.	-
Labor/Management relations		
LA4	Percentage of employees covered by collective bargaining agreements.	-
LA5	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.	-
Occupational health and Safety		
LA6	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs.	-
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region.	Ensuring Occupational Safety & Health
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	
LA9	Health and safety topics covered in formal agreements with trade unions.	-
Training and Education		
LA10	Average hours of training per year per employee by employee category.	-
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	Workforce Diversity & Equal Opportunity
LA12	Percentage of employees receiving regular performance and career development reviews.	-
Diversity and Opportunity		
LA13	Composition of governance bodies and breakdown of employees per	-

	category according to gender, age group, minority group membership, and other indicators of diversity.	
LA14	Ratio of basic salary of men to women by employee category.	-
Human Rights		
Management Approach		CSR Philosophy
		Compliance
		Respecting Human Rights
Investment and Procurement Practices		
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.	-
HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.	-
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	-
Non-Discrimination		
HR4	Total number of incidents of discrimination and actions taken.	-
Freedom of Association and Collective Bargaining		
HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.	-
Child Labor		
HR6	Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.	Compliance
		Respecting Human Rights
Forced and Compulsory Labor		
HR7	Operations identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of forced or compulsory labor.	Compliance
		Respecting Human Rights
Security practices		
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	-
Indigenous rights		
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.	-
Society		
Management Approach		CSR Philosophy
		Compliance
		Risk Management
		Expanding Global Environment Management of the Mitsubishi Electric Group
Community		
SO1	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting.	Complying with Environmental Regulations
		Environmental Audits
Corruption		
SO2	Percentage and total number of business units analyzed for risks related to corruption.	-

SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.	-
SO4	Actions taken in response to incidents of corruption.	-
Public Policy		
SO5	Public policy positions and participation in public policy development and lobbying.	-
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	-
Anti-Competitive Behavior		
SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	-
Compliance		
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	-
Product Responsibility		
Management Approach		President's Message
		CSR Philosophy
		To Customers
Customer Health and Safety		
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	Design for Environment
		Ensuring Consistent Quality
Products and Services		
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	Responding to Product-Related Issues
Products and Services Labeling		
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	-
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	-
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	Increasing Customer Satisfaction
Marketing Communications		
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	-
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	-
Customer Privacy		
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	-
Compliance		
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	-

Guideline Comparison Tables

Japan MOE Guideline Comparison Table

Indication request item of the Guideline		CONTENTS
Basic Information: BI		
BI-1 CEO's statement		
a.	Environmental management policy	From the President President's Message
b.	The recognition of the status of the environment, the need for environmental initiatives within an organization, and the future prospect of the construction of a sustainable society.	
c.	The environmental policy and strategies of an organization corresponding to the industry, operational scale, character and overseas development; status of environmental impacts (significant environmental aspects) and a summary of environmental initiatives which reduce the negative environmental impacts, including targets and results.	
d.	A commitment to society concerning the implementation of such environmental activities, the achieving of targets by any promised time limit and the disclosure of results to the public.	
e.	The signature of the CEO	
BI-2 Fundamental requirements of reporting		
BI-2-1: Organizations, periods and areas covered by the reporting		
a.	Organizations covered by the reporting (Note: If environmental reporting has been published in the past, and changes were made in the organizations when compared to the latest reporting, such changes and their background need to be included.)	About the Report Scope of Report
b.	Reporting time period, the date issued, and schedule for the next issue (Note: If environmental reporting has been published in the past, the issue date of the latest version needs to be included.)	
c.	Reporting areas (environmental, social and economic fields)	
d.	Standards or guidelines that are used in conformity to, or as a reference (including ones specific to the industry)	
e.	The division in charge of the publication and means of contact	
f.	URL of the organization's website	
BI-2-2: Boundary of the reporting organization and coverage of environmental impacts		
a.	Percentage of the impacts caused by the reporting organization compared to the total business environmental impacts (the entire group for consolidated accounts). (i.e., Status according to the coverage of the environmental impacts)	About the Report Scope of Report
BI-3: Summary of the organization's business (Including Management indices)		
a.	Nature of the organization's business (kind of industry and type of operation)	Corporate Data.
b.	Major products and services (field of business)	Products Business Overview
c.	Amount of sales or production (consolidated or unconsolidated in the case of an entire group, or just the reporting organization).	Corporate Data
d.	Number of employees (consolidated or unconsolidated in the case of an entire group, or just the reporting organization)	Corporate Data
e.	Other information relating to management (e.g., total assets, total sales profits, operating profits, ordinary profits, net income and loss, and total value added)	IR Library Financial Statements
f.	Details of significant changes in organizational structure, composition of shareholders, or products/services that have occurred in the reporting period (if significant changes to the environmental impacts have	-

	occurred due to events such as, mergers, company break-up, sale of a subsidiary or operating division, new business opportunities, or construction of new plants)	
BI-4: Outline of environmental reporting		
BI-4-1: List of major indicators		
a.	Summary of the organization's business, such as corporate name, sales figures, and total assets over the past five years or so (refer to BI-3)	Corporate Data
		IR Library
		Financial Statements
b.	Status of compliance with environmental regulations	Complying with Environmental Regulations
	(refer to MP-2)	Environmental Audits
c.	Changes in major environmental performance over the past five years or so	Material Balance
		Environmental Performance Data
BI-4-2: Summary of objectives, plans and results regarding environmental initiatives		
a.	Summary of targets, plans, results, and improvement measures regarding initiatives for environmental conservation	Targets & Achievements of the 6th Environmental Plan
BI-5: Material balance of organizational activities		
a.	An overall picture of the environmental impacts caused by the organization's activities	Material Balance
Environmental Performance Indicators: MPI		
MP-1 Status of environmental management		
MP-1-1: Environmental policy in organizational activities		
a.	Environmental policy in organizational activities	From the President
		President's Message
		Group Environmental Policy
		Environmental Statement: Eco Changes
		90th Anniversary President's Message Video
		Environmental Vision 2021
		6th Environmental Plan (Fiscal 2010-2012)
		Group Biodiversity Action Guidelines
		Environmental Management
MP-1-2: Status of environmental management systems		
a.	Status of environmental management systems	Aiming to

		Achieve Environmental Vision 2021
		Expanding Global Environmental Management
		Expanding ISO 14001 Conformity
MP-2 Status of compliance with environmental regulations		
a.	Status of compliance with environmental regulations	Complying with Environmental Regulations
		Environmental Audits
MP-3 Environmental accounting information		
a.	Costs of environmental conservation initiatives	Environmental Accounting
b.	Environmental effects relating to environmental conservation initiatives	
c.	Economical effects associated with environmental conservation initiatives	
MP-4 Status of environmentally conscious investment or financing (newly set)		
a.	Environmentally conscious policy, targets, plans, status of initiatives, and results related to investment and financing	Environmental Accounting
MP-5 Status of supply chain management for environmental conservation		
a.	Environmentally conscious policy, targets, plans, status of initiatives, and results related to the supply chain management	Complying with Chemical Substance Regulations
MP-6 Status of green purchasing or procurement		
a.	Fundamental policy, targets, plans, status of initiatives and results of green purchasing or procurement	Green Accreditation System
		Green Procurement
MP-7 Status of research and development of new environmental technologies and DfE		
a.	Policy, targets, plans, status of initiatives and results of research and development related to environmental technologies, engineering methods, and DfE	Design for Environment
		Recycling End-of-Life Products
MP-8 Status of environmentally friendly transportation		
a.	Policy, targets and plans for environmentally friendly transportation	Reducing CO_2 from Logistics
b.	Total volume of transportation and reduction measures: current status and results	Reducing the Use of Disposable Packaging Materials
c.	Energy-induced CO_2 emissions attributable to transportation, and reduction measures, the current status and results	
MP-9 Status of biodiversity conservation and sustainable use of biological resources		
a.	Policies, targets, plans, status of initiatives, and results related to conservation of biodiversity	President's Message
		Respecting Biodiversity
		Respecting Biodiversity
		Targets & Achievements of the 6th Environmental Plan

		Environmental Statement: Eco Changes
MP-10 Status of environmental communication		
a.	Policy, targets, plans, status of initiatives, and results related to environmental communication	Environmental Communication
MP-11 Status of social contribution related to environment		
a.	Policy, targets, plans, status of initiatives, and results of social contribution related to the environment	As a Corporate Citizen
		Environmental Preservation
		"Satoyama" Woodland Preservation
MP-12 Status of products and services that contribute to the reduction of negative environmental impacts		
a.	Policies, targets, plans, and the status of initiatives and results related to products and services that contribute to the reduction of negative environmental impacts	Design for the Environment
		Environmental Contribution in Business
		Environmental Statement: Eco Changes
b.	Status of re-merchandizing (converting used items into marketable products) as stipulated by the Containers and Packaging Law, the Home Appliances Recycling Law, and the Automobile Recycling Law	Recycling End-of-Life Products
Operational Performance Indicators: OPI		
OP-1 Total amount of energy input and reduction measures		
a.	Policy, targets, plans, status of initiatives, and results of reduction measures related to total energy input	Material Balance
		Environmental Performance Data
		Reducing CO_2 from Production
		Dialog on Environmental Management
b.	Total amount of energy input (unit: joule)	Material Balance
		Environmental Performance Data
c.	Breakdown of total amount of energy input (the amount used by type) (unit: joule)	Material Balance
		Environmental Performance Data
OP-2 Total amount of material input and reduction measures		
a.	Measures to reduce total material input (or the purchased amount of main raw materials, etc. including containers and packaging materials) and policy, targets, plans, initiatives, results, etc. related to the effective use of renewable and recyclable resources	Reducing Resource Inputs
		Recycling End-of-Life Products
		Reducing the Use of Disposable

		Packaging Materials
		Plastic Recycling Comes of Age
b.	Total material input (or the purchased amount of main raw materials including containers and packaging materials) (unit: ton)	Material Balance
c.	Breakdown of total material input (unit: ton)	
OP-3 Amount of water input and reduction measures		
a.	Policy, targets, plans, initiatives, results, etc. related to measures to reduce the amount of input water resources	Using Water Effectively
		Membrane Separation Advances Water Recycling
b.	Amount of input water resources (cubic meters, m3)	Material Balance
		Environmental Performance Data
		Using Water Effectively
c.	Breakdown of input water resources (m3)	Material Balance
		Environmental Performance Data
		Using Water Effectively
OP-4 Amount of materials recycled within an organization's operational area		
a.	Policy, targets, plans, initiatives, results, etc. related to the recycling-based use of materials (including water resources) in the facilities of an organization	Reducing Resource Inputs
		Recycling End-of-Life Products
		Plastic Recycling Comes of Age
		Using Water Effectively
		Membrane Separation Advances Water Recycling
b.	Amount of materials recycled in the facilities of an organization (unit: ton)	Recycling End-of-Life Products
		Plastic Recycling Comes of Age
		Using Water Effectively
		Membrane Separation Advances Water Recycling
c.	Type and amount of each material recycled in the facilities of an	-

	organization (unit: ton)	
d.	Amount of water recycled in the facilities of an organization (unit: cubic meters) and measures to increase it	Using Water Effectively
e.	Breakdown of the amount of water recycled (unit: cubic meters)	-
OP-5 Total amount of manufactured products or sales		
a.	Total amount of manufactured products or that of sold commodities	Material Balance
OP-6 Amount of greenhouse gas emissions and reduction measure		
a.	Policy, targets, plans, initiatives, results, etc. related to measures to reduce greenhouse gas emissions, etc.	Environmental Vision 2021
		6th Environmental Plan (Fiscal 2010-2012)
		Reducing CO_2 from Production
		Reducing Emissions of Non-CO_2 Greenhouse Gases
		Dialog on Environmental Management
		Targets & Achievements of the 6th Environmental Plan
b.	Total amount (converted to tons of CO_2) of greenhouse gas emissions (six substances subject to the Kyoto Protocol) (The breakdown of the amount both in Japan and overseas is needed.)	Material Balance
		Environmental Performance Data
		Reducing CO_2 from Production
		Reducing Emissions of Non-CO_2 Greenhouse Gases
		Targets & Achievements of the 6th Environmental Plan
c.	Breakdown by type of the amount (converted to tons of CO_2) of greenhouse gas emissions (six substances subject to the Kyoto Protocol)	-
OP-7 Air pollution, its environmental impacts on the living environment, and reduction measures		
a.	Policy, targets, plans, initiatives, results, etc. related to measures to reduce the amount of released sulfur oxides (SO_x), nitrogen oxides (NO_x), and volatile organic compounds (VOC)	Material Balance
		Environmental Performance Data
		Reducing VOC Emissions
		Targets & Achievements of the 6th

		Environmental Plan
b.	Each released amount (in tons) of sulfur oxides (SO_x), nitrogen oxides (NO_x), and volatile organic compounds (VOCs) according to the Air Pollution Control Law	Material Balance
		Environmental Performance Data
		Targets & Achievements of the 6th Environmental Plan
c.	Status of noise, etc. generated (in decibels) according to the Noise Regulation Law and reduction measures	-
d.	Status of vibrations, etc. generated (in decibels) according to the Vibration Regulation Law and reduction measures	-
e.	Status of offensive odors, etc. generated (specified offensive odor substance concentration or odor index) according to the Offensive Odor Control Law and reduction measures	-
OP-8 Amount of release and transfer of chemical substances and reduction measures		
a.	Chemical substance management policy and status of chemical substances being managed	Managing Chemical Substances
b.	Policy, targets, plans, initiatives, results, etc. related to the released and transferred amount of chemical substances and reduction measures	Managing Chemical Substances
		Material Balance
		Environmental Performance Data
		Targets & Achievements of the 6th Environmental Plan
c.	Initiatives, results, etc. concerning replacement of current chemical substances with safer ones	Managing Chemical Substances
d.	Released and transferred amount of chemical substances subject to the PRTR system based on the Law Concerning Reporting etc., of Release of Specific Chemical Substances to the Environment and Promotion of the Improvement of Their Management (unit: ton)	Managing Chemical Substances in Production
e.	Concentration of specified substances when released into the atmosphere (benzene, trichloroethylene, and tetrachloroethylene) among hazardous air pollutants controlled by the Air Pollution Control Law	
f.	Status of soil and groundwater pollution	Environmental Risk Management
g.	Status of pollution by dioxins controlled by the Law concerning Special Measures against Dioxins	-
h.	Concentration of hazardous substances, controlled by the Water Pollution Control Law, contained in wastewater and specified underground infiltrated water	-
OP-9 Total amount of waste generation and final disposal and reduction measures		
a.	Policy, targets, plans, initiatives, results, etc. related to measures to prevent further wastes from being generated and to reduce, and recycle them	Material Balance
		Environmental Performance Data
b.	Total amount of discharged wastes (unit: ton)	Zero Emissions

c.	Amount of final disposal wastes (unit: ton)	Targets & Achievements of the 6th Environmental Plan
OP-10 Total Amount of water discharge and reduction measures		
a.	Policy, targets, plans, initiatives, results, etc. related to measures to reduce the total amount of discharged wastewater	Membrane Separation Advances Water Recycling
b.	Total amount of discharged wastewater (unit: cubic meters)	Material Balance
c.	Concentration (average and maximum values) of hazardous substances in wastewater (which are classified into health items, living environment items, and dioxins), the release of which is controlled by the Water Pollution Control Law and the Law Concerning Special Measures Against Dioxins; and the pollutant discharge load of the substances subject to the total volume control of the Water Pollution Control Law, etc., and reduction measures	-
d.	Breakdown of the amount of wastewater by discharge destination (unit: cubic meters)	-
Eco-efficiency indicator: EEI		
The Status of the Relationship between Environmental Considerations and Management		
a.	The relationship of economic value created by economic activities, such as value added, with environmental impacts caused by the same activities	Environmental Contribution in Business
Social Performance Indicators: SPI		
The Status of Social Initiatives		
(1) Information and indicators concerning industrial safety and hygiene		
	Policies, plans, and initiatives concerning industrial safety and hygiene	Ensuring Occupational Safety & Health
	Frequency and number of industrial accidents (number of accidents, details on serious accidents such as deaths, serious injuries, deaths from overwork, etc., and reporting required by the Law on Industrial Safety and Hygiene)	
	Policy and initiatives concerning the health care of employees (initiatives based on guidelines for research on danger and hazardousness, etc.,*1 initiatives based on guidelines on measures for business organizations to implement based on health examination results*2, the status of safety and health education being given, and initiatives based on guidelines on measures for business organizations to create a comfortable working environment*3)	
	***1** Guideline on research, etc. on danger and hazards (in Japanese) ***2** Guidelines on measures for organizations to implement based on health examination results (in Japanese) ***3** Guidelines on measures for organizations to create a comfortable working environment (in Japanese)	
	Frequency rate, severity rate, and number of non-attendance days	
	Expenditure on health and safety and expenditure per employee	-
	Initiatives based on guidelines for industrial safety and hygiene management systems*4	Ensuring Occupational Safety & Health
	***4** Guidelines on industrial safety and hygiene management systems (in Japanese)	
	The minutes of the Industrial Health and Hygiene Commission and notification to all employees	-
(2) Information and indicators concerning employment		
	Policies, plans, and initiatives related to employment	Workforce Diversity & Equal Opportunity
	Breakdown of labor force (percentages of permanent employees,	-

	temporary employees, short-term contract employees, part-time employees, etc., status of elderly people 109 employed, number of persons leaving organization in the previous year (by age, sex, and region), turnover rate (by age, sex, and region), and comparison of regular employment rate and regular employees as a percentage of all employees in the region)	
	Wage conditions (ratio of the average wages of regular employees against those of non-regular employees; comparison of health insurance, maternity leave before and after childbirth, childcare leave, and retirement pensions between regular employees and non-regular ones)	-
	Status of how fairly job applicants are selected and employed	Workforce Diversity and Equal Opportunity
	Status of how personnel evaluations are conducted	Creating a Fulfilling Workplace
	Status of how education and training are carried out	Supporting Career Development
	Information according to the Equal Employment Opportunity Law for Men and Women (ratio of male to female directors and managers, ratio of male to female regular employees, and how the guideline on corporate voluntary activities for helping female employees fulfill their potential*5 has been followed)	Workforce Diversity and Equal Opportunity
	***5** Guidelines on corporate voluntary activities for helping female employees fulfill their potential 110 (in Japanese)	
	Policies and initiatives related to the employment of the disabled, and the status of the disabled being employed according to the Disabled Employment Promotion Law (number of disabled employed and their employment rate)	
	Policy on the employment of alien workers and the status of alien workers being employed	-
	Status of public welfare (status of the extent that maternity leaves before and after childbirth and childcare have been taken, initiatives to support families raising children, off-duty education of employees and assistance for employees to participate in NPO activities, the status of the extent that paid holidays and ones not stipulated by law have been taken, and initiatives based on the Next-Generation Fostering Assistance Promotion Law)	Maintaining a Favorable Working Environment
	Labor-management relations (ratio of organized labor, status of collective bargaining, basic policies on dismissal and employment adjustment and the status of how the policies have been adhered to, status of labor-management disputes and lawsuits, and the status of directions, recommendations, etc. conducted by the Labor Standards Inspection Bureau)	-
	Initiatives to improve the workplace environment (status of how policies on prevention of sexual harassment have been clarified and made known to employees, status of whether a complaints procedure is in place and known to employees, initiatives to prevent bullying other than sexual harassment, and how complaints about bullying have been handled, to what extent the guidelines on AIDS problems in the workplace*6 have been adhered to, and to what extent the guidelines on items that a business proprietor should take into consideration in employment management when dealing with problems caused by sexual speech and behavior in the workplace*7 have been adhered to).	Compliance
	***6** Guidelines on AIDS problems in the workplace (in Japanese)	
	***7** Guidelines on items that a business proprietor should take into consideration in employment management when dealing with problems caused by sexual speech and behavior in the workplace (in Japanese)	Respecting Human Rights
(3) Information and indicators concerning human rights		
	Policy, plans, and initiatives related to human rights	Compliance
		Respecting

		Human Rights
	Status of measures being taken against discrimination	-
	Status of measures taken to prevent child labor and forced or obligated labor (status of how programs for eliminating these kinds of labor, including supply chain management, have been carried out)	
	Education and training for employees about human rights	
(4) Information and indicators concerning contributions to local communities		
	Policies, plans, and initiatives for respect and protection of local culture and communities (in regions in Japan and abroad related to the activities of an organization)	Philanthropic Foundations
	Initiatives to social issues in developing countries, etc.	-
	Status of fair trade and CSR procurement	To Business Partners
	Status of cooperation and assistance for provision of education and training in local communities	Science & Technology
	Policies, plans, and initiatives related to social contributions other than for the environment	Philanthropic Activities
		As a Corporate Citizen
	Status of assistance and provision to NPOs, industry groups, etc. amount of assistance, and goods supplied, etc.	-
(5) Information and indicators concerning corporate governance, corporate ethics, compliance, and fair trade		
	Policies, systems, plans, and initiatives related to corporate governance, ethics, compliance, and fair trade (also applies for overseas activities)	Corporate Governance
		Compliance
	Details of violations of laws other than environmental laws, details on the directions, recommendations, orders, punishments, etc. given by administrative agencies, and the number of them (laws mentioned above include the Anti-Monopoly Law, Law for the Prevention of Unreasonable Premiums and Misrepresentation Concerning Products and Services, Subcontract Law, Labor Standards Law, Worker Dispatch Law, Fair Competition Regulations, Consumer Products Safety Law, Specified Commercial Transactions Law, Product Liability Law, and Foreign Exchange and Foreign Trade Law)	-
	Details on all lawsuits other than environmental suits that have been filed or faced and their results	-
	Status of whether a code of conduct has been formulated	Compliance
	Status of the initiatives on fair transaction, such as the compliance program of the Anti-Monopoly Law and the implementation of an Anti-Monopoly Law observance program; observation of the Law for the Prevention of Unreasonable Premiums and Misrepresentation Concerning Products and Services; measures to prevent delay in payment to subcontractors; and the implementation of a guidelines observance program for distribution trade practices.	
	Policy, plans, and initiatives related to safeguards for those personnel who disclose information in the public interest (whistleblowers).	
(6) Information and indicators concerning personal information protection		
	Policy, plans, and initiatives related to personal information protection	Risk Management
		Handling of personal information
(7) Information and indicators concerning a wide range of consumer protection and product safety		
	Policies, plans, and initiatives related to consumer protection and product safety and quality	Ensuring Consistent Quality
	Policies and initiatives to secure the safety and hygiene of customers through the process of designing, manufacturing, selling (providing), using, and disposing of products and services	
	Names of organizations that confirm and certify that their main products	-

	and services meet safety standards and, as necessary, the procedures for confirmation and certification, numerical targets for the products and services to meet the standards, and to what extent the standards have been met	
	In-house systems for complying with laws and self-imposed regulations on advertising and sales to customers	Compliance
	Measures to comply with the Product Liability Law, especially ones to secure the safety of customers in designing, manufacturing, and displaying products	Ensuring Consistent Quality
	After-sales service program including inspection and repair	Increasing Customer Satisfaction
	Status of whether a customer complaints system has been set up and the status of how complaints have been effectively dealt with (whether a system for dealing with customer complaints has been set up and how the complaints have been dealt with according to the Customer Basic Law and how many cases of damage caused by products have been reported according to the Consumer Products Safety Law)	
	Status of the extent that data to justify the quality indication and explanation of products, etc., required by the Law for the Prevention of Unreasonable Premiums and Misrepresentation concerning Products and Services, have been disclosed	-
	Status of how many faulty products, etc., have been recalled and collected	Responding to Product-Related Issues
	A program for improving the sales and consumer contract provisions in regards to compliance with the Consumer Contracts Law, Consumer Basic Law, Financial 112 Product Transactions Law, and the Specified Commercial Transactions Law, and the status of the extent that the program has been carried out	Compliance
(8) Economic information and indicators concerning organization's social aspects		
	Allocation of corporate value (value added) to stakeholders by types	-
	Names of parties that funds were donated to in areas other than the environment and the amount of donations	Social Welfare
		Science & Technology
		Disaster Relief
	Status of whether tax liabilities have been met appropriately	-
(9) Information and indicators concerning other social aspects		
	Policy, plans, and initiatives related to conducting animal experiments	-
	Respect for and protection of intellectual property rights	Risk Management
		Creating a Fulfilling Workplace
	Policies, plans, and initiatives related to the handling, developing, manufacturing, and selling of weapons and products or goods that can be diverted to military use	-
	Record of winning awards	Awards
		Awards