2012/10/10

for a greener tomorrow

Environmental Report 2012

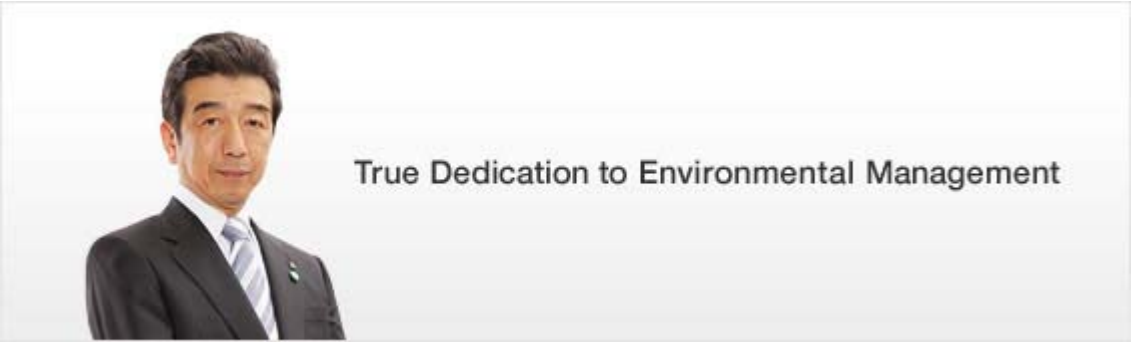
MITSUBISHI ELECTRIC

Changes for the Better

Contents

Contents

Environment – From the President



Entering an all-new phase of reducing CO_2 emissions through the use of our products

The Mitsubishi Electric Group launched its 7th Environmental Plan beginning in April of 2012. This plan puts even greater emphasis on making contributions to the environment through our products, services and businesses.

The plan is an important step on the way to achieving our 2007-initiated Environmental Vision 2021, which has the two core objectives of reducing total CO_2 emissions from production and reducing CO_2 emissions from product usage. Of the two, expectations towards the manufacturing sector have tended to center more on the former. Accordingly, Mitsubishi Electric has put particular focus on thoroughly reducing CO_2 emissions in product manufacturing processes by eliminating waste and realizing greater production efficiencies. These two initiatives are paramount to helping reduce production-based CO_2 emissions and strengthening our constitution as a manufacturer. To that end, we have established CO_2 emissions reduction targets for our frontlines of production and are proceeding with improvement activities at each of our business sites to achieve them.

There is greater scope, however, for reducing CO_2 emissions resulting from product usage than that which can be reduced through production-related improvements. Mitsubishi Electric provides, to markets around the world, a broad range of home electronics as well as products that are core to the social infrastructure, including energy-related and transportation-related equipment and devices. By increasing the energy-saving performance of every product and replacing existing products with new–and-improved versions, we will be able to help significantly reduce CO_2 emissions on a global scale.

Our initiatives to help create a low-carbon society have entered a completely new phase. Under the 7th Environmental Plan, we will focus even greater efforts on strengthening our constitution through reducing CO_2 emissions from production. At the same time, based on a heightened recognition of the importance that products play in achieving a low-carbon society-and true to our mission as a manufacturer-we will also create products with high environmental performance, and by providing these to society, we will collectively reduce CO_2 emissions.

Pursuing initiatives rooted in local conditions as a global, leading green company

Mitsubishi Electric declared last year its intention to become a global, leading green company, and carries out a number of environmental activities towards this end. Moving forward, the concept of "local production for local consumption," where local conditions and needs are better met, is set to take on even greater significance. With the current system, the design and production of components is concentrated in Japan or another country and products are assembled in the local market where they will be sold. In contrast, the new standard will be sourcing components locally and localizing design initiatives to achieve high efficiency as well as high-quality local production for local consumption. By procuring components, designing, manufacturing and assembling locally, it becomes possible to pursue a type of manufacturing that better captures local market needs and meets the heightened growth demands of these regions. This approach contributes to greater job opportunities, better infrastructure and revitalized local economies.

In tandem with the localization of our operations, we must also localize our environmental management based on the circumstances of each region and country, establishing a platform that underlies Mitsubishi Electric's environmental activities. However, I believe building this foundation will take longer than it will to further localize our operations. Also, it may be unreasonable to roll out advanced environmental technologies and systems in countries that have only recently begun to experience economic growth. We need to accurately ascertain the needs and growth levels of each region and country to implement optimal approaches. I believe this is the path that a truly global, leading green company should pursue.

Delivering true benefits through 'true dedication'

There is one thing that we must not lose sight of when pursuing our environmental goals: the degree of our dedication to the cause. It must be unwavering and true.

The Mitsubishi Electric Group's managerial indicators for building a foundation for growth include compliance, quality, safety, costs, the environment, delivery, and inventory. As is the case when there are multiple objectives, people have a tendency to prioritize one over the other. This approach does not take 'degree of dedication' into account, however. Even with multiple priorities, tasks that need to be addressed at any given time are clear. The environment is one of these tasks, and I believe successful environmental management creates true benefits for all. That is to say, a company cannot exist without the environment.

Everyone at the Mitsubishi Electric Group maintains an earnest, steadfast, and unwavering dedication to delivering these true benefits. This is the type of environmental management that we will pursue.

Kenichiro Yamanishi
President & CEO

Environment – Environmental Report 2012

Highlights of Activities in Fiscal 2012

Remarkable activities and achievements among environmental initiatives in Fiscal 2012.

Chinese language version of the above page:

- 2011年度活动焦点

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

An overview and self-evaluation of progress and achievements made by the Mitsubishi Electric Group in fiscal 2012, vis-a-vis the targets set out in the 6th Environmental Plan.

Chinese language version of the above page:

- 第6次环境计划(2009-2011年度)目标与成果

Data & Charts in Fiscal 2012

- Period and Scope of the Report
- Material Balance
- Environmental Accounting
- Environmental Performance Data
- Awards

Chinese language version of the above pages:

- 关于报告期间与范围
- 物料衡算

Production & Logistics-Related Initiatives

- Reducing CO2 from Production
- Reducing Emissions of Non-CO2 Greenhouse Gases
- Zero Emissions
- Using Water Effectively
- Managing Chemical Substances
- Reducing CO2 from Logistics
- Reducing the Use of Disposable Packaging Materials

Environmental Contributions through Our Products, Technologies and Businesses

- Reducing CO2 from Product Usage
- Reducing Resource Inputs
- Complying with Chemical Substance Regulations
- Recycling End-of-Life Products
- Environmental Technology R&D Results
- Environment-Related Businesses
- Reducing CO2 from Power Generation

Respecting Biodiversity

- Fostering Environmental Awareness
- Mitsubishi Electric Outdoor Classroom
- "Satoyama" Woodland Preservation
- "Living Creature Studies" at Factories – Field Guides, Posters and Booklets

Environmental Communication

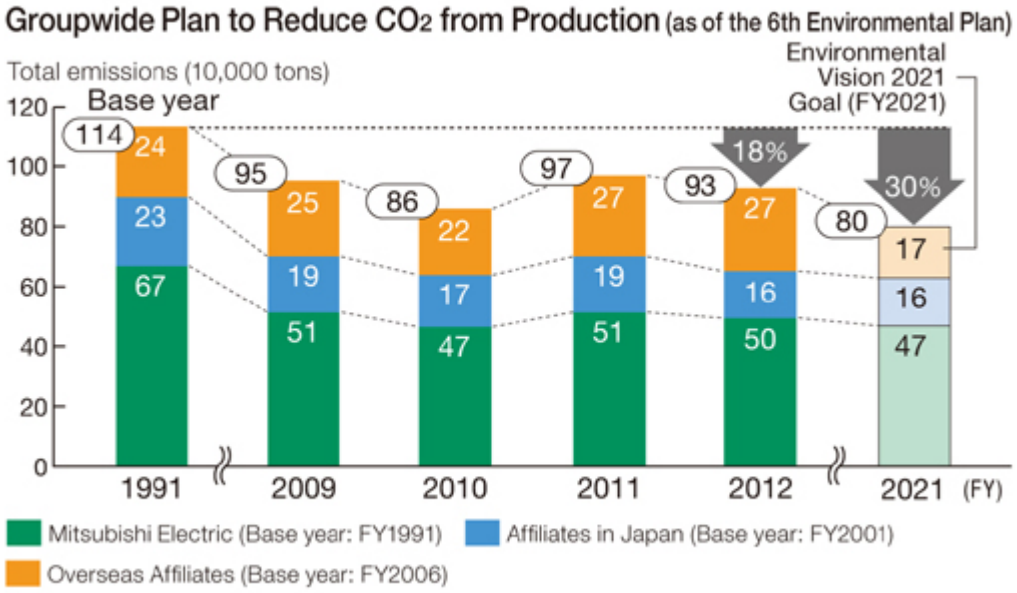
- Dialog with Stakeholders
- Disclosing Environmental Information

Reducing CO_2 from Production

The 6th Environmental Plan (fiscal 2010 - fiscal 2012) established total CO_2 emission targets for fiscal 2012 of 510,000 tons by Mitsubishi Electric, 190,000 tons by affiliates in Japan and 260,000 tons by overseas affiliates. In order to achieve these targets, the Group promoted CO_2 reduction measures at its production facilities and offices.

The total amount of CO_2 emitted by the Mitsubishi Electric Group in fiscal 2012 was 933,000 tons, surpassing the Group's target of 960,000 tons. This success was primarily due to vigorous CO_2 reduction efforts undertaken mainly at the Company's operating bases in Japan.

Owing to these initiatives, we have reduced the total amount of CO_2 emitted Group-wide in spite of a significant expansion of overseas production in recent years.



Turning Earthquake Response into a Positive Force for the Future

Measures to Address Electricity Shortages

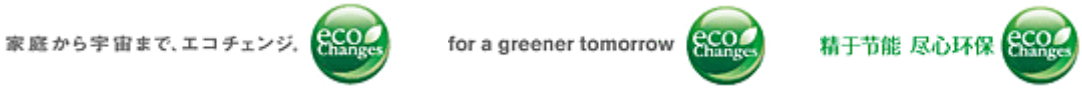
Particularly in 2011, there was social demand to take measures in response to summer and winter power shortages following the Great East Japan Earthquake, which struck in March of that year. Taking full advantage of this opportunity to improve its operations, Mitsubishi Electric redoubled its efforts to undertake such Companywide energy generation- and conservation-related investments as introducing photovoltaic generation and upgrading to LED lighting. In addition, with the aim of effectively curbing and regulating power use during peak demand periods in order to respond directly to power shortages, Mitsubishi Electric and its affiliates in Japan introduced a demand management system while engaging in intensive regional power management at the Company's headquarters.

Recovering Rare Earth Magnets from Used Room Air Conditioners

The procurement of rare earth metals, which are indispensable to improving the energy-saving performance of room air conditioners, has become increasingly difficult. In order to more effectively utilize rare earth metals, Mitsubishi Electric developed automatic dismantling equipment for extracting rare earth magnets (neodymium magnets) from the compressor rotors of used room air conditioners (with assistance from the Ministry of Economy, Trade and Industry's program to support businesses that introduce industrial facilities that use rare earth metals). In April 2012, Mitsubishi Electric commenced rare earth magnet collection operations through its subsidiary, Green Cycle Systems Corporation (GCS), which operates Japan's first large-scale, high-purity plastic recycling system business. Recovered rare earth magnets are supplied to magnet manufacturers that recycle magnets in Japan.

Eco Changes Rolled Out in China

In April 2012, we began rolling out Eco Changes communications in China, adding the tagline「精于节能 尽心环保」(experts in energy conservation, devoted to environmental protection).



Start of the 7th Environmental Plan

Entering Stage 2 of Environmental Vision 2021

As a company with the Environmental Vision 2021 of becoming a global leading green company, Mitsubishi Electric has identified the goal of expanding its contributions to the environment across all business activities under its 7th Environmental Plan. To achieve this overarching goal, and by taking into consideration those issues that remain pending under the 6th Environmental Plan, calls to conserve energy following the earthquake disaster, and society's needs for energy-saving products, the Mitsubishi Electric is placing the utmost emphasis on maximizing the reduction of its CO_2 emissions both from the product and production process perspective, focusing on product recycling, and increasing the use of recycled materials in the manufacture of its products.

In order to strengthen the environmental management systems necessary to support these activities, Mitsubishi Electric will adhere strictly to all pertinent rules at every level of the organization, and engage in the training of environmental personnel while fostering environmental awareness.

Moreover, the Company will deliver products that are highly acclaimed by society for their contributions to the environment and take steps to help build a rich and prosperous society while expanding the scope of its business.

Environment – Targets & Achievements of the 6th Environmental Plan

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

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	Results	Target	Results	Self-evaluation
CO_2 emissions	Mitsubishi Electric	510,000 tons	472,000 tons	508,000 tons	510,000 tons	504,000 tons	
	Affiliates in Japan	190,000 tons	166,000 tons	191,000 tons	190,000 tons	160,000 tons	
	Overseas affiliates	260,000 tons	217,000 tons	267,000 tons	255,000 tons	269,000 tons	
	Total	960,000 tons	855,000 tons	966,000 tons	955,000 tons	933,000 tons	
Required reduction amount (three years)	Mitsubishi Electric	48,000 tons	19,000 tons	22,000 tons	16,000 tons	23,000 tons	
	Affiliates in Japan	21,000 tons	7,000 tons	5,000 tons	8,000 tons	7,000 tons	
	Overseas affiliates	26,000 tons	8,000 tons	8,000 tons	10,000 tons	7,000 tons	
	Total	95,000 tons	34,000 tons	35,000 tons	34,000 tons	37,000 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.

The Mitsubishi Electric Group has made improvements on its production lines and enhanced the efficiency of utility equipment at its production sites. It also rationalized air-conditioner temperature settings and reduced excessive lighting use by turning off lights in unmanned areas at its offices. In fiscal 2012, Mitsubishi Electric focused efforts on electricity conservation measures at its sites in Japan, given the need for the country to collectively reduce its electricity usage in the wake of the Great East Japan Earthquake of 2011. Although CO_2 emissions at overseas production sites increased significantly due to a rise in production, the initiatives described above helped reduce CO_2 emissions on a Group-wide basis. Targets set forth in the three-year period under the 6th Environmental Plan for CO_2 emissions and CO_2 reduction were both achieved.

Reducing CO_2 from Product Usage						
Targets of 6th Environmental Plan (Fiscal 2010–2012)		Fiscal 2010	Fiscal 2011	Fiscal 2012		
		Results	Results	Target	Results	Self-evaluation
Average Reduction Rate for Target Products	25% (Base year: Fiscal 2001)	23%	25%	25%	26%	
Expansion of Target Products	43 Products	70 Products	84 Products	80 Products	84 Products	

	80 Products					

The Mitsubishi Electric Group is systematically reducing CO_2 emissions by selecting target products that can contribute to its efforts. In fiscal 2012, Mitsubishi Electric moved forward with these efforts with 84 target products, the same number as in fiscal 2011, and achieved the average CO_2 reduction rate of 26%. Targets set forth in the three-year period under the 6th Environmental Plan for the number of target products and average reduction rate were both achieved, which contributed to the company's efforts to reduce CO_2 from product usage.

Creating a Recycling-based Society

Reducing Resource Inputs						
Targets of 6th Environmental Plan (Fiscal 2010–2012)		Fiscal 2010	Fiscal 2011	Fiscal 2012		
		Results	Results	Target	Results	Self-evaluation
Average Reduction Rate for Target Products	30% *	34%	43%	30%	38%	☺
Expansion of Target Products	32 Products → 60 Products	51 Products	64 Products	60 Products	64 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%.

The Mitsubishi Electric Group is working to systematically reduce its resource inputs by selecting target products for which materials can be reduced. In fiscal 2012, the number of target products totaled 64, the same as in fiscal 2011, and the average reduction rate was 38%. Targets set forth in the three-year period under the 6th Environmental Plan for the number of target products and average reduction rate were both achieved.

Zero Emissions					
Targets of 6th Environmental Plan (Fiscal 2010–2012)		Fiscal 2010	Fiscal 2011	Fiscal 2012	
		Results	Results	Results	Self-evaluation
Mitsubishi Electric	Final disposal ratio of less than 0.1%	0.04%	0.002%	0.002%	☺
Affiliates in Japan	Final disposal ratio of less than 0.5%	0.20%	0.04%	0.02%	☺
Overseas affiliates	Final disposal ratio of less than 3.0%	3.60%	1.76%	1.60%	☺

Mitsubishi Electric continues with waste separation and conversion to saleable materials as well as the horizontal deployment of best practices and coordination among factories. Affiliated companies in Japan continued with ongoing improvement activities from on-site checks. At its affiliated companies overseas, Mitsubishi Electric investigated the waste disposal situation at companies with a high final disposal rate, selected disposal providers and horizontally deployed best practices. These initiatives helped Mitsubishi Electric as well as its domestic and overseas affiliates to steadily reduce and achieve their final disposal rate targets over the three-year period of the 6th Environmental Plan.

Reducing the Use of Disposable Packaging Materials					
Targets of 6th Environmental Plan (Fiscal 2010–2012)		Fiscal 2010	Fiscal 2011	Fiscal 2012	
		Results	Results	Results	Self-evaluation
Mitsubishi Electric	10% reduction per volume of shipment (base year Fiscal 2009)	(6.5%)	(7.6%)	(7.8%)	😐
Affiliates in Japan	10% reduction per volume of shipment (base year Fiscal 2009)	(9.9%)	(11.5%)	(12.3%)	☺
Overseas affiliates	Assessment of packaging material volume and product shipment volume	Completed assessment of packaging material volume in 22 companies and product	Completed assessment of packaging material volume in 22 companies and product	Completed assessment of packaging material volume in 22 companies and product	☺

		volume in 19 companies	volume in 19 companies	volume in 21 companies	

We have made improvements in packaging to match the smaller size and lighter weight designs of our products and have steadily reduced our packaging requirements per volume of shipment over the last three years.

Reducing VOC Emissions					
Targets of the 6th Environmental Plan (Fiscal 2010–2012)	Fiscal 2010	Fiscal 2011	Fiscal 2012		
	Results	Results	Emissions target	Results	Self-evaluation
40% reduction (base year Fiscal 2001) Emissions: 598 tons	Emissions: 498 tons	Emissions: 528 tons	Emissions: 598 tons	Emissions: 541 tons	

In addition to continuing with ongoing activities to control emissions by reducing wastefulness, Mitsubishi Electric also focused on reduction efforts that matched the situation of each of its sites, specifically production sites with large emissions, which helped to reduce emissions at all of its sites. As a result of these reductions activities, Mitsubishi Electric was able to substantially achieve the target set forth in the 6th Environmental Plan to reduce VOC emissions by 40% compared to fiscal 2001.

Expanding Global Environmental Management

Increase Number of Companies Conforming with ISO 14001						
Targets of the 6th Environmental Plan (Fiscal 2010–2012)		Fiscal 2010	Fiscal 2011	Fiscal 2012		
		Results	Results	Targets	Achievements	Self-evaluation
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.	Mitsubishi Electric confirmed ISO14001 third party certification for 2 out of the 5 uncertified companies as well as the self-declaration of conformance for 3.	Continue confirming compliance.	implemented as planned	
Overseas Affiliates	Increase number of conforming from 36* to 66	Mitsubishi Electric confirmed ISO14001 conformity for 17 out of the 28 uncertified companies.	Mitsubishi Electric confirmed ISO14001 certification for 3 out of the 11 uncertified companies and determined conformity confirmation is unnecessary for 8.	Continue confirming compliance.	implemented as planned	

* 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

Mitsubishi Electric completed acquisition of ISO 14001 certification for all of its production sites, head office and branches by fiscal 2011. Third-party certification has also been received or self-declaration of conformance with ISO14001 confirmed, with certain exceptions, for non-production sites, smaller sites, as well as domestic and overseas affiliated companies. Sites and companies where neither was performed were found not to require confirmation of conformance with ISO14001 certification, based on an additional investigation into the status of their activities. Based upon this result, we determined that we achieved the 6th Environmental Plan's target to increase the number of ISO14001-compliant companies.

Complying with Environmental Regulations	
6th Environmental Plan (Fiscal 2010–2012) Targets by fiscal year	Ensure compliance with European REACH regulations and individual countries' RoHS directives

In Fiscal 2012, eight substances for REACH Regulation were newly added, and 27 substances were placed in the Candidate List of Substances of Very High Concern (SVHC). Mitsubishi Electric responded accordingly, while also revising its Chemical Substance Information Management System.
We are also making preparations to comply with new requirements of the recast RoHS Directive, effective from 2014, such as expanding target products and meeting mandatory CE mark requirement etc..

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

In Japan, we conducted key environmental personnel training for environmental management divisions in Mitsubishi Electric and affiliates in Japan. Overseas, the training was planned but cancelled due to Thailand floods.

Respecting Biodiversity

"Satoyama" Woodland Preservation Project					
6th Environmental Plan (Fiscal 2010–2012) Targets by fiscal year	Fiscal 2010	Fiscal 2011	Fiscal 2012		
	Results	Results	Target	Results	Self-evaluation
Add 1 or more region each year	Activities in 5 regions (including 1 new)	Activities in 8 regions (including 3 new)	Activities in 9 regions (including 1 new)	Activities in 10 regions (including 2 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. Region for the project has expanded greatly in the three years of the 6th Environmental Plan (fiscal 2010-2012).

Mitsubishi Electric Outdoor Classroom					
6th Environmental Plan (Fiscal 2010–2012) Targets by fiscal year	Fiscal 2010	Fiscal 2011	Fiscal 2012		
	Results	Results	Target	Results	Self-evaluation
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	36 classrooms in 26 regions (including 7 new); training of 43 Outdoor Classroom leaders	38 classrooms in 28 regions (including 2 new)	32 classrooms* in 28 regions (including 2 new); training of 29 Outdoor Classroom leaders	☺

* 38 classrooms planned, but six cancelled due to weather

The Mitsubishi Electric Outdoor Classroom takes 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 number of Classrooms, regions and leaders grew steadily during the three years of the 6th Environmental Plan (fiscal 2010-2012).

Environment – Data & Charts in Fiscal 2012

Period and Scope of the Report

Overview of reporting period and scope.

Chinese language version of the above page:

- 关于报告期间与范围

Material Balance

Report on the environmental impacts that accompany our business activities, following the lifecycle of "factory," "logistics," "product," and "recycle."

Chinese language version of the above page:

- 物料衡算

Environmental Accounting

Report on fiscal 2012 totals, calculated under the Environmental Accounting Guidelines (fiscal 2006 edition) issued by Japan's Ministry of the Environment.

Environmental Performance Data

Data on the results of fiscal 2012 activities, examples of domestic and overseas activities related to respecting biodiversity, and participation in exhibitions and events.

Awards

Awards received in Japan and overseas.

Basic Policy and Approach to Environmental Management / Period and Scope of Environmental Report 2012

This report defines important points and crystallizes measures based on a backcasting approach toward achieving the targets of the 6th Environmental Plan (fiscal 2010 to fiscal 2012) and Environmental Vision 2021. Using the PDCA (plan-do-check-act) cycle, the report discusses the targets, activities and results achieved in fiscal 2012. While some activities reported are not included in the 6th Environmental Plan, we have included these because we believe they are essential to achieving a sustainable society. The report ensures that the PDCA cycle for these activities is also understood. The period and scope of the report are noted below.

Period Covered by the Report

April 1, 2011 – March 31, 2012

* Also includes some information on policies, targets and plans occurring after the close of fiscal 2012.

Scope of the Report

Covers the activities of Mitsubishi Electric Corporation, 114 affiliates in Japan, and 68 overseas affiliates (total of 183 companies).

* Until fiscal 2009, the scope of the report focused on Group companies that had drawn up an environmental plan to ensure a scope of systematic governance from an environmental conservation standpoint. Based on the expanding nature of global environmental management, however, the scope was extended to Mitsubishi Electric Corporation and its major affiliated companies.

Contact Us About the Report

We endeavor to fulfill our responsibility of presenting information to the public in order to broaden our range of communication with stakeholders. We appreciate any and all frank and honest feedback intended to further improve the report.

Inquiries: Click here to send an inquiry

Environment – Material Balance

Overall Environmental Impact

Period: April 1, 2011 - March 31, 2012
Scope of Data Compilation : Mitsubishi Electric Corporation, 114 affiliates in Japan and 68 overseas affiliates (total of 183 companies)

* Up to fiscal 2009, the scope of our report was limited to those companies that had drawn up an environmental plan for governance from an environmental conservation perspective. But under the policy of expanding global environmental management, we have broadened the scope of the report to cover Mitsubishi Electric, and consolidated subsidiaries, and its affiliated companies.

IN

Materials for Manufacturing				
		Mitsubishi Electric	Affiliates (Japan)	Affiliates (Overseas)
Materials [1]		390,000 tons	160,000 tons	540,000 tons
Manufacturing				
Electricity		1,054 million kWh	318 million kWh	317 million kWh
Natural gas		22,340,000 m3	2,030,000 m3	9,330,000 m3
LPG		1,987 tons	2,580 tons	1,735 tons
Oil (crude oil equivalent)		6,794 kl	3,585 kl	2,075 kl
Water		7,290,000 m3	1,600,000 m3	1,760,000 m3
	Public water	1,260,000 m3	410,000 m3	650,000 m3
	Industrial water	2,240,000 m3	320,000 m3	820,000 m3
	Groundwater	3,790,000 m3	870,000 m3	10,000 m3
	Others	0 m3	0 m3	280,000 m3
Reuse of water		3,510,000 m3	1,730,000 m3	140,000 m3
Controlled chemical substances (amounts handled)		6,933.6 tons	1,716.9 tons	2,566 tons
Ozone depleting substances (amounts handled)		4.9 tons	156.3 tons	249 tons
Greenhouse gases (amounts handled)		2,457.3 tons	55.6 tons	530 tons
Volatile organic compounds (amounts handled)		1,546.6 tons	1,513.0 tons	223 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	6,640,000 m^3	1,350,000 m^3	1,240,000 m^3
	Controlled chemical substances	7.6 tons	0.0 tons	41.8 tons
	BOD (biological oxygen demand)	78.0 tons	6.4 tons	21.7 tons
	COD (chemical oxygen demand)	19.9 tons	5.9 tons	44.0 tons
	Nitrogen	86.7 tons	11.6 tons	2.4 tons
	Phosphorus	7.2 tons	0.2 tons	2.4 tons
	Suspended solids	75.9 tons	5.0 tons	29.9 tons
	n-hexane extracts (mineral)	0.8 tons	0.3 tons	1.1 tons
	n-hexane extracts (active)	4.6 tons	0.3 tons	0.1 tons
	Total emissions of zinc	0.3 tons	0.0 tons	0.1 tons
Emissions into the atmosphere	Carbon dioxide(CO_2)	504,000 tons-CO_2	160,000 tons-CO_2	269,000 tons-CO_2
	Controlled chemical substances (excluding amounts contained in other waste)	596.1 tons	133.9 tons	221.8 tons
	Ozone depleting substances	0.61 ODP tons	0.00 ODP tons	0.45 ODP tons
	Greenhouse gases	119,000 tons-CO_2	56,000 tons-CO_2	68,000 tons-CO_2
	Volatile organic compounds	541.2 tons	315.4 tons	29.2 tons
	Sulfur oxide (SOx)	1.7 tons	0.70 tons	2.20 tons
	Nitrogen oxide (NOx)	8.0 tons	58.5 tons	8.9 tons
	Fly ash	0.8 tons	2.0 tons	14.8 tons
Amount of CFCs recovered		2.4 tons	213.1 tons	—
Waste				
Total waste emissions		82,192 tons	60,516 tons	58,139 tons
Amount recycled		76,588 tons	48,818 tons	48,720 tons
Waste treatment subcontracted out		36,573 tons	43,615 tons	8,479 tons
Final disposal		2 tons	10 tons	933 tons
In-house weight reduction		1,476 tons	1 tons	0 tons
Products [2]				
Weight of all "DfE" Products sold		2,560,000 tons	94,000 tons	439,000 tons
Weight of packaging materials		47,000 tons	8,000 tons	46,000 tons

2: Products: Weight related to "Design for Environment" (DfE) products.

Logistics

IN

Sales and Logistics [3]			
	Mitsubishi Electric	Affiliates (Japan)	Affiliates (Overseas)
Fuel for trucks (gasoline)	11,797 kl	2,572 kl	372 kl
Fuel for trucks (diesel)	24,114 kl	6,091 kl	19,217 kl
Fuel for rail (electricity)	1,742 Mwh	467 Mwh	0 Mwh
Fuel for marine transport (bunker oil)	437 kl	3 kl	44,150 kl
Fuel for air transport (jet fuel)	468 kl	151 kl	10,734 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)	93,000 tons-CO_2	22,000 tons-CO_2	220,000 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	5,790 million kWh	450 million kWh	13,400 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)	2,443,000 tons-CO_2	190,000 tons-CO_2	—

6: Emissions: Amount related to "Design for Environment" (DfE) products.

Recycle

IN

End-of-Life Products [7]	
	Mitsubishi Electric
Air conditioners	13,295 tons
Televisions	22,293 tons
Refrigerators	19,431 tons
Washing machines / Clothes dryers	7,069 tons
Personal computers	40 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	28,746 tons
Glass	8,742 tons
CFCs	282 tons
Others	13,207 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.

Scope and Period of Data Compilation and Basis of Calculation

Scope and Period of Data Compilation

- Period: April 1, 2011 - March 31, 2012
- Scope of Data Compilation: Mitsubishi Electric Corporation, 114 affiliates in Japan and 68 overseas affiliates (total of 183 companies)

* The scope of data compilation is the same as the scope covered in this Environmental Report.

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.

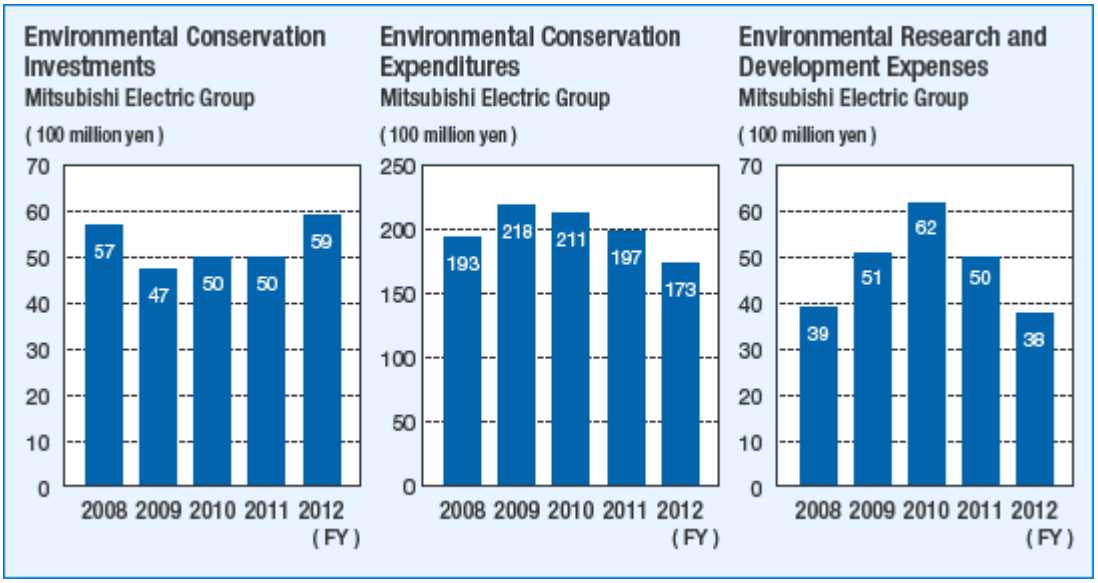
* Environmental conservation costs reflect straight-line depreciation for capital investments made over the past five years and assumed to have useful lives of five years. The annual benefits of earnings and savings attributable to capital investments, too, are assumed to have resulted from investments 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.

Summary of Fiscal 2012

Environmental Conservation Costs

Environmental capital investment for fiscal 2012 increased compared to the previous fiscal year, while environmental costs declined over the previous fiscal year.

- **Environmental Capital Investment**
  Capital investment for the Mitsubishi Electric Group as a whole stood at ¥5.9 billion (a ¥900 million increase compared to the previous fiscal year) and ¥3.8 billion for Mitsubishi Electric (a ¥0.3 billion increase over the previous year). We concentrated investments in energy-saving equipment and actively implemented electricity conservation measures, which included the installation of PV systems and regular monitoring of power usage with demand monitoring devices at Mitsubishi Electric and its group companies in Japan.
- **Environmental Costs**
  Environmental costs for the Mitsubishi Electric Group as a whole were ¥17.3 billion (a ¥2.5 billion decrease from the previous fiscal year), and ¥12.6 billion for Mitsubishi Electric (a ¥2.1 billion decrease from the previous fiscal year). This was attributed to the completion of development for large-scale facilities for power systems and social systems, such as vacuum circuit breakers, and a monitoring system for the chemical substances used in our products.



Environmental Conservation Benefits (Environmental Performance)

Total energy inputs for the Mitsubishi Electric Group in fiscal 2012 significantly declined compared to the previous fiscal year because of the effects realized from the proactive installation of energy-saving equipment. Total waste emissions on a consolidated basis for the Mitsubishi Electric Group increased compared to the previous fiscal year owing to a rise in production volume at overseas affiliates, but did not change on a unit-of-sales basis.

Economic Benefits from Environmental Conservation Activities (Actual Benefits)

Mitsubishi Electric achieved actual benefits in terms of cutting back on its electricity charges by installing PV systems as well as high-efficiency air conditioners and lighting fixtures. As a result, the entire Mitsubishi Electric Group saw a significant increase in its actual benefits as well.

Economic Benefits from Environmental Consideration in Products and Services (Estimated Benefits)

We were able to reduce electricity charges relating to the use of our products by actively rolling out new energy-saving models of water heaters, air conditioners, refrigerators, optical wireless telecommunication systems, and LCD TVs.

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	56.1	99.2	(2.4)	–
	36.2	64.5	(0.9)	
Pollution prevention	3.2	26.8	(2.6)	Installation of water treatment equipment and cleaning machine effluent recovery equipment, and upgrades due to aging hazardous material warehouses and outdoor oil storage tanks, etc.
	0.9	17.1	(0.4)	
Global environmental conservation	50.5	44.5	2.4	Mainly due to the concentration of spending on global warming measures, such as installation of photovoltaic systems and a demand control system across the Group, as well as upgrades to high-efficiency air conditioning and lighting
	33.5	30.8	0.9	
Resource recycling	2.4	27.9	(2.2)	Outsourcing of waste recycling and processing, etc.
	1.8	16.6	(1.4)	
Green purchasing/procurement and product-related activities upstream and downstream from production	0.7	6.2	(2.4)	Investigations into hazardous substances contained in products and tasks related to obtaining the certification that no unregistered chemicals were used in products etc.
	0.5	3.8	(1.9)	
Management activities	0.2	28.5	(2.4)	EMS secretariat activities, maintenance, and environmental information system operations, etc.
	0.0	22.7	(0.5)	
R&D activities for reducing environmental impact	1.7	37.5	(12.7)	Development of super high-efficiency silicon cells, improved efficiency of outdoor heat pumps, improved efficiency of LED lighting, and next-generation plastic recycling technologies, etc.
	1.7	34.1	(12.9)	
Community activities	0.0	0.3	(1.0)	Onsite greenery maintenance / upkeep, Satoyama woodland preservation activities, clean-up activities in urban areas, factory tours, etc.
	0.0	0.2	(0.8)	
Environmental damage	0.0	1.0	(3.6)	Installation of ground water purification equipment and analysis, etc.
	0.0	1.0	(3.6)	
Total	58.7	172.7	(24.5)	–
	38.4	126.3	(20.6)	
Year-on-year change	8.7	(24.5)	(2.4)	–
	3.2	(20.6)	(0.9)	

* 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	1,291	(624)	102%
		1,178	26	67%
Total water used	10,000 m^3	1,064	(15)	106%
		729	43	99%
Total greenhouse gas emissions	10,000 tons CO_2	117	(2)	99%
		62	(0)	99%
CO_2 (Energy consumption)	10,000 tons CO_2	93	(3)	99%
		50	(0)	97%
HFC,PFC,SF_6	10,000 tons CO_2	24	2	110%
		12	(0)	104%
Total releases and transfers of chemical substances into the atmosphere	tons	886	12	99%
		541	(7)	101%
Total wastewater discharged	10,000 m^3	923	(52)	91%
		664	(66)	95%
Total releases and transfers of chemical substances into the water and soil	tons	49	(5)	76%
		8	(2)	91%
Total waste discharged	tons	194,256	531	100%
		82,192	(2,695)	97%
Final disposal	tons	945	(36)	81%
		2	(0)	96%

Economic Benefits from Environmental Conservation Activities (Actual Benefits)

Top figure: Mitsubishi Electric Group / Bottom figure: Mitsubishi Electric / Unit: 100 million yen

Item	Amount	Year-on-Year Change	Main Benefits
Earnings	35.3	0.4	Promotion of turning waste into saleable material through sorting and recycling
	16.3	(2.0)	
Savings	234.2	117.4	Reduction in electricity costs from installation of photovoltaic systems and high-efficiency equipment, activities to eliminate wastefulness in production processes, and reduction of resource usage through use of returnable items, etc.
	90.6	2.6	
Total	269.5	117.8	–
	106.9	0.6	

Economic Benefits from Environmental Consideration in Products and Services (Estimated Benefits)

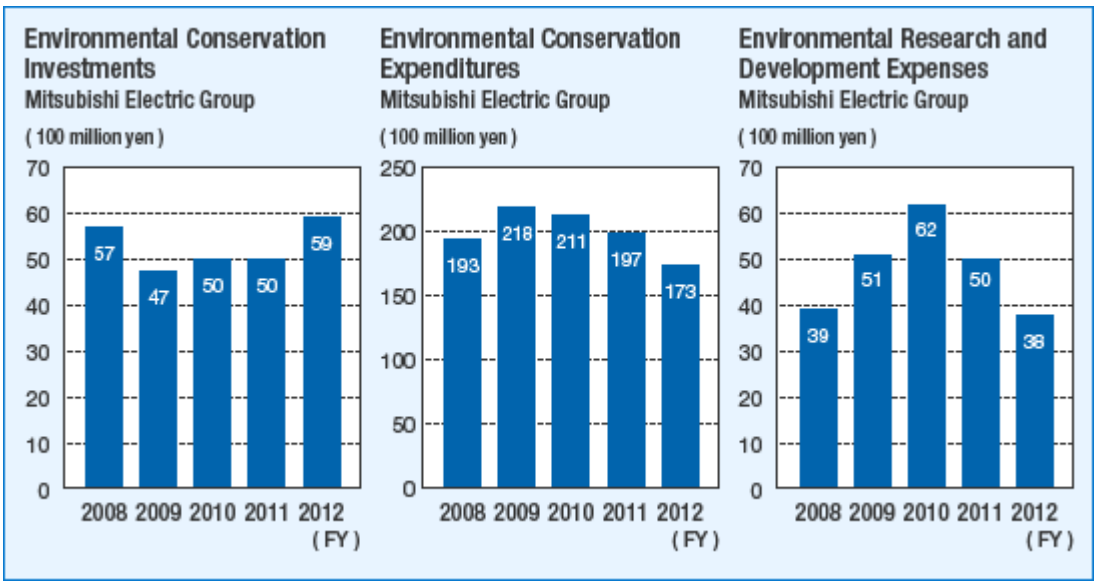
Top figure: Mitsubishi Electric Group (consolidated basis) / Bottom figure: Mitsubishi Electric / Unit: 100 million yen

Item	Amount	Main Products
Economic Benefits to Customers	389.1	Improved efficiency of machinery using key devices and components, reduction in electricity costs from energy-saving water heaters, air conditioners, refrigerators, optical wireless telecommunication systems, and LCD TVs.
	389.1	
Environmental improvement effects	9.8	
	9.7	

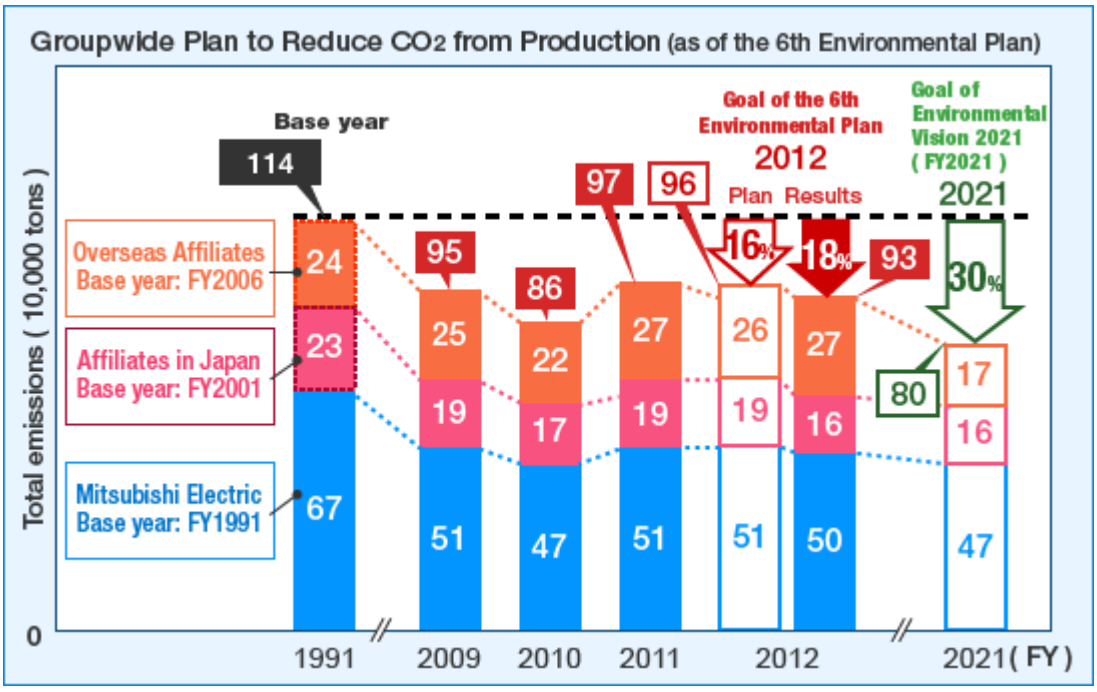
Results of Activities in Fiscal 2012

Environmental accounting
Groupwide plan to reduce CO_2 from production
Emissions of non-CO_2 greenhouse gases
Total waste output and final disposal ratio
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 2012 share of transport by mode [Mitsubishi Electric and affiliates in Japan]
Packaging materials usage and per net shipping weight
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
Number of classroom leaders trained
Number of Mitsubishi Electric outdoor classrooms

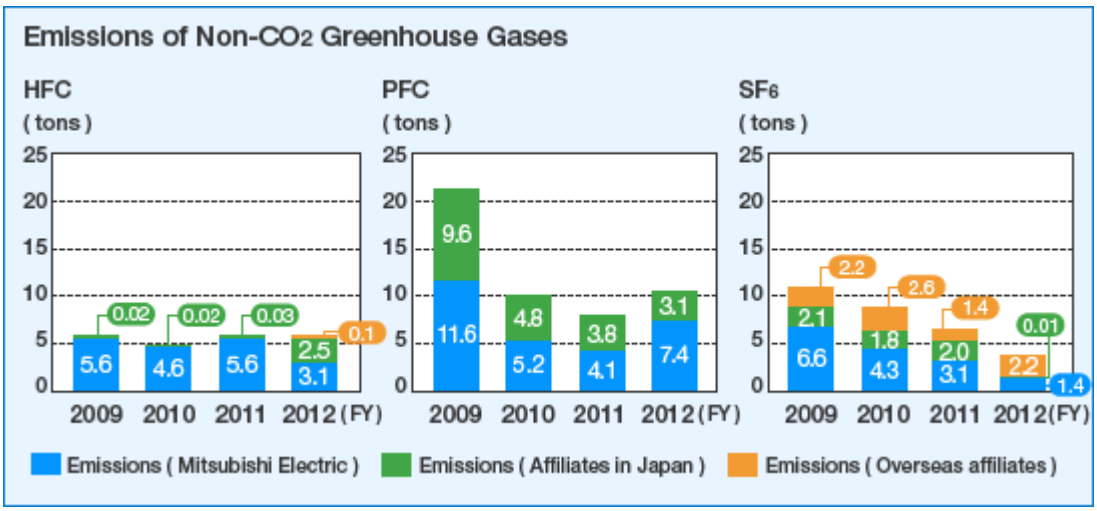
Environmental Accounting



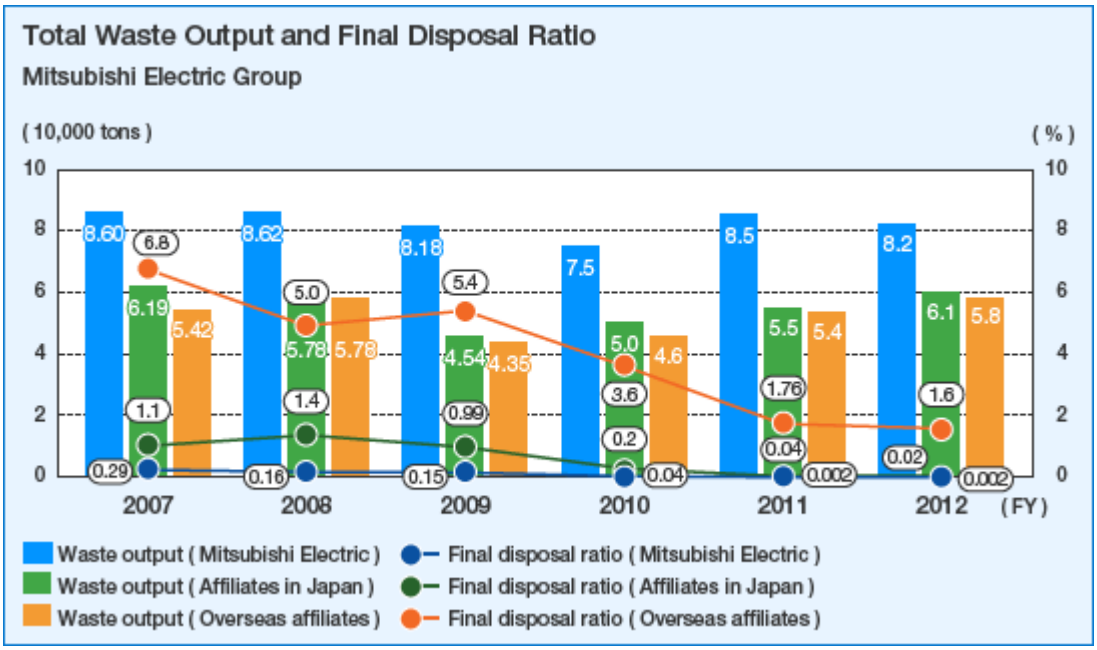
Reducing CO_2 from Production


Groupwide Plan to Reduce CO2 from Production (as of the 6th Environmental Plan)
Base year
114
Goal of the 6th Environmental Plan
2012
Plan Results
Goal of Environmental Vision 2021 (FY2021)
2021
Overseas Affiliates Base year: FY2006
Affiliates in Japan Base year: FY2001
Mitsubishi Electric Base year: FY1991
Total emissions (10,000 tons)
0
24
23
67
95
25
19
51
86
22
17
47
97
27
19
51
96
26
19
51
16%
18%
93
27
16
50
80
30%
17
16
47
1991
2009
2010
2011
2012
2021 (FY)

Reducing Emissions of Non-CO_2 Greenhouse Gases

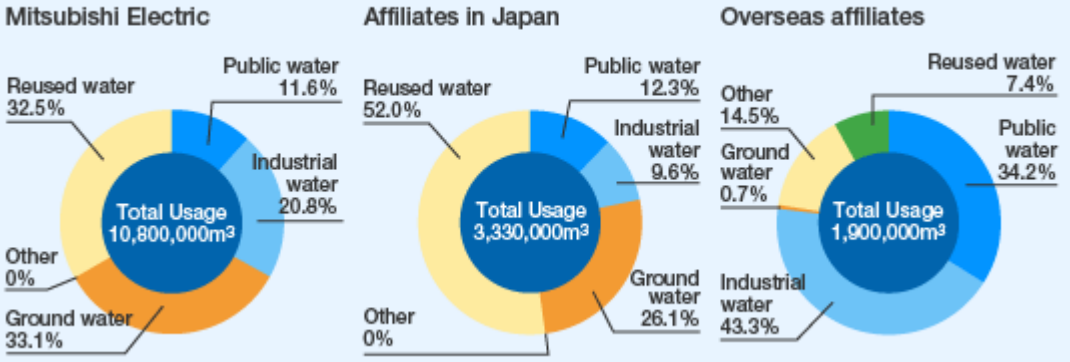


Zero Emissions

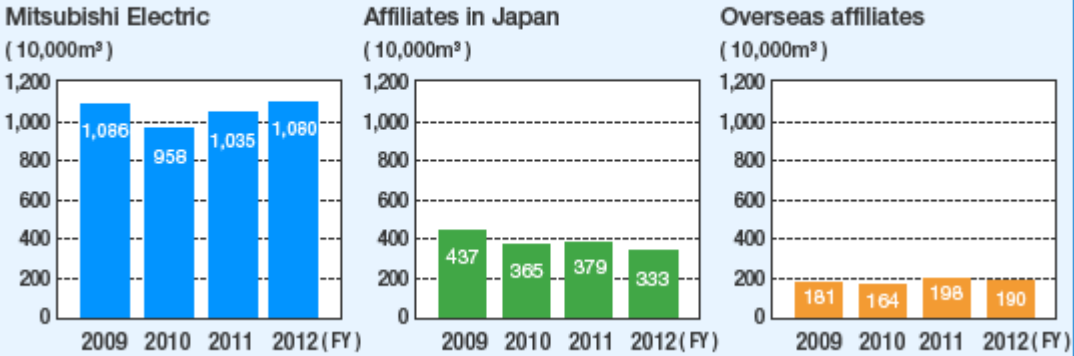


Using Water Effectively

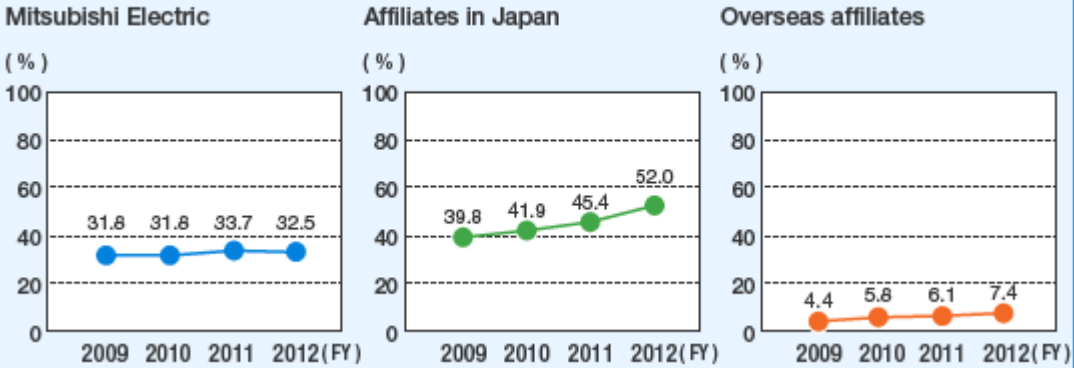
Breakdown of Water Usage



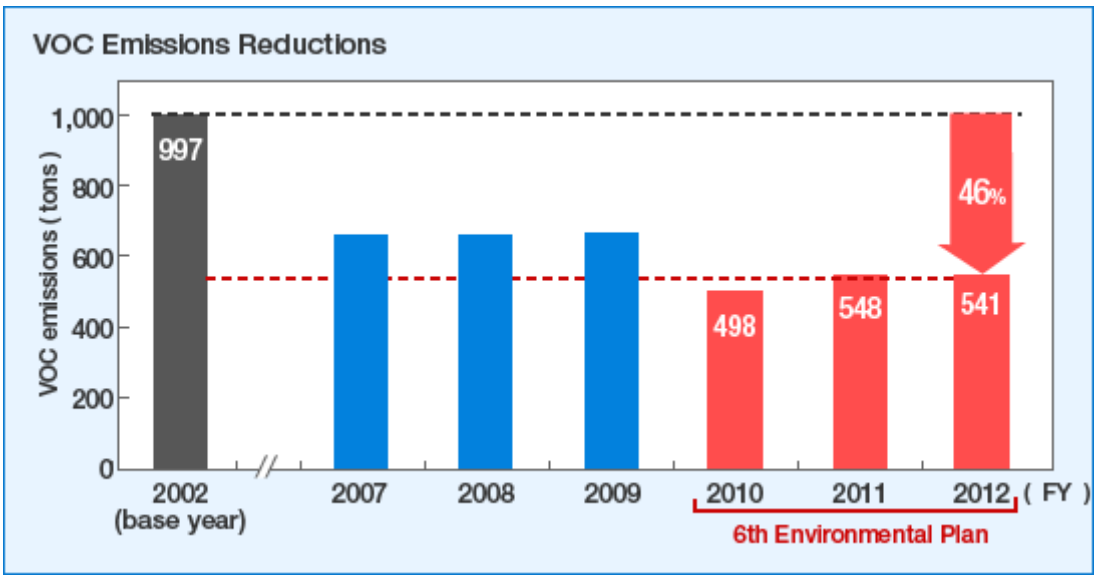
Total Water Usage



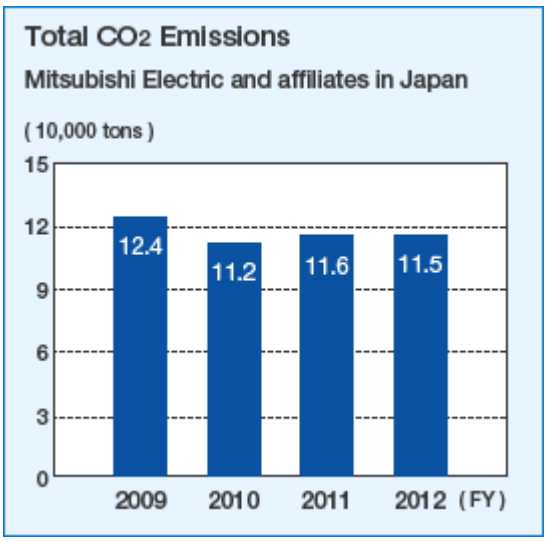
Water Recycling Ratio

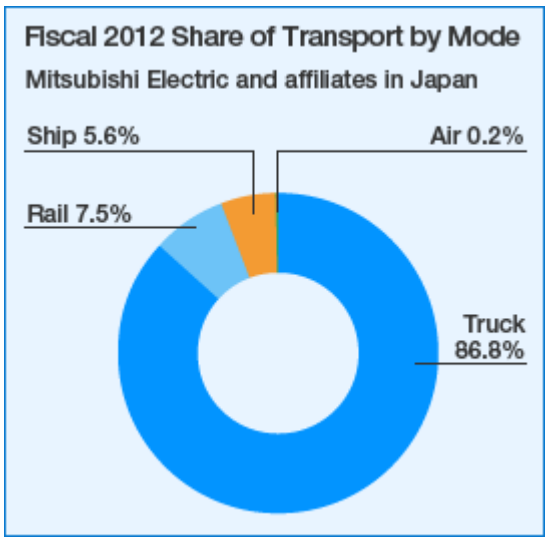


Managing Chemical Substances

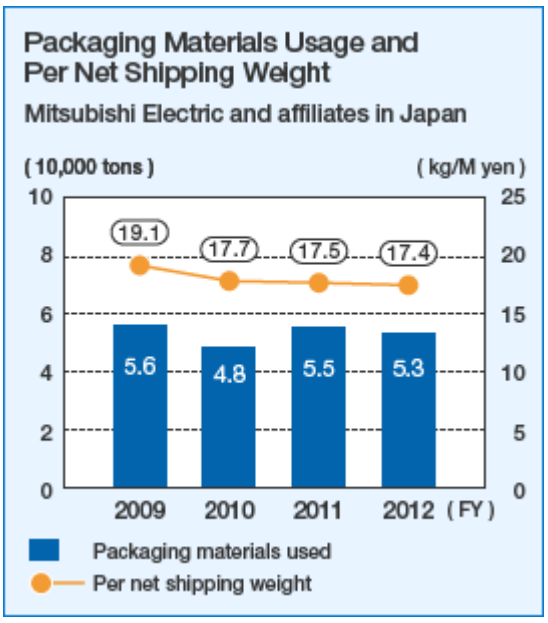


Reducing CO_2 from Logistics

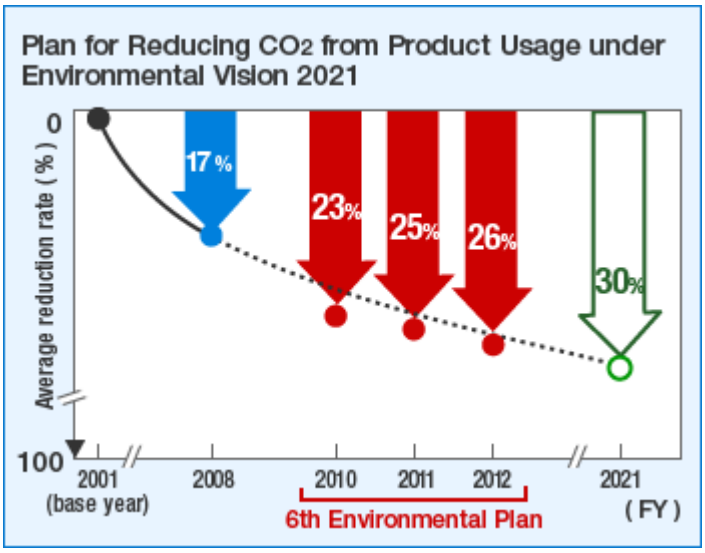




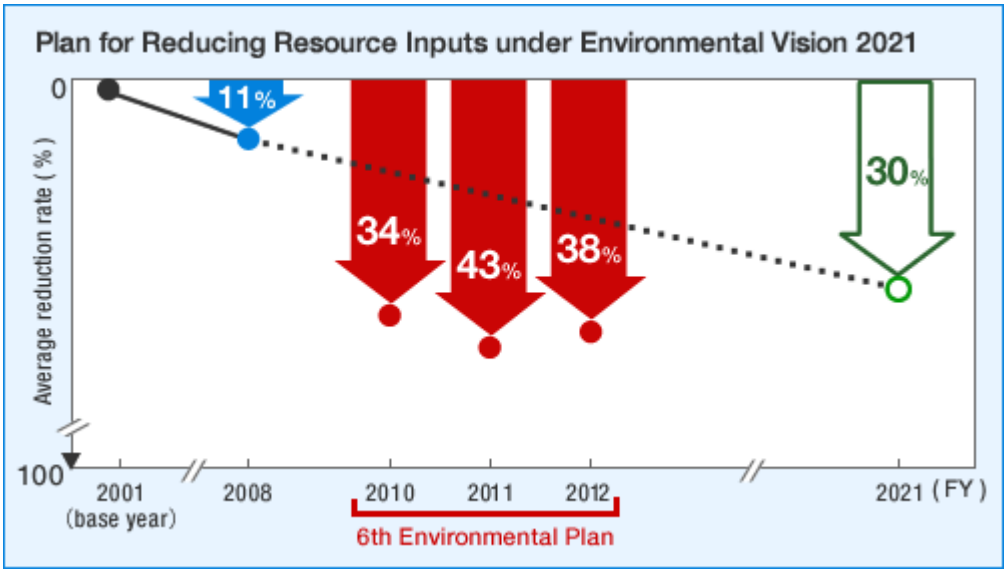
Reducing the Use of Disposable Packaging Materials



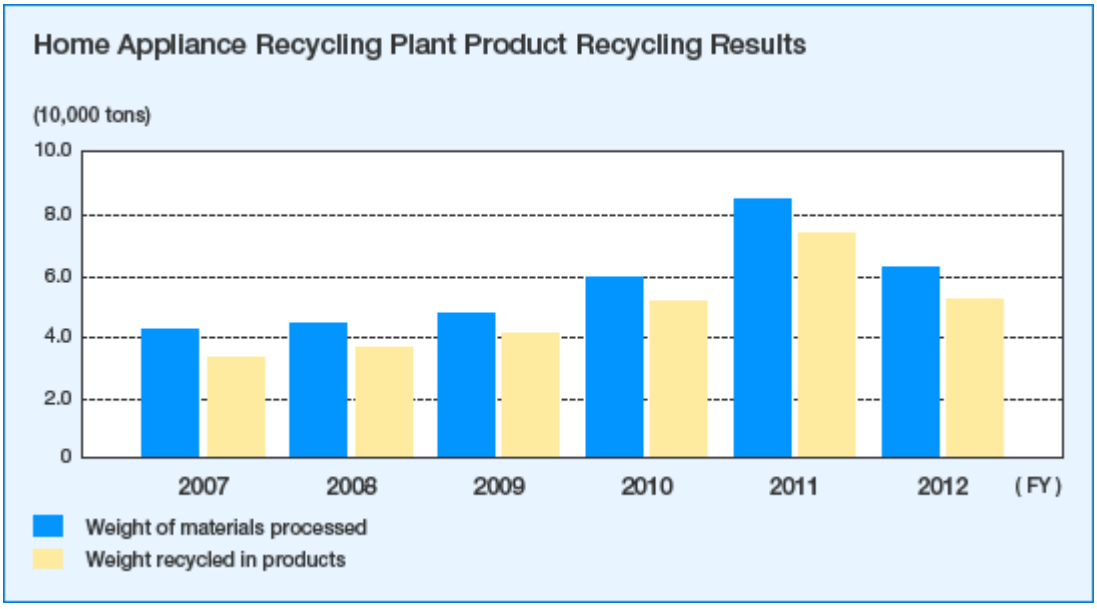
Reducing CO_2 from Product Usage



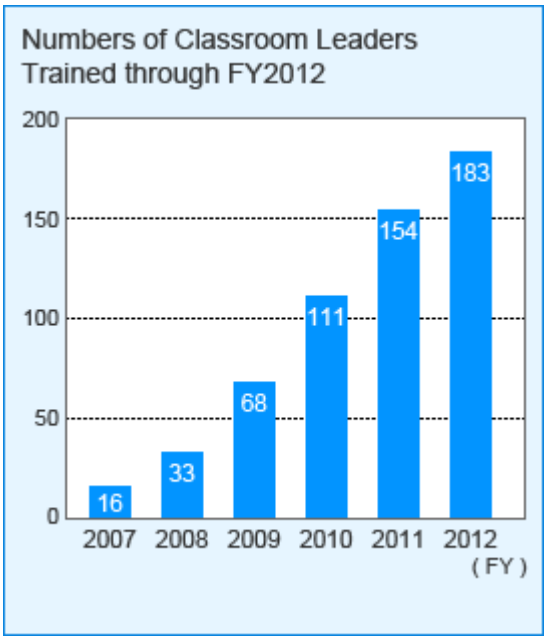
Reducing Resource Inputs

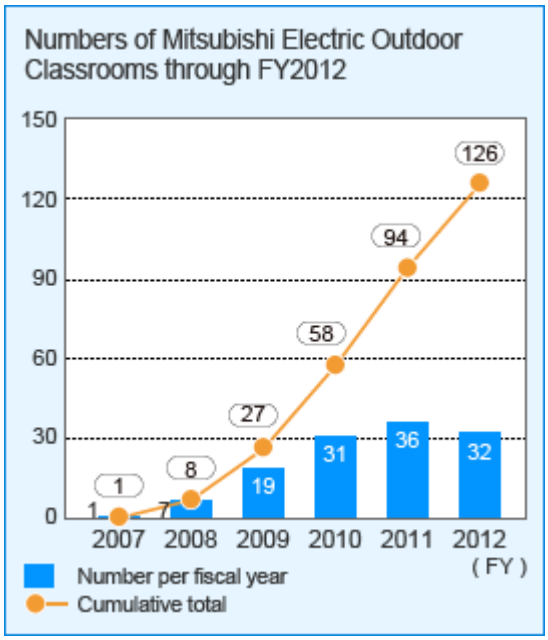


Recycling End-of-Life Products



Fostering Environmental Awareness


Numbers of Classroom Leaders Trained through FY2012
200
150
100
50
0
16
33
68
111
154
183
2007
2008
2009
2010
2011
2012
(FY)


Numbers of Mitsubishi Electric Outdoor Classrooms through FY2012
150
120
90
60
30
0
1
8
27
58
94
126
1
7
19
31
36
32
2007
2008
2009
2010
2011
2012
(FY)
Number per fiscal year
Cumulative total

Japan

Award	Sponsor	Description / Product	Awardee
The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology, 2011	Minister of Education, Culture, Sports, Science and Technology	Development of control technology for electrical discharge machines	Electrical Discharge Machine Manufacturing Department, Mitsubishi Electric Nagoya Works
2011 Energy Conservation Grand Prize for Excellent Energy Conservation Equipment (Product / Business Model Division), Director General Prize of Agency of Natural Resources and Energy and Electricity Conservation Award	The Energy Conservation Center, Japan (ECCJ)	Residential air conditioner *Kirigamine* MSZ-ZW362S、MSZ-ZXV362S	Mitsubishi Electric Shizuoka Works
2011 Energy Conservation Grand Prize for Excellent Energy Conservation Equipment (Product / Business Model Division), Chairman Prize of ECCJ	The Energy Conservation Center, Japan (ECCJ)	Combination microwave range and oven ZITANG RG-FS1	Mitsubishi Electric Home Appliance Co., Ltd.
2011 Energy Conservation Grand Prize for Excellent Energy Conservation Equipment (Energy Conservation Excellent Example Category) Chairman Prize of ECCJ	The Energy Conservation Center, Japan (ECCJ)	Initiatives to reduce CO2 emissions during production that utilize just-in-time (JIT) activities	Mitsubishi Electric Shizuoka Works
2011 Monthly Energy Conservation, Tokai District Award, Tokai-Hokuriku Branch Director's Award, Awarding for Excellent Technician of Energy Conservation	Chubu Regional Electricity Usage Rationalization Committee, Tokai-Hokuriku Branch The Energy Conservation Center, Japan (ECCJ),	Recognized for understanding the importance of energy conservation and achieving significant results in promoting energy management. Recognized for having a long-standing commitment to energy management operations at the production site concerning energy usage and achieving significant results.	Kenji Ikeda, Engineering Section, Kakegawa Factory, Osram-Melco Ltd.
Good Design Award	Japan Institute of	Hand dryer *Mitsubishi*	Mitsubishi Electric

2011	Design Promotion (JDP)	*Hand Dryer Jet Towel New Slim Type* (JT-SB116JH/KN series and JT-SB216JSH/KSN series)	Nakatsugawa Works, Mitsubishi Electric Industrial Design Center
Good Design Award 2011	Japan Institute of Design Promotion (JDP)	Ventilating, heating and drying fan for bathroom	Mitsubishi Electric Nakatsugawa Works, Mitsubishi Electric Industrial Design Center
5th (2011) Kids Design Award, Universal Safety Prize	Kids Design Association	Mitsubishi hand dryer *Jet Towel New Slim*	Mitsubishi Electric Nakatsugawa Works
32nd (2011) Commendation for Excellent Energy Equipment, Chief of the Agency for Natural Resource and Energy's Prize	The Japan Machinery Federation (JMF)	High productivity orthogonal three-axis carbonated gas laser finishing machine (eX Series)	Mitsubishi Electric Nagoya Works
32nd (2011) Commendation for Excellent Energy Equipment, JMF Chairman's Award	The Japan Machinery Federation (JMF)	Automated multi-jet filter cleaning machine for building air conditioners	Mitsubishi Electric Corporation, Mitsubishi Electric Building Techno-Service Co., Ltd.
Japan Packaging Contest 2011, Electric Equipment Packaging Category Award	Japan Packaging Institute	Development of room air conditioner *Kirigamine* that is considerate of LCA during transport	Mitsubishi Electric Shizuoka Works, Mitsubishi Electric Engineering Co., Ltd.
Japan Packaging Contest 2011, Large-sized Equipment Packaging Category Award	Japan Packaging Institute	Development and use of returnable steel containers for heavy-weight electric equipment	Mitsubishi Electric Corporation, Mitsubishi Electric Logistics Corporation
14th Ozone Layer Protection and Global Warming Prevention Grand Prize, Selection Committee Special Prize	The Nikkan Kogyo Shimbun, Ltd.	Commercialization of remote refrigerant leak monitoring system for unitary air conditioners	Mitsubishi Electric Building Techno-Service Co., Ltd.
41st Food Industry Technology Merit Award, Environment / CSR Division	Shokuhin Sangyo Shimbunsha Co., Ltd,	Development of *Jet Towel* and contribution to waste reduction through its expanded use	Mitsubishi Electric Nakatsugawa Works
2011 R&D 100 Awards	R&D Magazine (United States)	Compact Injection Accelerator for Proton Therapy System	Mitsubishi Electric Advanced Technology R&D Center, Mitsubishi Electric Corporation, Manufacturing Engineering Center Kazuo Yamamoto, Takahisa Nagayama, Satoshi Ueda
2011 (60th) Commendation for Achievements in Electrical Industrial	The Japan Electrical Manufacturer's Association (JEMA)	Residual service life diagnosis technology for insulators used in power distribution	Mitsubishi Electric Advanced Technology R&D Center

Technology, Manufacturing Category, Award for Superior Performance		equipment	
2011 (60th) Commendation for Achievements in Electrical Industrial Technology, Honorable Mention Award	The Japan Electrical Manufacturer's Association (JEMA)	Development of IE field network and CC-Link Ethernet-based open network	Mitsubishi Electric Nagoya Works
2011 (60th) Commendation for Achievements in Electrical Industrial Technology, Honorable Mention Award	The Japan Electrical Manufacturer's Association (JEMA)	Development of energy efficient *Clothing Dryer Dehumidifier with Move-Eye Sensor* that uses an infrared sensor to dry clothes in room	Mitsubishi Electric Home Appliance Co., Ltd., Mitsubishi Electric Engineering Co., Ltd.
13th Commendation for Electrical Load Leveling Devices and Equipment, Heat Pump & Thermal Storage Technology Center of Japan Promotion Award	Heat Pump & Thermal Storage Technology Center of Japan (HPTCJ)	Hot water heater pump	Mitsubishi Electric Corporation, Air-Conditioning & Refrigeration Systems Works
2011 Commendation for Kanto Region Invention, Gunma Prefectural Governor's Award	The Japan Society for the Advancement of Inventions	Heat pump for hot water heaters "Water heating device that reduces temperature changes when heating water simultaneously"	Mitsubishi Electric Gunma Works, Mitsubishi Electric Corporation, Air-Conditioning & Refrigeration Systems Works
2011 Electric-related Business Employee Merit Commendation Award, Best Invention Award	The Japan Electric Association	Development of all new accelerator for magnetic-less particle radiation therapy equipment	Mitsubishi Electric Advanced Technology R&D Center, Mitsubishi Electric Corporation, Manufacturing Engineering Center
2011 Electric-related Business Employee Merit Commendation Award, Best Invention Award	The Japan Electric Association	Development of high-efficiency, low-noise motor using highly accurate position estimation technologies for motor shaft location	Mitsubishi Electric Advanced Technology R&D Center, Mitsubishi Electric Corporation, Manufacturing Engineering Center
59th Electric Science and Engineering Promotion Award	The Promotion Foundation for Electrical Science and Engineering	Development of LED guide light	Mitsubishi Electric Advanced Technology R&D Center, Mitsubishi Electric Corporation, Manufacturing Engineering Center
59th Electric Science and Engineering Promotion Award, Electric Science and Engineering Promotion Award	The Promotion Foundation for Electrical Science and Engineering	Development and commercialization of iron core modeling technology that can create motors which are energy efficient, have reduced loss and	Mitsubishi Electric Corporation

		have low-torque pulsing designs	
59th Electric Science and Engineering Promotion Award, Electric Science and Engineering Promotion Award	The Promotion Foundation for Electrical Science and Engineering	Development of transfer mold-type power module for use in vehicles	Mitsubishi Electric Corporation
21st Aoki Technical Laboratory Technology Award	The Japan Society of Polymer Processing	Highly accurate sorting and materials recycling technologies for plastics collected from used home appliances	Mitsubishi Electric Advanced Technology R&D Center
Fiscal 2011 Kanagawa Earth's Environment Award, Incentive Award	Kanagawa Prefecture	Making power usage more visible using a power monitoring system, conserving electricity through concentrated audits of in-house air conditioning equipment, and replacement of aging air conditioning equipment	Mitsubishi Electric Lighting Co., Ltd.
Kanagawa Environmental Conservation Association Environmental Conservation Award, Chairman's Award	Kanagawa Environmental Conservation Association	The Kanagawa Environmental Conservation Association has disseminated information on changes to environmental laws since January 2006 as a means to help promote management and legal compliance at companies' business sites. Norio Ishikawa has been involved with this initiative since its outset some five years ago and on this occasion he has been recognized for compiling and disseminating information in an easy-to-understand format.	Norio Ishikawa Ryoei Technica Corporation
Ota City "Protect the Earth" Catch-copy Contest Award	Environmental Policy Section, Industrial Environment Division, Ota City	Received award won in an annual poster, writing and catch-phrase contest held in Ota City, Gunma Prefecture on the theme of protecting the environment in order to foster interest in the environment	Kazuhiro Matsuzaki Mitsubishi Electric Gunma Works
Commendation from the mayor for the security of dangerous	Himeji City	Recognized for significant contributions to	DB Seiko Co., Ltd.

goods, Commendation for being the best business site		ensuring peoples' safety through its efforts to promote the secure handling of dangerous goods and to cooperate with government in its promotion of the security of dangerous goods	
Recognition as "Eco-company 2011" by Fukuyama City	Fukuyama City	Recognized as a company that is proactively working to prevent global warming	Mitsubishi Electric Fukuyama Works

Overseas

Award	Sponsor	Description / Product	Awardee
Green Ribbon Award	American Water Works Association (AWWA)	Initiatives to provide eco-friendly products and address environmental issues	Mitsubishi Electric Power Products, Inc.

Environment – Production & Logistics-Related Initiatives

Reducing CO2 from Production

Overview of measures to reduce CO_2 emissions, targets for Mitsubishi Electric, our affiliates in Japan and overseas affiliates, fiscal 2012 initiatives and achievements, and plans for the future.

Reducing Emissions of Non-CO2 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 2012 initiatives and achievements.

Using Water Effectively

Our views on the effective use of water, and the Mitsubishi Electric Group's achievements in fiscal 2012.

Managing Chemical Substances

- Managing Chemical Substances in Production
- Reducing VOC Emissions

Reducing CO2 from Logistics

Overview of the Mitsubishi Electric Group's fiscal 2012 achievements in reducing CO_2 emissions through just-in-time improvements to boost logistics efficiency.

Reducing the Use of Disposable Packaging Materials

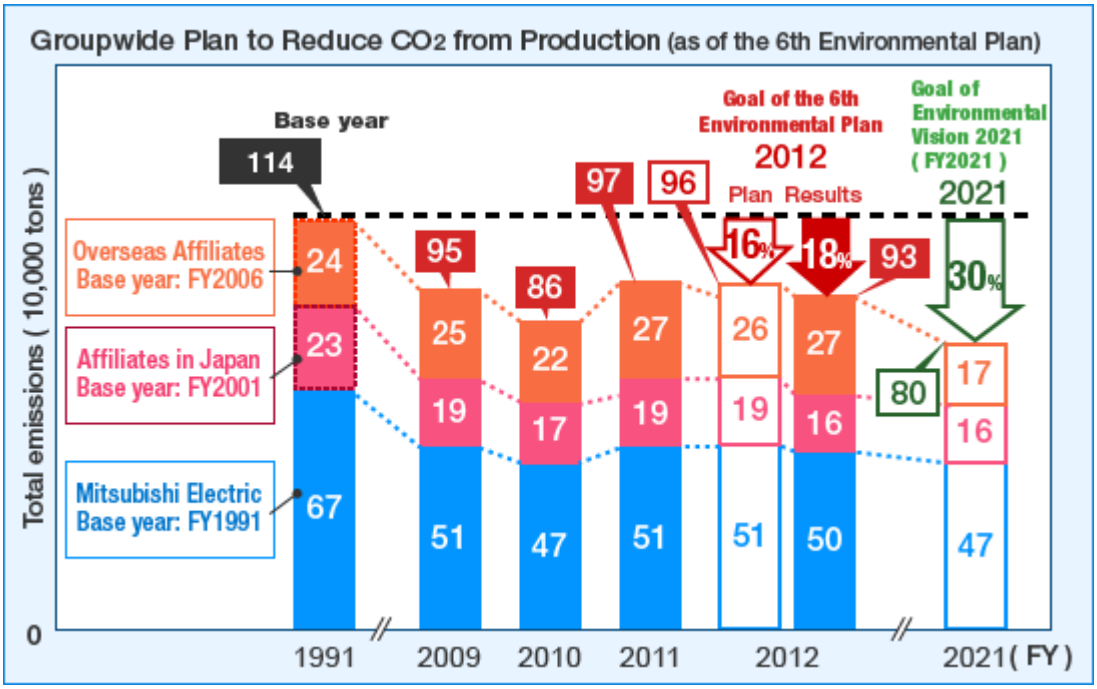
Overview of the Mitsubishi Electric Group's goals to reduce resource inputs through the 3R's applied to packaging materials, and fiscal 2012 initiatives and achievements.

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

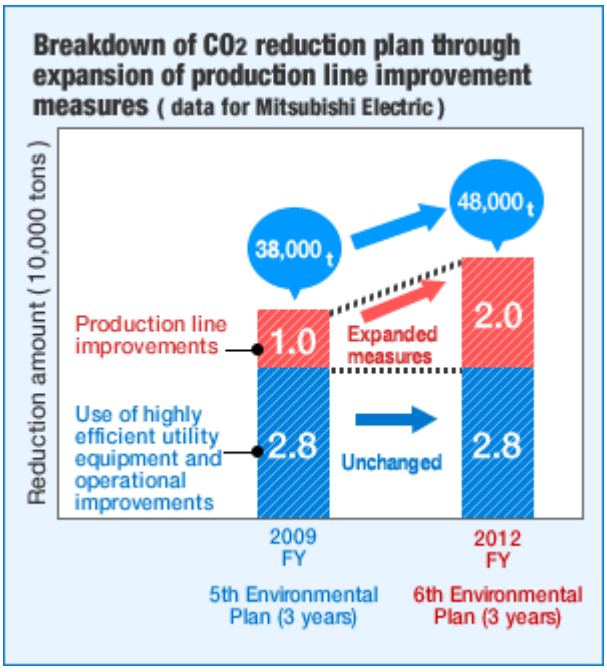
Creating a Low-Carbon Society

Reducing CO_2 from Production							
6th Environmental Plan (Fiscal 2010–2012)			Fiscal 2010	Fiscal 2011	Fiscal 2012		
		Target	Results	Results	Target	Results	Self Evaluation
CO_2 emissions	Mitsubishi Electric	510,000 tons	472,000 tons	508,000 tons	510,000 tons	504,000 tons	
	Affiliates in Japan	190,000 tons	166,000 tons	191,000 tons	190,000 tons	160,000 tons	
	Overseas affiliates	260,000 tons	217,000 tons	267,000 tons	255,000 tons	269,000 tons	
	Total	960,000 tons	855,000 tons	966,000 tons	955,000 tons	933,000 tons	
Required reduction amount (three years)	Mitsubishi Electric	48,000 tons	19,000 tons	22,000 tons	16,000 tons	23,000 tons	
	Affiliates in Japan	21,000 tons	7,000 tons	5,000 tons	8,000 tons	7,000 tons	
	Overseas affiliates	26,000 tons	8,000 tons	8,000 tons	10,000 tons	7,000 tons	
	Total	95,000 tons	34,000 tons	35,000 tons	34,000 tons	37,000 tons	

One of the targets under Environmental Vision 2021 is to reduce total CO_2 emissions from production by 30%. The 6th Environmental Plan (fiscal 2010 to fiscal 2012) features two measures aimed at achieving this target. First is to make production line improvements by identifying and eliminating wastefulness in production processes, and second is to switch over to more efficient utility equipment, such as air conditioners and lighting fixtures, and improve their operations.



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.



Summary of Fiscal 2012

Total CO_2 emissions: 933,000 tons (33,000-ton decrease from previous fiscal year)
CO_2 reduction: 37,000 tons (2,000-ton increase from previous fiscal year)

CO_2 emissions in fiscal 2012 for Mitsubishi Electric and its domestic affiliates totaled 933,000 tons, compared to the target of 960,000 tons. A major factor behind this positive result was our proactive efforts to reduce CO_2 emissions at our domestic sites. Specifically, we stepped up energy-saving and energy-creating investments, such as the installation of PV systems and LED lighting, in order to accommodate power supply shortages that occurred in the summer and winter of 2011. We also concentrated our efforts on managing these facilities more efficiently. Both of these initiatives yielded strong results, and subsequently, we were able to curb our total emissions, despite the significant increase in production that occurred at our overseas sites in recent years.

In fiscal 2013 and beyond, we will more closely monitor the progress of our activities under the new KPI —unit of sales— as stipulated in the 7th Environmental Plan. Going forward, we will continue to pursue electricity conservation measures that help reduce CO_2 emissions, such as production line improvements and change-over to high-efficiency equipment, as part of our commitment to further reduce CO_2 emissions from production.

Mitsubishi Electric's Targets and Fiscal 2012 Achievements

Total CO_2 emissions: 504,000 tons (4,000-ton decrease from previous fiscal year)
CO_2 reduction: 23,000 tons (1,000-ton increase from previous fiscal year)

Main Initiatives in Fiscal 2012

- We reinforced our just-in-time production activities, productivity improvement activities including efforts to reduce CO_2 emissions from production. As part of our efforts to balance production efficiencies with energy savings, we installed our proprietary EcoMonitor and EcoServer that monitor real time energy usage for each facility and production line at our sites, including affiliates in Japan.
- Each site promoted their own unique initiatives leveraging Mitsubishi Electric products (Sanda Works: changed factory kitchen over to exclusively electricity-run system; Nagoya Works: "e&eco-F@ctory," etc.)
- Our offices turned off lights in unoccupied areas, set computers to energy-saving mode, turned off copier machines at night and on holidays, and worked with building owners to reduce excess lighting and streamline air conditioner temperature settings, etc.
- We selected and trained energy conservation promotion leaders to drive CO_2 reduction initiatives at our production sites forward. We introduced improvement activities at each of our regional blocks independently.

Targets and Fiscal 2012 Achievements for Affiliates in Japan

Total CO_2 emissions: 160,000 tons (31,000-ton decrease from previous fiscal year)
CO_2 reduction: 7,000 tons (2,000-ton increase from previous fiscal year)

Main Initiatives in Fiscal 2012

- We created a manual showcasing Mitsubishi Electric's best practices and distributed it to affiliates that were unable to achieve their reduction targets in the previous fiscal year.
- We held the Companywide Environmental Managers and Working-Level Conference regularly in which participants from each business division and affiliates in Japan are able to network and share information.
- We rolled out measures to reduce peak power demand in consideration of Japan's power supply problems, and centrally managed the power usage of large sites at the head office.

Targets and Fiscal 2012 Achievements for Overseas Affiliates

Total CO_2 emissions: 269,000 tons (2,000-ton increase from previous fiscal year)
CO_2 reduction: 7,000 tons (1,000-ton increase from previous fiscal year)

Main Initiatives in Fiscal 2012

- Patrol activities implemented by the Corporate Environmental Sustainability Group were held at 10 sites overseas, including in China, India, the Philippines, Indonesia and elsewhere.
- Energy conservation inspections were held by energy conservation experts at two sites, in Thailand and China.

Reducing Emissions of Non-CO2 Greenhouse Gases

Reducing Emissions by Improving and Upgrading Facilities and Switching to Alternative Substances

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.

In fiscal 2012, the Mitsubishi Electric Group emitted 3.6 tons of SF_6. This represented a 2.9-ton decrease (44.5%), compared to fiscal 2009, when SF_6 emissions were 6.5 tons. Continuing from the previous fiscal year, we improved the capacity of gas collection equipment through modifications and stepped up monitoring and repair of everyday leaks. As a result, we were able to absorb the rise in emissions from an increase in production overseas and significantly reduce our SF_6 emissions.

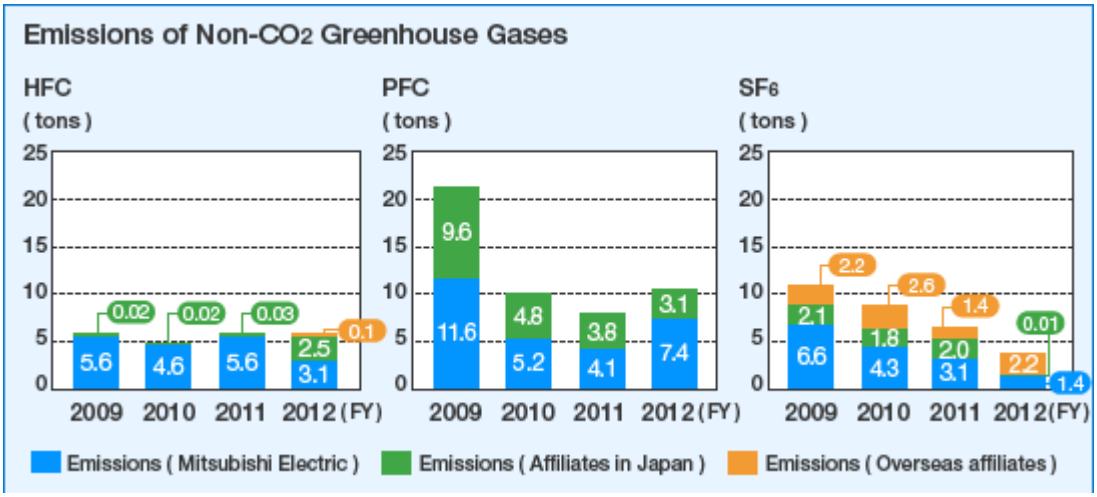
HFC emissions totaled 5.7 tons, a 0.1-ton (1.8% increase) from 5.6 tons in fiscal 2011. This slight increase was attributed to a reduction in leaks from production, an improved gas collection rate, and reduced refrigerant emissions from the consolidation of air conditioners during facility upgrades.

As for PFC emissions, continuing from the previous fiscal year, we installed new removal equipment and switched over to gases with a lower global warming potential. However, an expansion of our PV system production line caused PFC emissions to increase by 2.5 tons (31.3%) to 10.5 tons, compared to 8 tons for fiscal 2011.

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

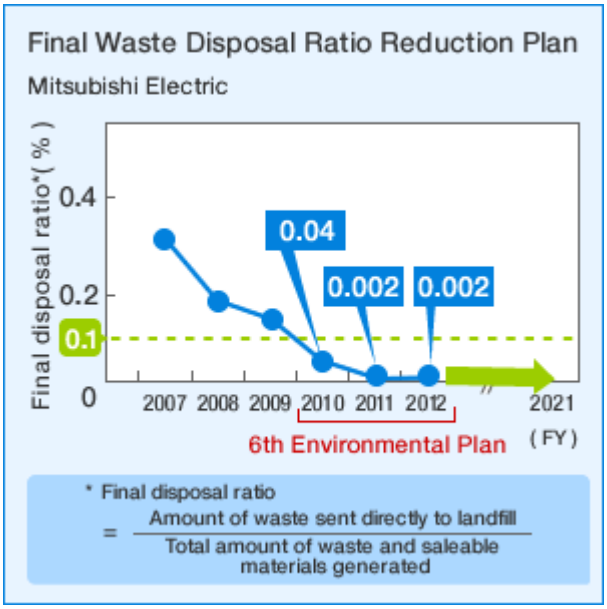
Chemical formula	GWP(Global Warming Potential)
CO_2	1
SF_6	23,900
HFCs	140–11,700
PFCs	6,500–9,200

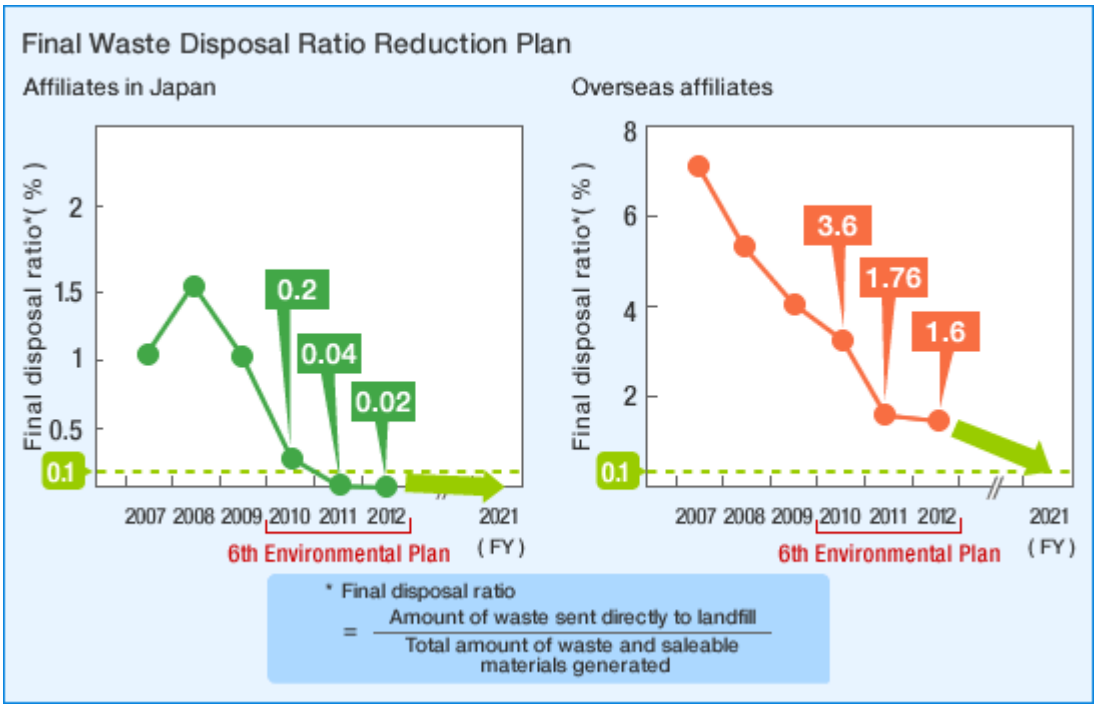


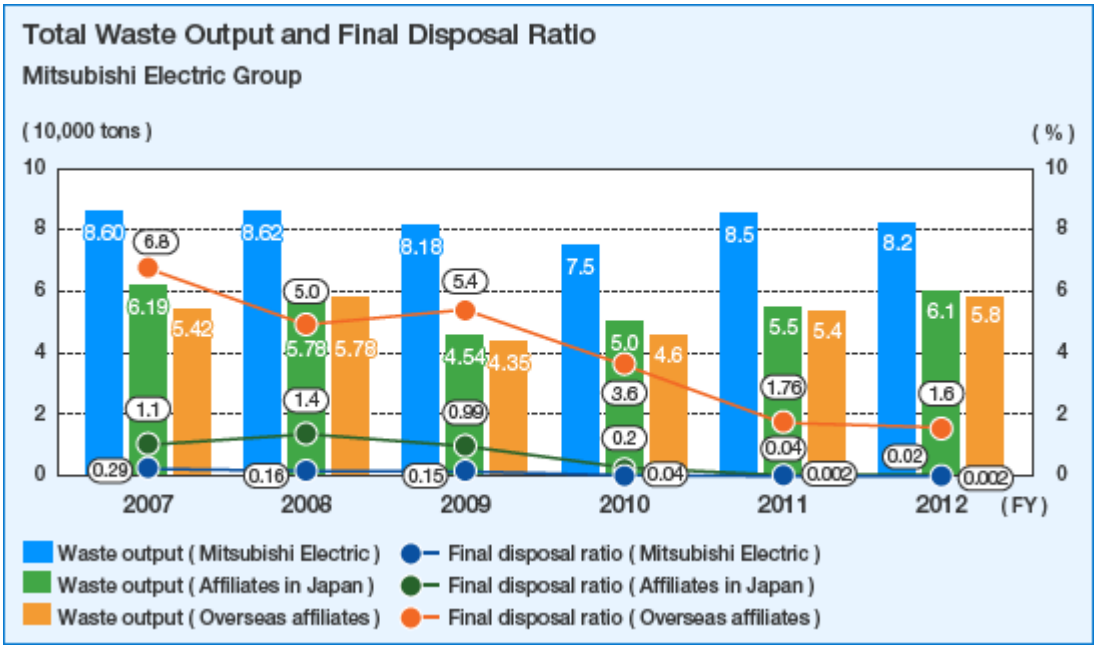
Targets of the 6th Environmental Plan (Fiscal 2010–2012) and Fiscal 2012 Progress

Zero Emissions					
Target of 6th Environmental Plan		Fiscal 2010	Fiscal 2011	Fiscal 2012	
		Results	Results	Results	Self-assessment
Mitsubishi Electric	Final disposal ratio of less than 0.1%	0.04%	0.002%	0.002%	☺
Affiliates in Japan	Final disposal ratio of less than 0.5%	0.2%	0.04%	0.02%	☺
Overseas affiliates	Final disposal ratio of less than 3.0%	3.6%	1.76%	1.60%	☺

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 3.0% for overseas affiliates, with steps taken at every site to address the production and disposal of waste.







Mitsubishi Electric's Targets and Fiscal 2012 Achievements

Final waste disposal ratio target by the final year of the Plan: Less than 0.1%
→ Achievement in fiscal 2012: Less than 0.002%
Greater regional collaboration helped us achieve our target

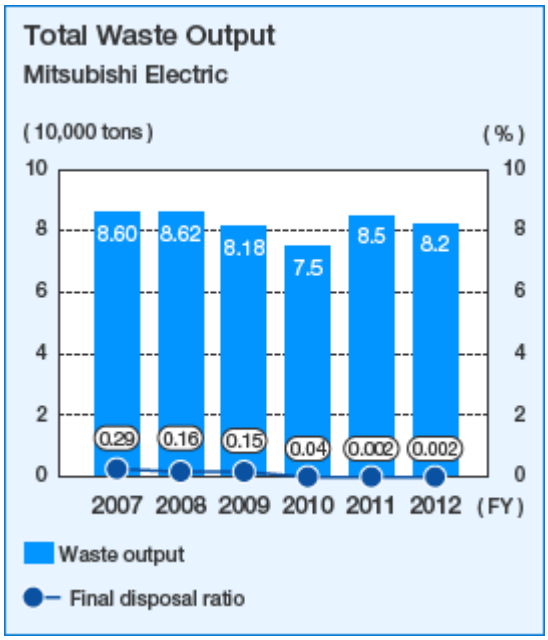
Total waste emissions in fiscal 2012 were 82,000 tons, and the final disposal ratio was 0.002%, meaning we were able to achieve our target.

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. 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.

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.

In fiscal 2011, we began coordination between five Mitsubishi Electric production sites and eight affiliates in the Kanto region and have improved waste management practices, including the 3Rs (reduce, reuse, recycle).

In addition, we focused on the finer separation of waste in order to promote further conversion to saleable materials. In fiscal 2012, four regions, including Kansai, Kyushu, Kanto and Chubu, closely shared waste management information, which encouraged greater competition among our waste processing providers and in the process increased the conversion of waste, such as certain waste plastics, waste oil, batteries and scrap wood, into saleable materials.



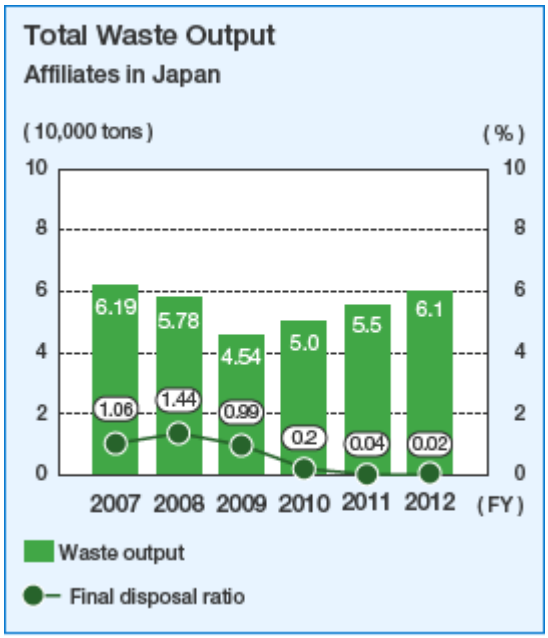
In fiscal 2013 and beyond, we will continue to promote existing measures for the effective utilization of resources and make every effort to achieve the target of a final disposal ratio of less than 0.1% stipulated under the 7th Environmental Plan.

Targets and Fiscal 2012 Achievements for Affiliates in Japan

Final waste disposal ratio target by the final fiscal year of the Plan: Less than 0.5%
→ Achievement in fiscal 2012: Less than 0.02%
We were able to exceed our target by a wide margin through progress made in the conversion of waste into saleable materials and improved level of waste separation activities

In fiscal 2012, major affiliates (production sites) participated in the waste program being implemented by Mitsubishi Electric's four regions, including Kansai, Kyushu, Kanto and Chubu. This helped us improve the level of waste separation activities and make progress in conversion into saleable materials. As a result, we achieved total waste emissions of 60,000 tons in fiscal 2012 and a final disposal ratio of 0.02%, meaning that we achieved our target and made significant progress from the 0.04% seen in fiscal 2011.

In fiscal 2013 and beyond, we will step up our activities in order to achieve our target for a final disposal ratio of less than 0.1% set forth in the 7th Environmental Plan.



Targets and Fiscal 2011 Achievements for Overseas Affiliates

Final waste disposal ratio target by the final fiscal year of the Plan: Less than 3.0%
→ Achievement in fiscal 2012: Less than 1.6%

Progress was made by sharing zero emission examples and we achieved our target

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 2012, we introduced zero emission examples using opportunities where all Group companies meet together, such as at the overseas Regional Conference, and helped support each company

in creating a specific vision for their activities. As a result, total waste emissions in fiscal 2012 were 58,000 tons, and the final disposal rate was 1.6%, as we achieved our targets for both.

In fiscal 2013 and beyond, we will step up our activities in order to achieve our target for a final disposal ratio of less than 1.0% as laid out in the 7th Environmental Plan.

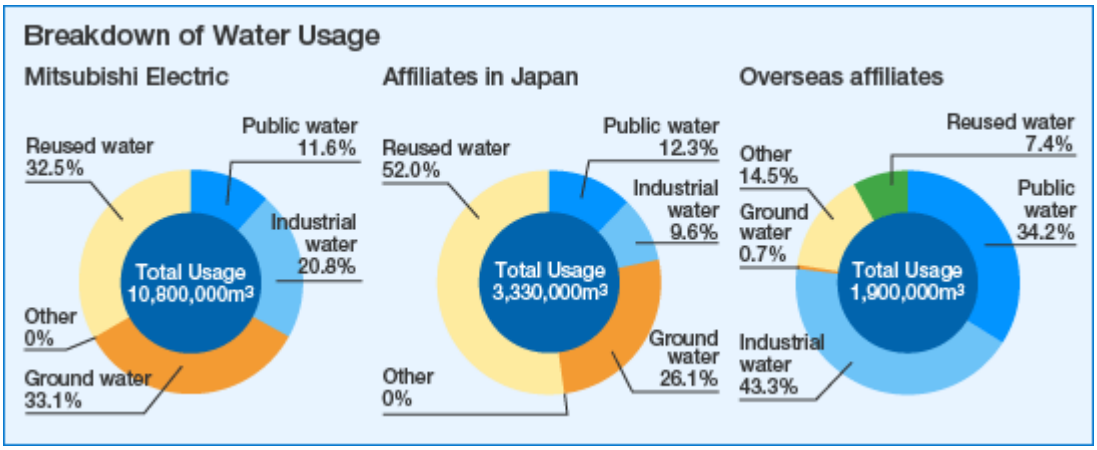
Promoting the Recycling and Reuse of Water at Business Sites

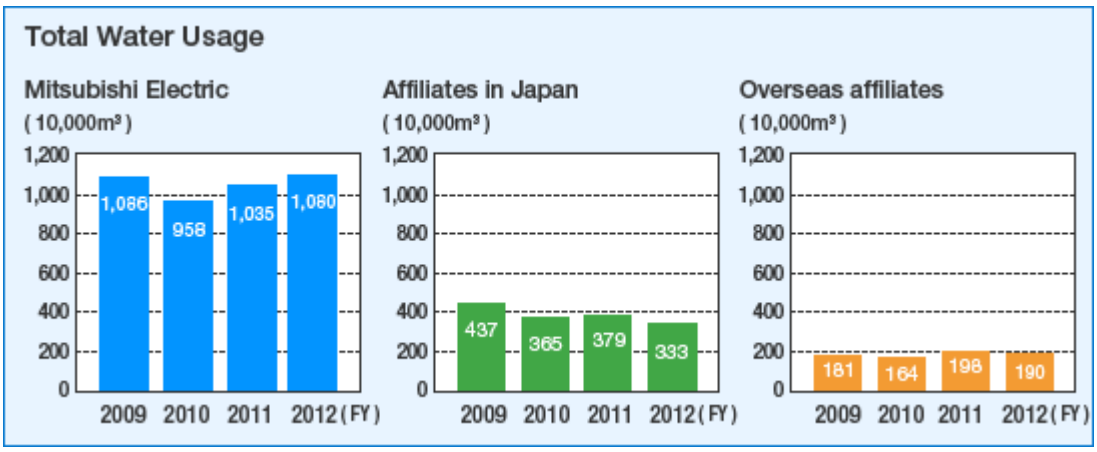
Promoting the 3Rs for Water both in Japan and Overseas

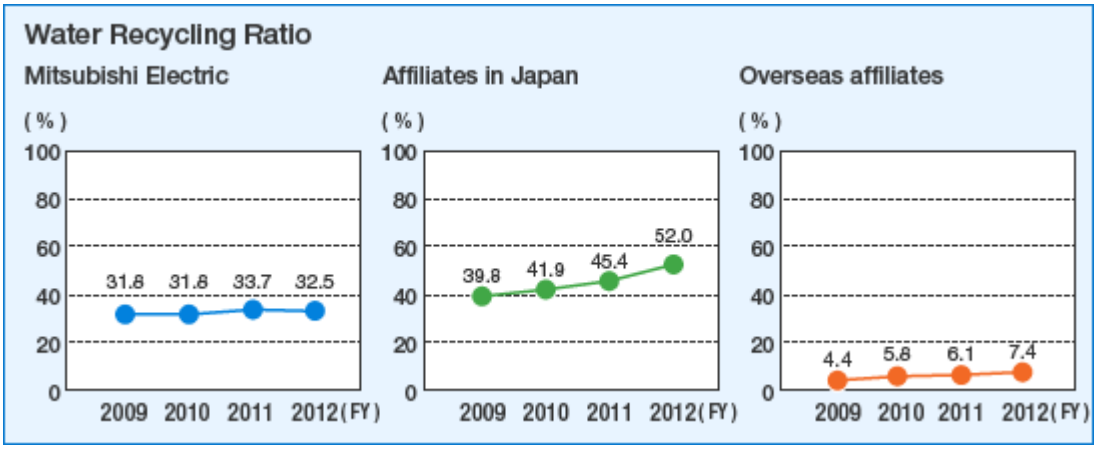
The Mitsubishi Electric Group works toward the effective use of vital water resources, including public water, industrial water, and groundwater, from the same perspective of the 3Rs (reduce, reuse, recycle) that we apply to production materials or energy.

In fiscal 2012, Mitsubishi Electric used a total of 10.80 million m3 of water, a 4.0% increase over the 10.35 million m3 amount used in fiscal 2011. The total volume of water used at our affiliates in Japan was 3.33 million m3, a 12% decrease year-on-year compared to 3.79 million m3 seen in fiscal 2011. The volume of water used at our overseas affiliates totaled 1.90 million m3, a 4.0% decrease over the 1.98 million m3 used in fiscal 2011.

Our water recycling ratio was 32.5% for Mitsubishi Electric, 52.0% for affiliates in Japan and 7.4% for overseas affiliates.



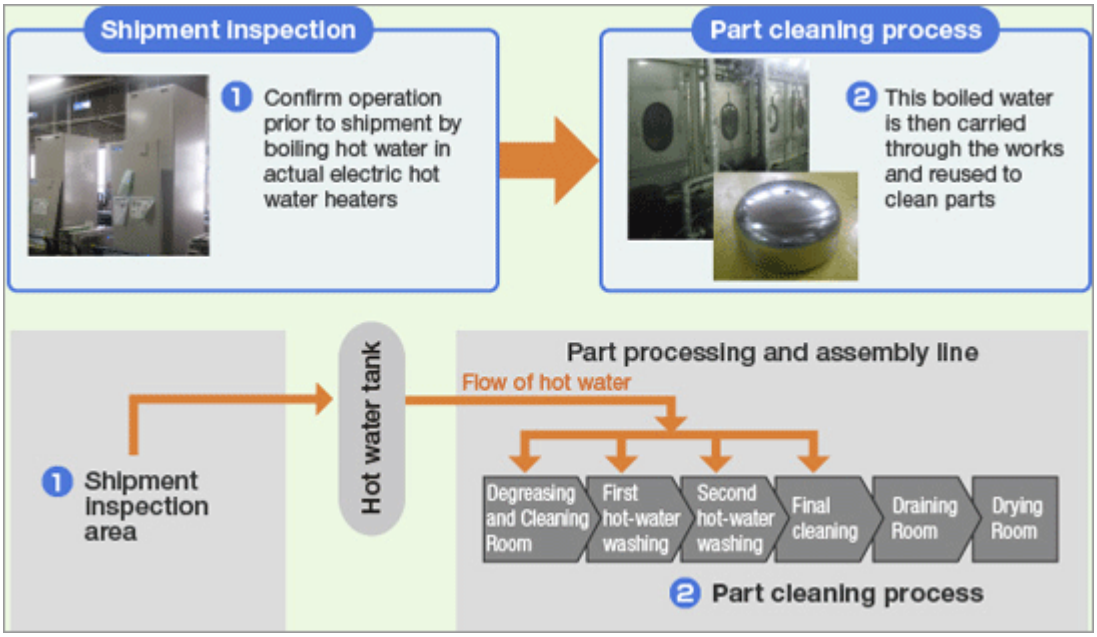




Using boiled water from electric hot water heater testing to clean parts (Gunma Works)

Gunma Works, a manufacturing base for electric hot water heaters, checks to see if units are operating properly prior to shipment by boiling actual hot water with them. This hot water is being reused to clean parts during the processing stage. This cleaning process uses Mitsubishi Electric's proprietary microbubble cleaning technology as part of the efforts to reduce its impact on the environment. After continually examining ways to make further improvements, our focus turned to the hot water used for cleaning. Conventionally, this hot water was made by heating it using a kerosene boiler, but in fiscal 2012 we laid special piping from the shipment inspection area to the part processing stage so that we could reuse the hot water generated during the shipment inspection.
This modification has helped us reduce 1,200kl of tap water use during part cleaning and 4,720l of kerosene used in boilers each year.

Hot Water Recycling System



Environment – 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 Controlled Chemical Substances using Our Own Chemical Substance Management System

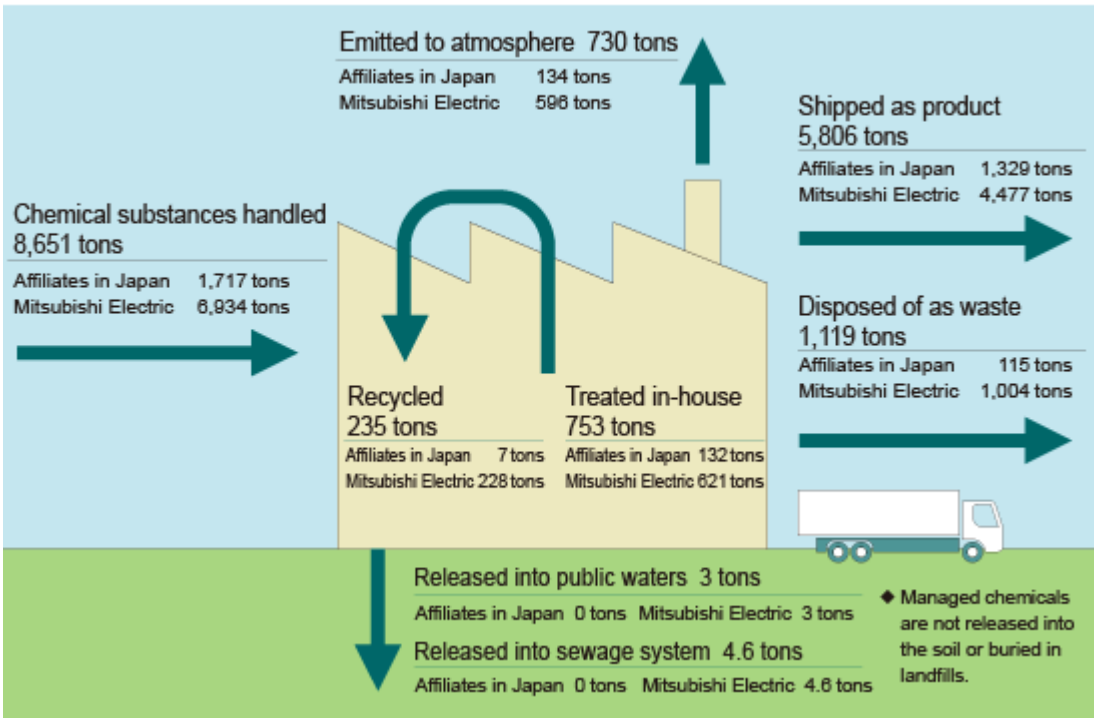
Revising our List of Voluntarily-managed Chemical Substances to 2,097 Items

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 2012, Mitsubishi Electric used 142 different chemicals totaling 6,934 tons (fiscal 2011: 142 substances, 6,840 tons), while affiliates in Japan used 49 substances totaling 1,717 tons (fiscal 2011: 49 substances, 1,686 tons). Details of the release and transfer of these substances are 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. Going forward, we will continue to assess and manage our use of these substances as well as make every effort to eliminate 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



Mitsubishi Electric Group Chemical Release/Transfer Ranking (Fiscal 2012)

Mitsubishi Electric (Unit: tons)

Rank	Substance	Amount handled (tons)	Amount released/ transferred (tons)	Amount eliminated/ recycled (tons)	Amount consumed (tons)
1	Lead	1,280	88	6	1,186
2	Bis (4-isocyanatophenyl) methane	639	630	8	0
3	Isopropyl alcohol	621	311	270	39
4	Styrene	264	124	0	139
5	Antimony and antimony compounds	178	12	9	157
6	Hydrogen fluoride and other water soluble salts	173	17	155	0
7	Butyl acetate	162	159	0	2
8	Xylene	126	72	47	8
9	Tetrahydromethylphthalic anhydride	92	4	3	86
10	Toluene	85	54	20	11

Affiliates in Japan (Unit: tons)

Rank	Substance	Amount handled (tons)	Amount released/ transferred (tons)	Amount eliminated/ recycled (tons)	Amount consumed (tons)
1	Styrene	582	2	28	551
2	Methanol	157	18	40	100
3	Toluene	138	63	22	53
4	Maleic anhydride	92	0	5	87
5	Xylene	88	45	5	38
6	Tetrahydromethylphthalic anhydride	88	1	0	87
7	Phenol	71	6	0	64
8	Isopropyl alcohol	70	41	8	21
9	Acetone	63	11	15	37
10	Ethylbenzene	51	14	1	35

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

Reducing VOC Emissions					
Targets of the 6th Environmental Plan (Fiscal 2010–2012)	Fiscal 2010	Fiscal 2011	Fiscal 2012		
	Results	Results	Emissions target	Results	Target Self Evaluation
40% reduction (base year FY2001) Emissions: 598 tons	Emissions: 498 tons	Emissions: 548 tons	Emissions: 598 tons	Emissions: 541 tons	☺

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.

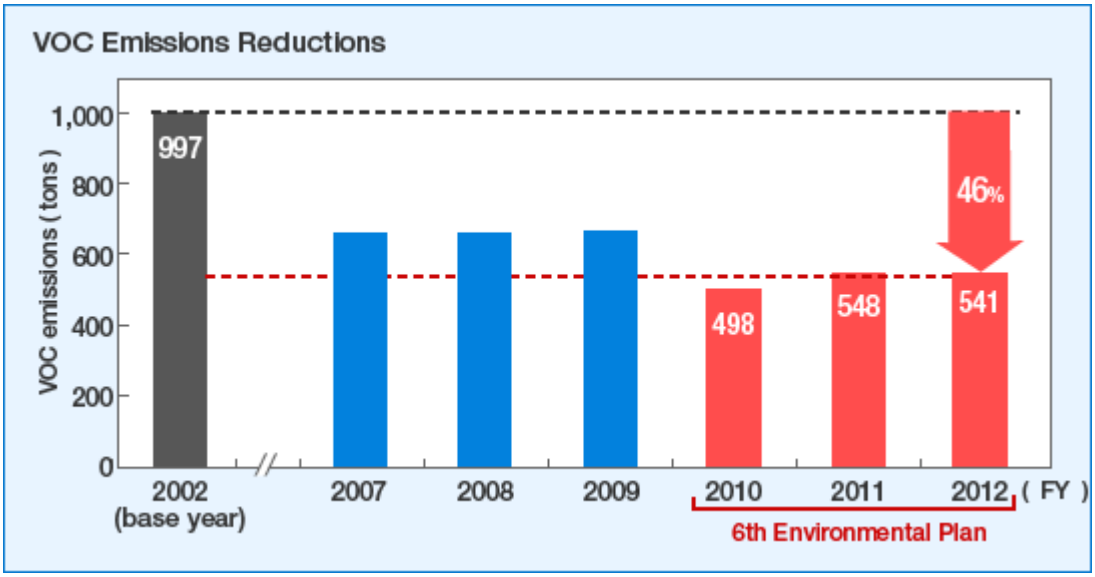
Mitsubishi Electric's Targets and Fiscal 2012 Achievements

We achieved our targets under the 6th Environmental Plan

The biggest challenge for the company with respect to chemical substances is controlling VOC emissions including styrene and xylene.

Continuing from the previous fiscal year, we continued with our activities to reduce wastefulness in work processes in fiscal 2012 through the development of best practices. We also continued to investigate full-fledged emission reduction measures for our locations with the highest emissions, and we further researched VOC substitutes.

As a result of these activities, emissions totaled 541 tons, while the reduction rate was 46%, indicating that we were able to achieve our targets (598 tons; 40%) for the final year of the 6th Environmental Plan.



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 are also working to reduce environmental impact via "Eco-Logistics" (Economy & Ecology Logistics).

The Mitsubishi Electric Group's Fiscal 2012 Targets and Achievements

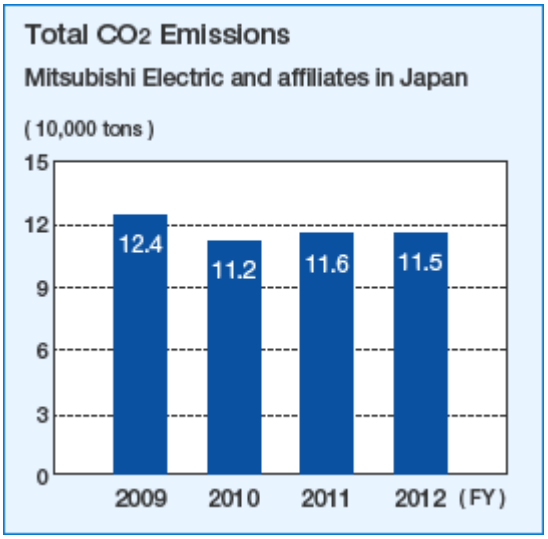
Target: Cut CO_2 emissions 3% from fiscal 2009 levels in the fiscal years 2010–2012
Result: Fiscal 2012 CO_2 emissions were 115,000 tons, an 9,000-ton or 6.9% reduction from fiscal 2009

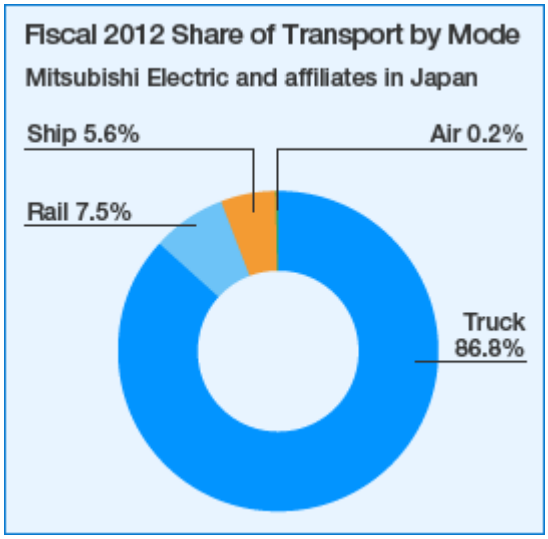
The 6th Environmental Plan (fiscal 2010–2012) for Mitsubishi Electric and our affiliates in Japan sets a CO_2 emissions target of 3% below fiscal 2009 levels. We took several steps to achieve this goal, including the following:

- Reducing the number of trucks and frequency of journeys
- A modal shift from truck to rail or marine transportation (accreditation of Japan's Eco Rail Mark, etc.)

CO_2 emissions for Mitsubishi Electric in fiscal 2012 were 93,000 tons, representing a 7,000-ton, or 6.9%, reduction from fiscal 2009. Emissions for affiliates in Japan were 22,000 tons, a 2,000-ton, or 7.1%, reduction from fiscal 2009.

Regarding overseas affiliates, in fiscal 2012 we collected data from 22 companies, (compared with 20 in fiscal 2009). We calculated our CO2 emissions to be 220,000 tons, a 41,000-ton increase from 179,000 tons in fiscal 2009.





Promoting Eco-Logistics Activities

For the period from April 2009 to March 2013, we are promoting eco-logistics activities at our production sites in Japan. Eco-logistics is an abbreviation for economy and ecology logistics, representing an initiative to reduce both costs and environmental impact by streamlining logistics activities to make them more transparent.

Utilization of Railway Shipments

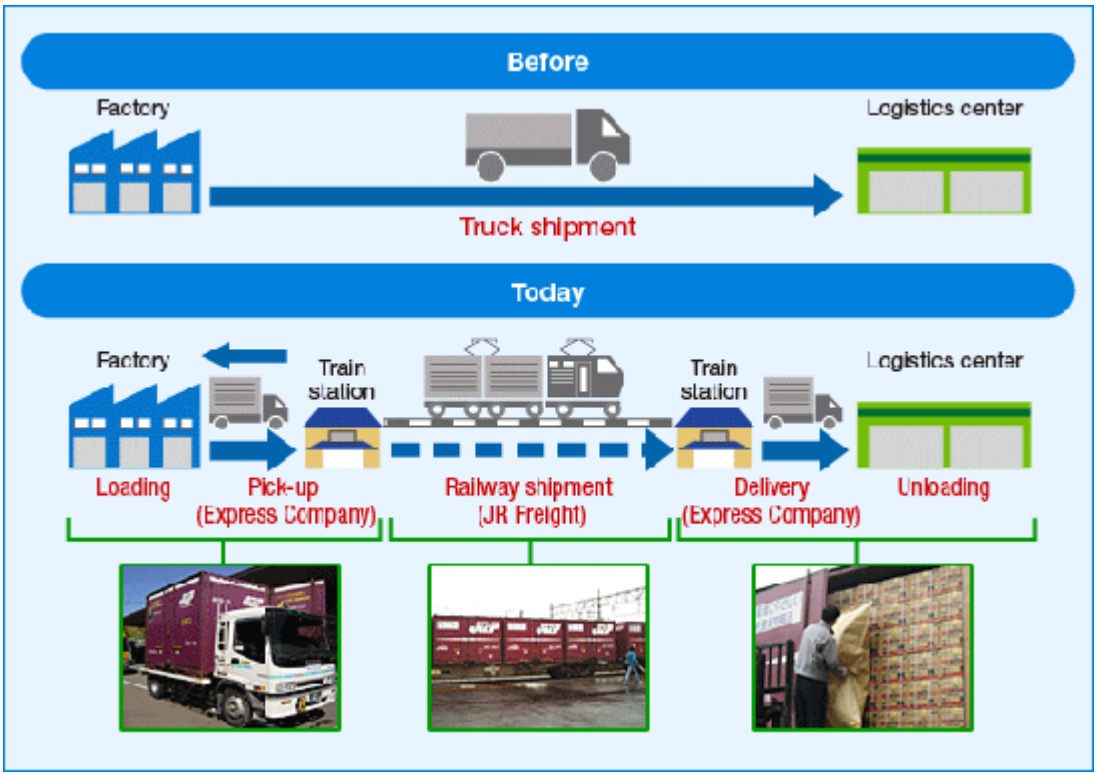
Mitsubishi Electric and certain Mitsubishi Electric products have received Eco Rail Mark accreditation from Japan's Ministry of Land, Infrastructure, Transport and Tourism. This mark is given to products that are predominantly shipped by rail and companies that use railway freight as a mode of shipment.

Mitsubishi Electric received the Eco Rail Mark corporate accreditation because it uses railway shipments for 15 million ton-kilometers each year. Both the Mitsubishi Electric refrigerator and Mitsubishi Kirigamine brand room air conditioner also received the Eco Rail Mark product accreditation because more than 30% of shipments of them are sent via railway routes of more than 500km.

Eco Rail Mark accredited products

Mitsubishi refrigerator

Mitsubishi Room air conditioner Kirigamine (main unit and outdoor unit)



Environment – Reducing the Use of Disposable Packaging Materials

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

Reducing the use of disposable packaging materials					
Target of 6th Environmental Plan (fiscal 2010–2012)		Fiscal 2010	Fiscal 2011	Fiscal 2012	
		Results	Results	Results	Self Evaluation
Mitsubishi Electric	10% reduction per volume of shipment (base year Fiscal 2009)	6.5%	7.6%	7.8%	
Affiliates in Japan	10% reduction per volume of shipment (base year Fiscal 2009)	9.9%	11.5%	12.3%	
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	Completed assessment of packaging material volume in 22 companies and product shipment volume in 19 companies	

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).

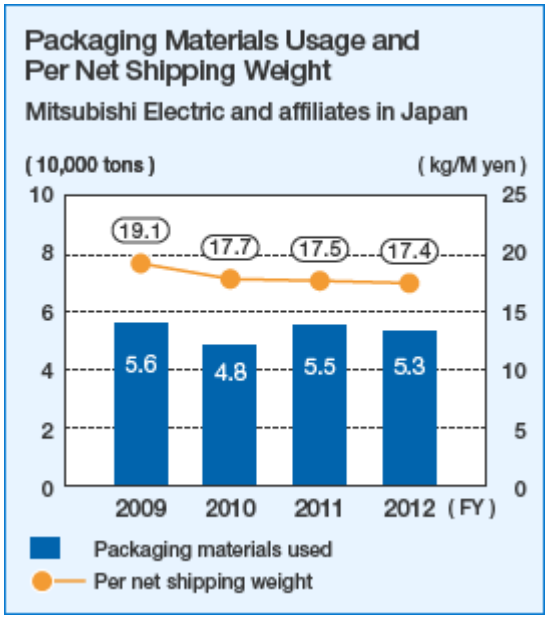
In the 6th Environmental Plan, we have set the target of a 10% reduction compared to fiscal 2009 in the amount of packaging material used per volume of shipment by Mitsubishi Electric and its affiliates in Japan, to be achieved by the end of fiscal 2012. However, we revised this target to the amount of packaging material used per total shipments because we have reduced shipment weight through our lighter weight products, which meant that the effects of packing material reductions were difficult to quantify. Results for fiscal 2012 show that Mitsubishi Electric had achieved a 7.8% reduction, well under its target, while for affiliates in Japan this figure was 12.3%, indicating they were able to achieve the target. For overseas affiliates, we assessed packaging material volume and product shipment volume at each site.

Mitsubishi Electric Group's Fiscal 2012 Targets and Achievements

Mitsubishi Electric and Affiliates in Japan

Packaging requirements per volume of shipment: 17.4 kg/one million yen (8.6% reduction from fiscal 2009)
Volume of packaging used: 53,000 tons (3,000-ton reduction from fiscal 2009)

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 2012, we improved the ratio of empty space in power semiconductor packaging at the Power Device Works and reduced packing material usage through the utilization of returnable containers. In fiscal 2013, we will work to make further improvements in packaging through coordination with product design departments and continue to promote simplified packaging and the use of returnable containers.

At our overseas affiliates we completed a survey of the amount of packaging material used at 22 companies, and product shipment volumes at 21 companies. The amount of packaging material used at the 22 companies totaled 38,000 tons.

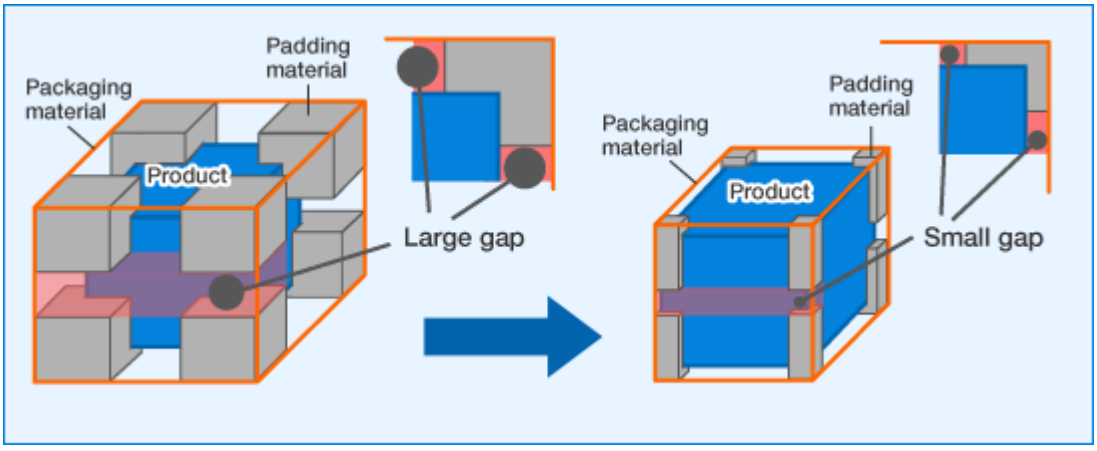
In fiscal 2013, we will continue with our initiatives from fiscal 2012.

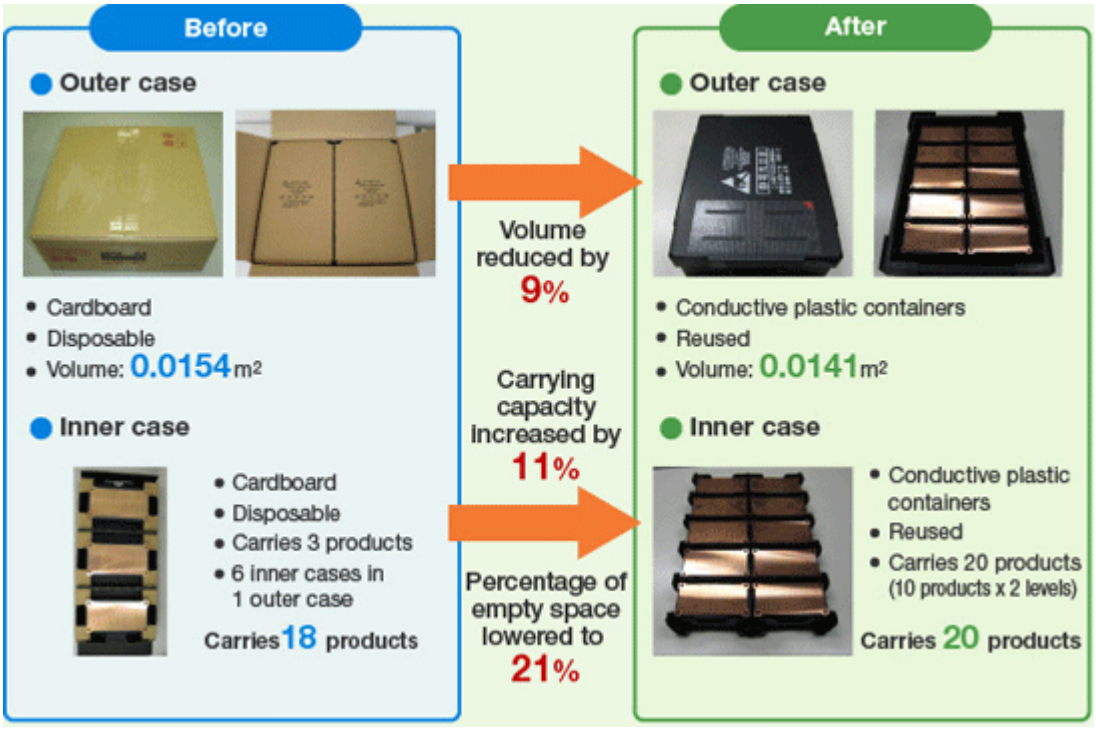
Reducing Disposable Packaging Materials with Design for Environment

The Mitsubishi Electric Group has focused on materials used to ship semiconductors between factories (outer cases and inner cases) as part of its efforts to reduce the use of disposable packaging materials. We have shifted from disposable cardboard packaging to reusable and conductive plastic containers. We have also changed the shape of packaging materials to reduce the percentage of empty space*. This has helped us reduce packaging volume by 9% and increase per-outer-case carrying capacity by 11%. As a result of these initiatives, we have also been able to reduce the amount of packaging we dispose of by 51 tons annually.

*Percentage of empty space: A percentage that shows how much empty space (gaps) is located between product dimensions and packaging dimensions. The smaller the percentage the less waste.

Percentage of Empty Space = (Packaging Volume – Produce Volume) / Product Volume




Before
Outer case
• Cardboard
• Disposable
• Volume: 0.0154 m²
Inner case
• Cardboard
• Disposable
• Carries 3 products
• 6 inner cases in 1 outer case
Carries 18 products
Volume reduced by 9%
Carrying capacity increased by 11%
Percentage of empty space lowered to 21%
After
Outer case
• Conductive plastic containers
• Reused
• Volume: 0.0141 m²
Inner case
• Conductive plastic containers
• Reused
• Carries 20 products (10 products x 2 levels)
Carries 20 products

Environment – Environmental Contributions through Our Products, Technologies and Businesses

Reducing CO2 from Product Usage

Introducing objectives and results of fiscal 2012 initiatives to promote energy-saving products that are helping to create a low-carbon society.

Reducing Resource Inputs

Introducing objectives and results of fiscal 2012 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

- Status of RoHS Compliance
- Status of Compliance with REACH and CLP Regulations

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 Results

Research and development results for products and services that help protect the environment.

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.

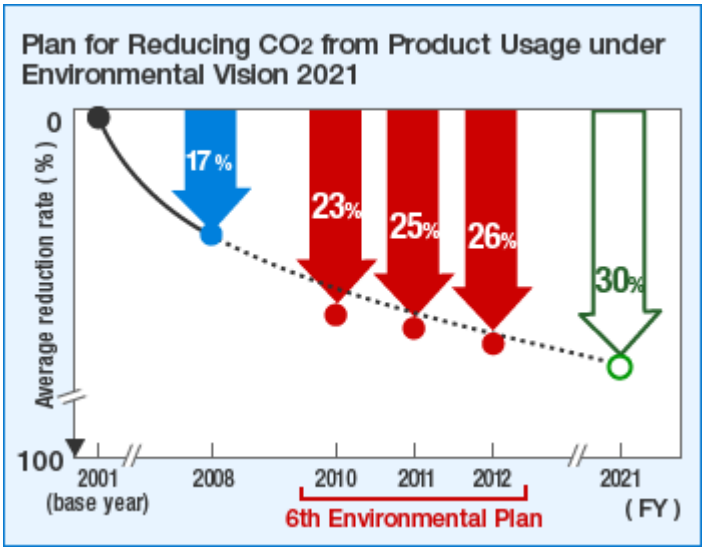
Reducing CO2 from Power Generation

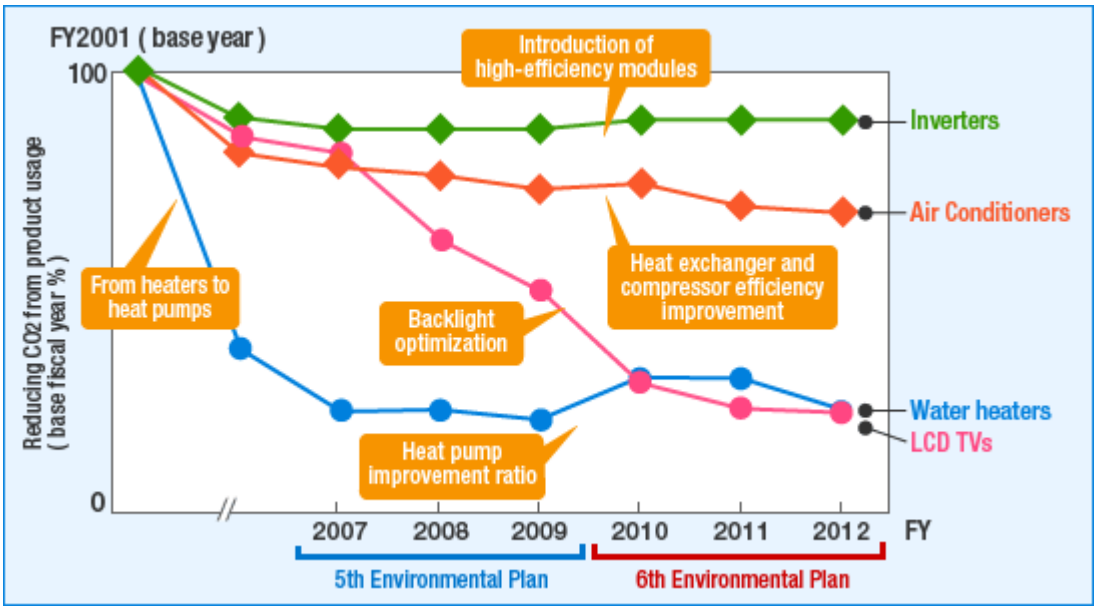
Initiatives to further reduce the environmental impact of high-efficiency power generation equipment, clean power generation facilities, and electric power infrastructure equipment.

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

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

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 the final year of the 6th Environmental Plan by 25% compared to fiscal 2001 levels.





Mitsubishi Electric Action Plan and Fiscal 2012 Achievements

Reached 84 target products and 26% average reduction rate in fiscal 2012 within the 6th Environmental Plan

In fiscal 2012, Mitsubishi Electric achieved the final year targets for the 6th Environmental Plan established for the number of products targeted and the average CO_2 reduction rate, reaching 84 target products and a reduction rate of 26%.

In order to ensure that these target products are more energy efficient, the Mitsubishi Electric Group 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 2012, reductions were targeted in water heaters, LCD TVs as well as optical wireless access systems for information communication applications.

One 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 energy consumed by electrical products is used to drive motors, successful efforts to enhance the CO_2 reduction rate of drive products contribute greatly 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.

One-off individually manufactured products as well as products manufactured to specific customer specifications are not targeted for CO_2 reduction from product usage.

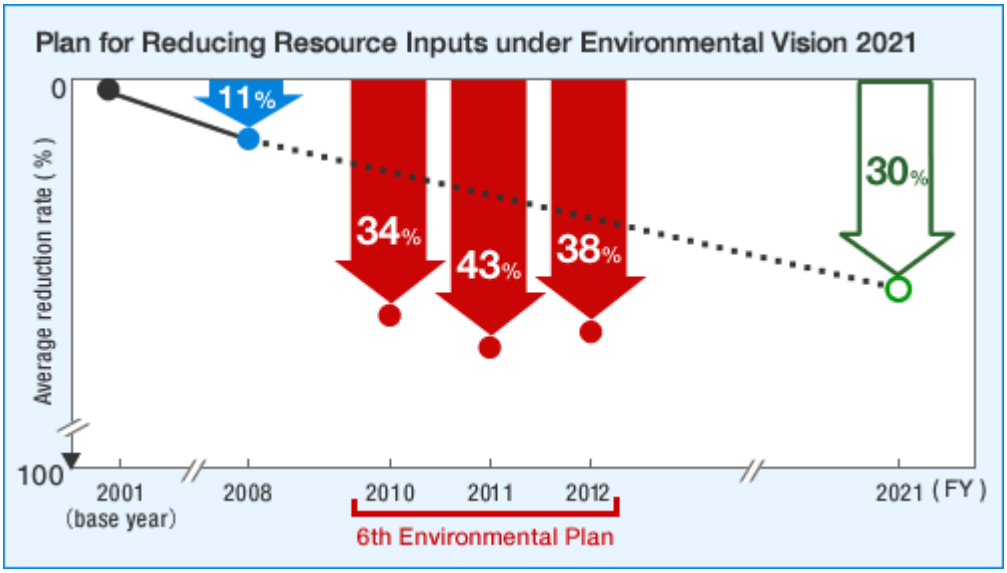
Targets of the 6th Environmental Plan (Fiscal 2010 to 2012) and Progress in Fiscal 2012

Reducing Resource Inputs						
Targets of the 6th Environmental Plan (Fiscal 2010–2012)		FY2010	FY2011	FY2012		
		Results	Results	Target	Results	Self Evaluation
Average Reduction Rate for Target Products	30%[1]	34%	43%	30%	38%	☺
Expansion of Target Products	32 Products → 60 Products	51 Products	64 Products	60 Products	64 Products	☺

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 groups[2] in fiscal 2010, the Mitsubishi Electric Group has determined target products to be included in this initiative for the period until fiscal 2021. In the 6th Environmental Plan, the Group is making every effort to expand the number of target products to 60 or more and to achieve the average reduction rate of 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)



Mitsubishi Electric Action Plan and Fiscal 2012 Achievements

Expanding the Number of Target Products to 64 in Fiscal 2012
Successfully Achieving Established Targets for the Average Reduction Rate of 38% in the 6th Environmental Plan

In fiscal 2012, Mitsubishi Electric achieved the final year targets for the 6th Environmental Plan, reaching 64 target products and an average reduction rate of 38%.

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.

In fiscal 2012, we focused efforts on steering systems for automobiles, optical wireless systems for information communications applications, and three-phase motors used to power fans and machine tools, to reduce resource inputs.

One-off individually manufactured products as well as products manufactured to specific customer specifications are not targeted by resource input reduction initiatives.

Environment – Complying with Chemical Substance Regulations

Status of RoHS Compliance

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

Status of Compliance with REACH and CLP Regulations

Promoting a Chemical Substance Information Management System and obtaining and furnishing information required by laws and regulations.

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

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 that labeling 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.

Since then, we have 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.

The RoHS Directive was amended in July 2011 and plans call for restrictions on the six specified substances to be expanded beginning in 2014. Once rolled out, these restrictions will apply to all electrical equipment and electronics. Given this, we are moving forward with preparations to ensure our compliance with these new rules, including the use of the CE mark verifying conformance with the Directive and eliminating the use of all six substances, in conjunction with the expiration date of exemptions from each product category.

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.

Environment – 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. 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 will 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. In addition, in fiscal 2012 we updated our information systems and made other necessary arrangements to comply with revisions made by JAMP to its AIS and MSDSplus formats for conveying information on chemical substances found in products.

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, Authorization 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 390 member companies (as of May 30, 2012) 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 of October 28, 2008, 15 substances were presented; and as of the notification in December 2011 a total of 73 substances were included. Going forward, this list will be updated with additional substances up to twice a year, and could ultimately exceed 1,000 items.

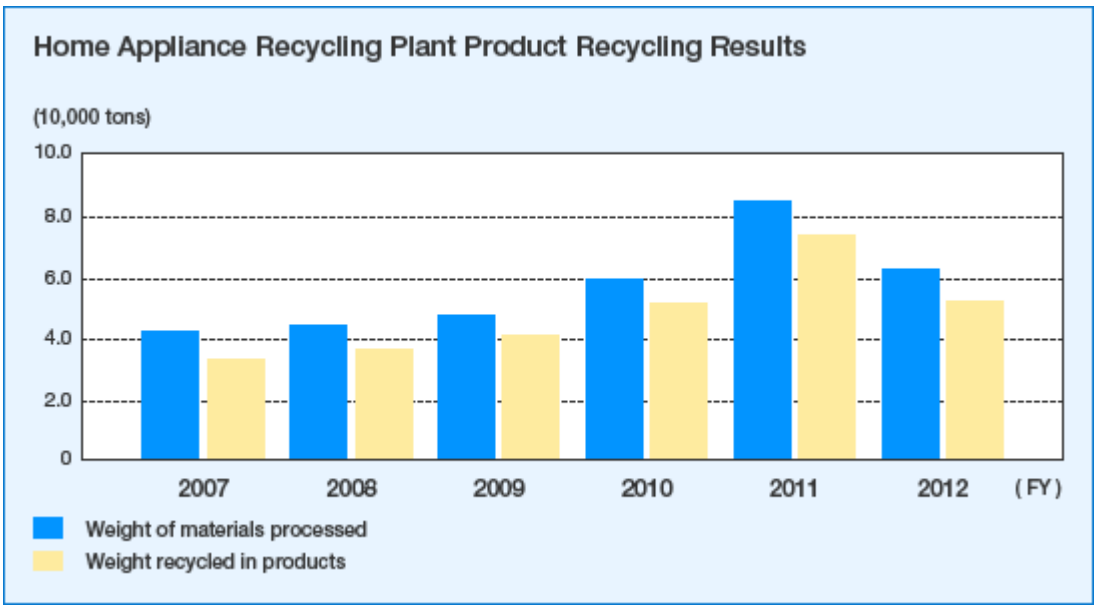
Recycling Four Kinds of Home Appliances

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, Hyper Cycle Systems Corporation (HCS), the first in the industry. By the end of fiscal 2011, HCS had recycled 540,000 tons of material. The results for the collection and recycling of four kinds of Mitsubishi Electric home appliances in fiscal 2012 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.

* Home Appliance Recycling Law (April 2001): This law obliges stakeholders to collect and recycle home appliances like air conditioners, television sets, refrigerators, washing machines, and others. 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 2012)

	Unit	Air Conditioners	Television Sets		Refrigerators / Freezers	Washing Machines / Tumble Dryers	Total
			CRT	LCD / Plasma			
Recovered units at collection points	1,000 units	328	632	9	321	213	1,503
Treated units	1,000 units	325	854	10	319	207	1,715
Treated weight	Tons	13,295	22,137	156	19,431	7,069	62,088
Recycled weight	Tons	12,270	17,413	133	15,476	6,430	51,722
Recycled ratio (Sold material ratio)	%	92	78	85	79	91	83

Recycling Personal Computers

Mitsubishi Electric promotes the recycling of used computers and monitors. In fiscal 2012, we collected a total of 4,891 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 2012)

	Unit	Desktop		Notebooks		CRT Displays		LCD		Total	
Collected weight	Tons	14.8		2.9		11.5		10.4		39.6	
		Office	Home	Office	Home	Office	Home	Office	Home	Office	Home
		12.8	2.0	2.7	0.1	8.9	2.5	10.1	0.3	34.5	4.9
Collected units	Units	1,579		1,052		552		1,708		4,891	
		Office	Home	Office	Home	Office	Home	Office	Home	Office	Home
		1,418	161	1,003	49	424	128	1,651	57	4,496	395
Treated weight	Tons	14.8		2.9		11.5		10.4		39.6	
Recycled weight	Tons	12.1		2		7.8		8.2		30.1	
Recycling ratio	%	82.0		68.3		68.1		78.8		76.0	

* Including all-in-one computers

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 or sticker 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.

* 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.

Environment – Environmental Technology R&D Results

The Mitsubishi Electric Group conducts environmental technology related research and development in aiming to provide products and services that will help protect the environment. The results of R&D in fiscal 2012 are as follows.

New Environmental Business

Promoting the Recycling of Difficult-to-procure Rare Earth Elements

Rare earth magnets are used widely in many room air conditioners and help improve energy-saving performance. However, the procurement of rare earth elements, such as neodymium and dysprosium, has become more and more difficult. As a result, the Mitsubishi Electric Group developed automatic dismantling equipment for recovering rare earth magnets from used room air conditioners. The recovery operations began in April 2012.

Smart Technology

Implementing a Demonstration Project for Homes that are Eco-friendly, Safe and Secure

Mitsubishi Electric constructed the Ofuna Smart House in Kamakura City, Kanagawa Prefecture and, since May 2011, has been carrying out a demonstration project of HEMS*, which is compatible with the smart grid. We aim to develop a system capable of ensuring residents' safety and security as well as saving energy through the maximum use of natural energy as quickly as possible.

* Home Energy Management System

The Smart Grid / Smart Community Demonstration Project Shifts into Full Swing

Mitsubishi Electric has developed infrastructure for large-scale demonstration projects on the smart grid / smart community in two separate locations: Amagasaki City, Hyogo Prefecture and Wakayama City, Wakayama Prefecture. The project had already begun at certain facilities, but with the facilities finally ramping up in October 2011, we are now stepping up our efforts to develop related equipment and systems.

News Release

Oct 19, 2011
Mitsubishi Electric Begins Full-scale Testing of Smart Grid in Japan

Next-Generation Power Semiconductors

First in the World to Commercialize a SiC Inverter Used in Railcar Applications

In October 2011, Mitsubishi Electric took the lead as the first company in the world to commercialize railcar inverters using silicon carbide (SiC). We were able to successfully reduce energy loss by 30% and volume and mass by 40% compared to our existing version. This inverter was installed on railcars used by Tokyo Metro Co.,Ltd. and these cars have started commercial operation since Feburary 2012,

News Release

Oct 3, 2011
Mitsubishi Electric to Launch Next-generation SiC Inverter for Railcars

Launch of Power Semiconductor Module that Makes Air Conditioners More Energy Efficient

Mitsubishi Electric released the inverter driving power semiconductor module "DIPIPM with MOSFET" as a new product that helps lower the period power consumption* of air conditioners.

* Total power consumed by an air conditioner when it has operated for a period of time under certain conditions based on standards set by the Japan Refrigeration and Air Conditioning Industry Association.

Environmental Products & Services

Achieving Drastic Improvements in Energy Efficiency in Elevators with Minimal Upgrades

Together with our subsidiary, Mitsubishi Electric Building Techno-Service Co., Ltd., we developed a new service, EleFine, which upgrades hydraulic elevators to state-of-the-art roped, machine-room-less elevators through refinements made to controls and the drive. The system has a short installation time and low cost, and is capable of reducing power consumption by up to 65%.

Developing Photovoltaic (PV) Cell Modules Capable of Mass Power Generation in Confined Spaces

In October 2011, Mitsubishi Electric released a new photovoltaic module for domestic residential use, which produces 5% more power than our existing products. We came up with the "Roof Power Generation" module, which allows residences with limited roof area to generate more power through combined use of Mitsubishi Electric's PV inverter capable of a 97.5% conversion rate.

Supporting Customers in Energy Conservation

Supporting Customers in All Aspects of their Energy Conservation Measures

Since summer of 2011, when reducing power consumption during hours of peak demand was required across Japan, Mitsubishi Electric Group and its subsidiary, Mitsubishi Electric Building Techno-Service Co., Ltd., has enacted the "Energy Saving for the Entire Building" campaign in support of customers' energy conservation efforts. Our support activities include providing insight into energy conservation measures, making equipment and systems more energy efficient, and providing consulting services.

Conducting Demonstration Project on Our Simulation Technology that Helps Promote Energy Conservation

Mitsubishi Electric announced the release of its Office Building Energy Savings Simulation Technology, which forecasts energy-saving performance in various office environments. The demonstration project was conducted from July to September 2011. We are reviewing the results of the project with an eye to developing energy-efficient products for the future.

Developing Various Models of Electric Home Appliances Equipped with the "Energy Saving Assistance" Function

Mitsubishi Electric is committed to developing products that combine the ecological capabilities of energy efficiency and universal design with convenient features that are truly user friendly. Since September 2011, we have introduced a number of electric home appliances equipped with the "Energy Saving Assistance" feature and executed sales promotion campaigns.

Release of a New Data Collection Server for Production Sites

In February 2012, Mitsubishi Electric released a new product called EcoServerIII, a data collection server, which collects, analyzes, and displays the energy consumption in buildings and factories, and supports the efficient management of energy use. In response to heightened awareness to conserve energy at production sites following the Great East Japan Earthquake of 2011, we are developing our ability to visualize the amount of energy used at each factory and production line.

Reducing CO2 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.

Technological Development: Strong Business Stronger

Compatibility between a low-carbon society and affluent lifestyles

Smart Community Smart Grid

SiC Power Devices

EV/HEV Automotive Equipment

Ongoing R&D that Supports Enhanced Competitiveness

Optical communications technology

Optical submarine cable (40Gbps)

Wavelength multiplexing transmission systems

- Optical transmission system that realizes next-generation 100Gbps super high-speed, long-distance transmission
- Main businesses
  - Information transmission systems
  - Optical devices

Advanced control technology

Laser processing machines

Elevators

- High-speed, high-precision processing machine controllers that achieve superior productivity
- Elevator controllers that maintain both super high speed and comfort
- Main businesses
  - FA systems
  - Building systems
  - Space systems

Rare earth-less technology

EV/HEV rare earth-less motor*

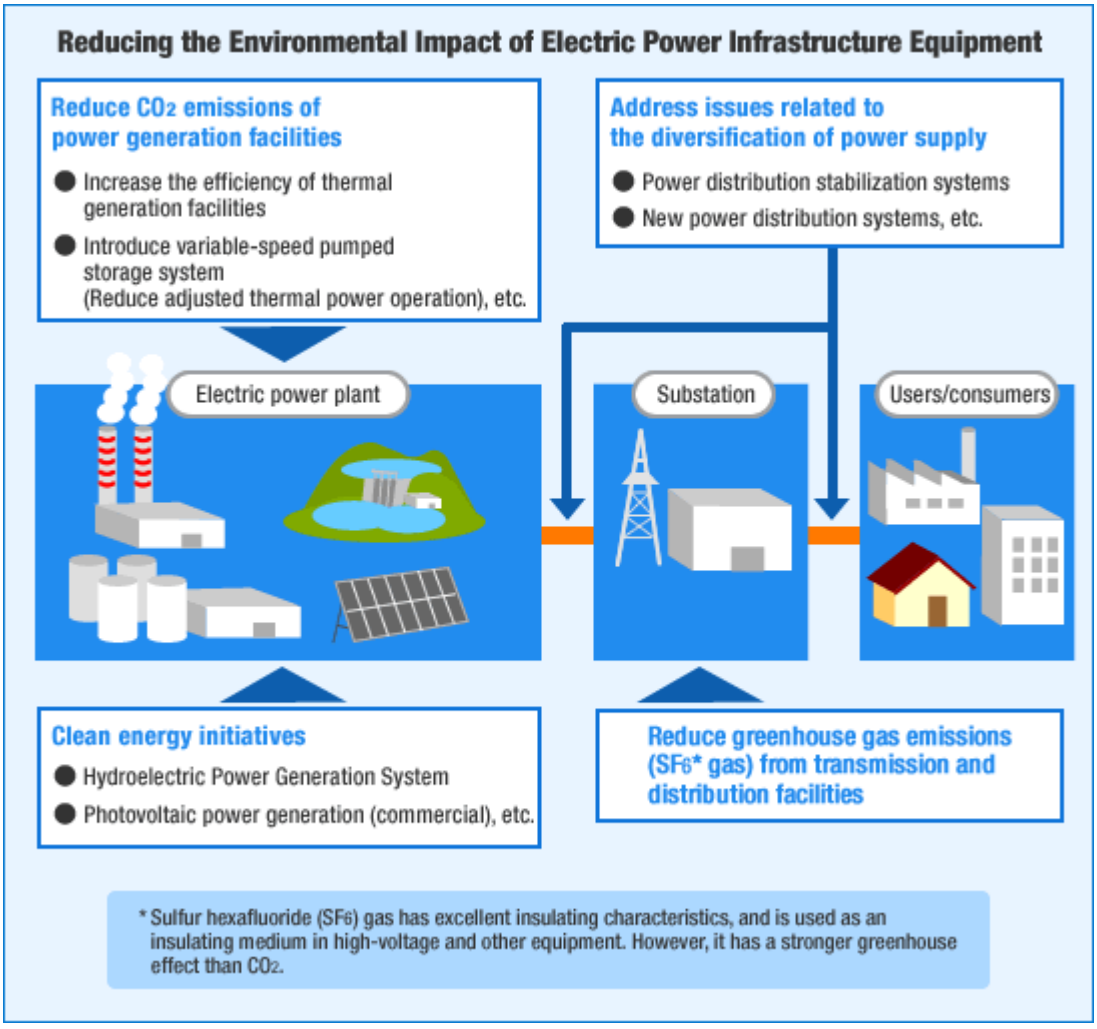
- High-performance motors that realize elevated torque without using rare earth magnets
- Main businesses
  - Automotive equipment
  - FA equipment
  - Air conditioning equipment

*Conducted under the auspices of New Energy and Industrial Technology Development Organization (NEDO)

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 the 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



Environment – Respecting Biodiversity

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 2012 initiatives and achievements of the Mitsubishi Electric Outdoor Classroom.

"Satoyama" Woodland Preservation

Introduction to the targets, as well as the fiscal 2012 initiatives and achievements of the "Satoyama" woodland preservation project, a volunteer-oriented program that restores the natural environment in local areas.

"Living Creature Studies" at Factories — Field Guides, Posters and Booklets

Introduction to fiscal 2012 initiatives and results of nature study activities including Living Creature Studies conducted in the Chubu Region, as well as making field guides, posters and booklets.

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.

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

Mitsubishi Electric Outdoor Classroom					
6th Environmental Plan (Fiscal 2010–2012) Targets by fiscal year	Fiscal 2010	Fiscal 2011	Fiscal 2012		
	Results	Results	Target	Results	Self–evaluation
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	36 classrooms in 26 regions (including 7 new); training of 43 Outdoor Classroom leaders	38 classrooms in 28 regions (including 2 new)	32 classrooms* in 28 regions (including 2 new); training of 29 Outdoor Classroom leaders	☺

* 38 classrooms planned, but six cancelled due to weather

The Mitsubishi Electric Outdoor Classroom is one means by which we foster environmental awareness, which is directed at biodiversity conservation advocated by 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 (a role served by a company 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 five new regions and 50 leaders trained each year.

Mitsubishi Electric's Targets and Fiscal 2012 Achievements

Regions Hosting the Outdoor Classroom Expanded as Planned to 28. The number of Outdoor Classroom Leaders Now Stands at 183

In fiscal 2012, we expanded the number of regions hosting the Mitsubishi Electric Outdoor Classroom by adding two new regions as planned in fiscal 2011 to reach 28. We had planned to hold classrooms 38 times, but managed to conduct 32 sessions despite cancelations due to rain. Nevertheless, we were able to achieve our target as we set 38 sessions as our plan.

We conducted our Outdoor Classroom leadership training course twice and designated 29 new leaders, bringing the total number of course trainees to 183 people. We hope to see the Mitsubishi Electric Outdoor Classroom conducted by all of our business sites, including the head office, branches, and works, by 2014. Toward that end, we will continue to focus on leadership development.

In terms of Outdoor Classroom operations, in fiscal 2012 we worked to strengthen our collaborative framework with local kindergartens, foster care facilities, municipalities and NPOs. In terms of our cooperation with municipalities and NPOs, we have established a framework to receive guidance on classroom hosting in each district.

We will continue to make efforts toward achieving the eventual goal of holding the Outdoor Classroom at all of our 35 operational regions in Japan, including those organized by the head office, branches, works and research laboratories.

Targets of Affiliates

Our affiliates in Japan started training leaders for the Mitsubishi Electric Outdoor Classroom in fiscal 2011, and in fiscal 2012 another three persons completed the course. Currently, they are making preparations for the Outdoor Classroom to be held beginning in fiscal 2013.

At our overseas affiliates, we shared information and introduced activities to mutually foster environmental awareness through the Overseas Regional Conferences, held each year.

Kanazawa Region (Hokuriku Branch Office)

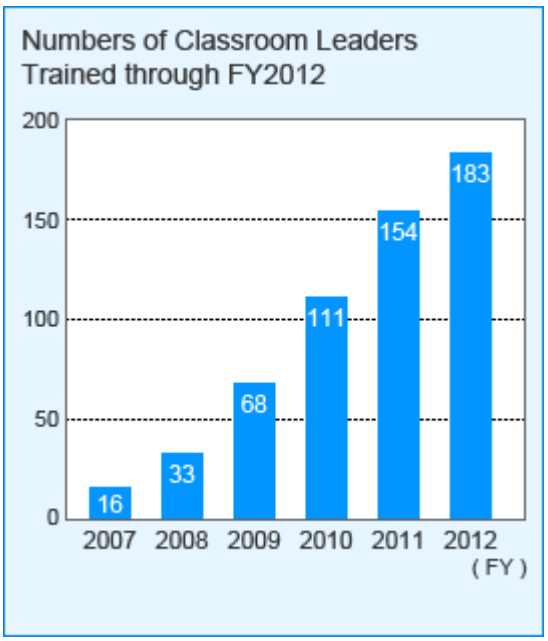
We held a "class for the five senses" led by key figures from the local community at Yuhidera Kenmin Nature Park in Ishikawa Prefecture. Participants used magnifying glasses to peek at small creatures they rarely have a chance to interact with, like dragonfly nymphs and frogs. They also took on the challenge of making natural squirt guns. Overall the class turned out to be a great success and marked a fun summer day for all.

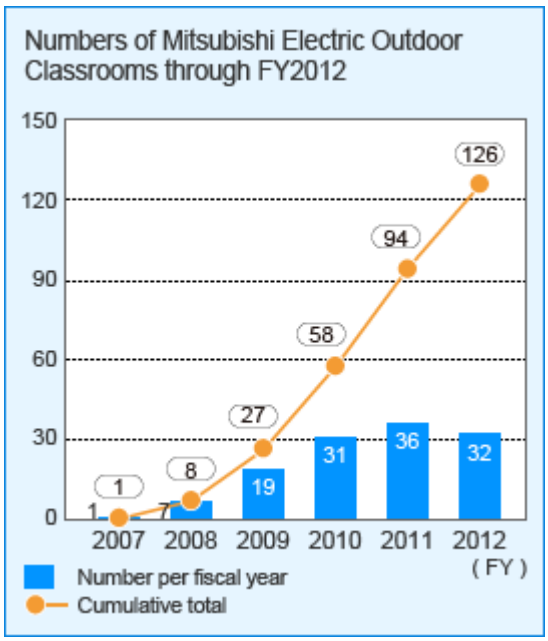
Yokohama Region (Kanagawa Branch Office)

We held a bird-watching event at the Yokohama Nature Sanctuary with the cooperation of the Wild Bird Society of Japan and the City of Yokohama. Foster children hiked and took part in wildlife quizzes and creating paper birds, all to learn more about the natural environment of Yokohama.

Wakayama Region (Air-Conditioning & Refrigeration Systems Works)

We held a nature-observation event at the expansive World Ranch, located on the side of a mountain, which also involved interaction with the ranch's animals. Participating children and their parents learned about how Japanese maple trees spread their seeds and how oil can be harvested from the seeds of camellia. Everyone involved enjoyed the autumn festivities and having the chance to interact with one another.





Environmental Topics: Mitsubishi Electric Outdoor Classroom

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

"Satoyama" Woodland Preservation Project					
6th Environmental Plan (Fiscal 2010–2012) Targets by fiscal year	Fiscal 2010	Fiscal 2011	Fiscal 2012		
	Results	Results	Target	Results	Self-evaluation
Add 1 or more region each year	Activities in 5 regions (including 1 new)	Activities in 8 regions (including 3 new)	Activities in 9 regions (including 1 new)	Activities in 10 regions (including 2 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 continue 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 Satoyama activities every year, our ultimate goal is for every workplace to develop activities suited to its region.

Mitsubishi Electric's Targets and Fiscal 2012 Achievements

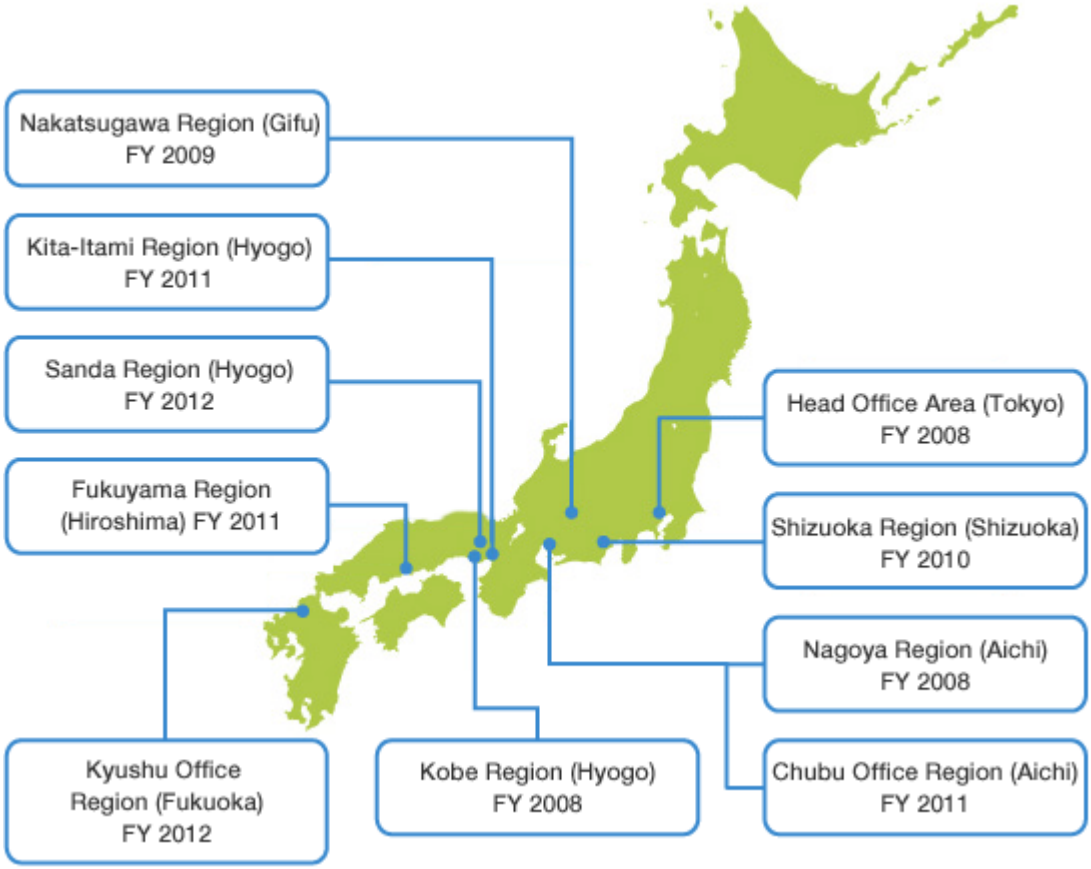
Activities in Two New Regions for a Total of Ten Regions

In fiscal 2012, we surpassed our target of conducting activities in one new region and nine total regions, by launching activities in two new regions (Sanda Region in Hyogo Prefecture, and our Kyushu Branch Region in Fukuoka Prefecture). Today, the total number of regions now stands at ten.

We trimmed weeds and bamboo that hinder the growth of trees and recovered bamboo that was left behind after trimming. (Sanda Region)

Upon request from the park that we frequently use to hold events, we conducted cleanup activities to preserve the natural forest, including sweeping up fallen leaves from around evergreen trees and cleaning signage boards. (Kyushu Branch Region)

Regions Conducting "Satoyama" Woodland Preservation



Environmental Topics: "Satoyama" Woodland Preservation

Philanthropic Activities: Environmental Preservation

"Living Creature Studies" at Factories — Field Guides, Posters and Booklets

New Booklet Created in Fiscal 2012 Showcasing Local Flora

Mitsubishi Electric engages in activities that renew awareness of its relationship with surrounding ecosystems and the environment, reviews its own activities and identifies 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.

In fiscal 2012, continuing from the previous fiscal year, we hosted nature observation meetings at Mt. Togoku in Aichi Prefecture. During these meetings we were able to confirm the presence of *Nepa hoffmanni*, a rare wetland insect species protected by the government. Mt. Togoku is the site of our Satoyama woodland project first initiated in 2007 in which we have worked hard to restore natural wetland areas by cleaning up illegally dumped garbage and other waste. In addition, we tapped the expertise of those involved in our activities in the Nagoya region to create a wildflower and tree booklet showcasing 145 species of local flora arranged by season. We plan to distribute this booklet to our employees and people in the local community to help make their observation of nature more enjoyable and rewarding.

In fiscal 2013, we will continue to host "Living Creature Studies" at our business sites. We will also encourage more employees to acquire forest instructor certification in order to raise awareness of our activities and to heighten knowledge among persons in charge of driving activities at our business sites forward.

"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.

Children looking for insects at Mt. Togoku

Environmental Topics: Respecting Biodiversity

Dialog with Stakeholders

An overview of Mitsubishi Electric's dialog with a variety of stakeholders and experts.

Disclosure and Dissemination of Environmental Information

A look at the various communications published in fiscal 2012, including disclosures on the results of our environmental initiatives, promotion of Eco Changes, participation in environmental exhibitions, and environment-related advertisements.

Environment – Dialog with Stakeholders

Every year, the Mitsubishi Electric Group engages with educational institutions and local residents through activities such as factory tours and environmental classrooms. We also hold dialog with various experts. Below is information on some of the dialog held to date.

Dialog on Energy Conservation Measures (held in April 2011)

In April 2011, we invited Professor Yoshihiko Takamura of Tokyo Denki University, who is well-versed in current energy conservation issues facing Japanese industry, to participate in a dialog on environmental management. We invited Mr. Takamura because we believed it was important to ask one of Japan's foremost experts in energy conservation research to assess the effectiveness and adequacy of our conservation efforts. Mr. Takamura's key points related to energy conservation inspections, along with his performance evaluation and advice can be viewed under Environmental Topics.

Environmental Topics: Dialog on Environmental Management

Dialog on Biodiversity (held in March 2010)

In March 2010, we invited Ryo Kosaka, Associate Professor at Nagoya City University and Advisor to the Executive Committee of the 10th Conference of the Parties to the Convention on Biological Diversity (COP10), to share his views on biodiversity. We invited Mr. Kosaka to ask for his advice on the Mitsubishi Electric Group Biodiversity Action Guidelines that was being formulated as the company aims to strengthen and promote its initiatives to preserve biodiversity. The other reason was to hear his opinion on whether or not it would be appropriate to establish special indices for evaluating the environmental performance of our products. Mr. Kosaka's advice and ideas discussed during the meeting can be viewed under Environmental Topics.

Environmental Topics: Exchanging Ideas with Experts

Environment – Disclosure and Dissemination of Environmental Information

Providing 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. In fiscal 2012, we launched a new website mainly targeting elementary school students that makes learning about environmental issues fun and rewarding.

Environmental Report Website

Japanese language website

English language website

"Eco-Planet" website for children

Environmental Sustainability 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 a separate catch-phrase for China "*jing yu jie neng, jin xin huan bao,*" which translates as "experts in energy conservation, dedicated to environmental protection," in April 2012, as part of our broad effort to roll out environmental communications in areas around the world.

Eco Changes website

Japanese language website

Global Environmental Portal

Environmental Statement Booklet

Japanese language version

English language version

Chinese language version

Examples of Environmental Communications Around the World

China

In April 2012, we launched communications in China under a new environmental statement, "*jing yu jie neng, jin xin huan bao,*" which translates as "experts in energy conservation, dedicated to environmental protection." Going forward, we plan to promote this statement in a variety of communications.

精于节能 尽心环保 eco Changes

Asia

In Asia, we placed Eco Changes banner advertisements on a variety of environment-related websites and we have also taken out ads that emphasize our activities to change the environment around the world through our businesses and products.

Various Eco Changes banners

Corporate advertisements in India

Corporate advertisements in Singapore

Europe

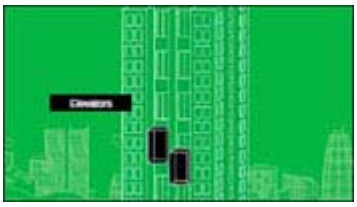
We placed banner advertisements about Eco Changes on major news, business, economics and environment-related websites in seven European countries, including the U.K., Germany, France, Italy, Spain, Poland and Russia.

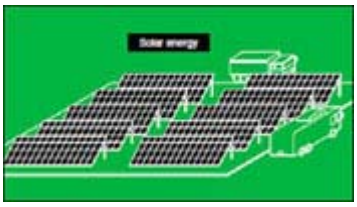
Eco Changes site on our European portal

Various examples of Eco Changes advertisements and banners

United States

We promoted Eco Changes in the United States using magazine advertisements and TV commercials.





Japan

We promote Eco Changes using a variety of media to help raise its visibility. In fiscal 2012, we rolled out a corporate advertisement series called the "Barbapapa Channel" in collaboration with a newspaper publisher, and we took out corporate ads in order to increase opportunities for consumers to view our Eco Changes website.

Corporate advertisement for newspapers and magazines

Collaborative advertisement with newspaper company Barbapapa Channel The Asahi Shimbun Advertisement Special Feature (Published February 28, 2012)

Corporate advertisement introducing the Eco Changes website

Environmental Exhibitions

Eco-Products 2011 (Japan)

Mitsubishi Electric sponsored a booth at Eco-Products 2011, which was held at Tokyo Big Sight from December 15 to 17, 2011. For this year's exhibition, under the theme "global, leading green company" that aspires to achieve a low-carbon, recycling-based society through all of its businesses, we introduced in an easy-to-understand format, how Mitsubishi Electric Group products help reduce impact on the environment. On the main stage we introduced Mitsubishi Electric Group initiatives using an interactive format involving a narrator and video of an "old man of the forest" character. We also set up a tour of our booth where we introduced new electricity conservation and energy saving methods in society and for the home using the keywords, "measure, visualize, choose, and possibilities." In addition, because many elementary and junior high school students attend Eco-Products each year, we organized a card game tournament to foster their understanding of environmental issues. As a new initiative, we took out an advertisement in a children's newspaper prior to the event in order to introduce our booth and the card game tournament.

Main stage

Eco Changes card game handed out at the event venue

Advertisement at railway station

Advertisement placed in children's newspaper

Advertisement introducing the Mitsubishi Electric booth

China-Japan Green Expo 2011 (China)

Mitsubishi Electric sponsored a booth at the China-Japan Green Expo 2011, which was held in Beijing from June 1 to 3, 2011. This expo marked the first international exhibition co-sponsored by the China Council for the Promotion of International Trade, and Keidanren (Japan Business Federation). Under the theme, "aspiring to integrate the environment and the economy," 60 Japanese companies and 22 Chinese companies participated in the expo. The Mitsubishi Electric Group hosted a booth that showcased its many advanced technologies, spanning from "in the home to outer space," together with its key energy saving solutions such as air conditioning systems and factory automation technologies. We also introduced our ambitions as a leading environmental company as well as products and businesses that are helping to protect China's natural environment.

During the technology sharing session held on the second day of the event we presented the results of our energy saving demonstration experiments involving lighting and elevators, under the theme, "Eco solutions for entire buildings." Participants asked many questions about the operations of these solutions, providing for a lively dialog. On the third day of the expo we gave a presentation entitled "The Latest Ozone-Emitting Equipment Technologies and Applications in Water Treatment" in which we discussed actual case studies where these technologies are being used in water treatment plants and facilities located in China.

BOI Fair 2011 (Thailand)

The BOI Fair, organized by Thailand's Board of Investment, is the country's largest exhibition. Under the theme "Going Green for the Future," this year's fair was held in Bangkok from January 5 to 20, 2012. The Mitsubishi Electric Group set up a booth focused on Eco Changes in which it highlighted the many different measures it is taking as a leading global environmental company, as well as technologies it provides to its group companies in Thailand and a variety of other cutting-edge energy-saving products.

Other Exhibitions

CEATEC JAPAN 2011

Mitsubishi Electric took part in CEATEC JAPAN 2011 held from October 4 to 8, 2011. The slogan for this year's exhibition was "Smart Innovation – cutting edge technologies for the future." The Mitsubishi Electric Group showcased a wide range of environmental technologies and products, including imaging technologies for the home, digital signage technologies, social infrastructure communication technologies, space technologies, as well as products equipped with the "Assist Energy Saving" function, such as air conditioners and refrigerators, under the theme "Mitsubishi Electric – Aiming to become a global, leading green company, enriching society with technology."

Our booth's main stage featured a large, organic LED display in a semi-spherical configuration, on which we used powerful, dynamic audio visuals to showcase our technologies at work in various fields, such as video communications, the environment and space, to the many people in attendance.

OLED display with semi-spherical surface

Environmental Advertising

Examples of environmental advertising in Japan and overseas

Example of environmental advertisements that were run in Japan or overseas

Eco Changes website (Japanese)

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

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

CSR – Guideline Comparison Tables

- GRI Guideline Comparison Table
- Japan MOE Guideline Comparison Table

CSR – 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.	President's Message
		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
		Growth Strategies
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
		Growth Strategies
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 2011
		Awards 2012
3 Report Parameters		
Report profile		

3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	About the Report
		Period and Scope of the 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
		Period and Scope of the 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
		Period and Scope of the 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	Corporate

	under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	Governance 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
		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)
		7th Environmental Plan (Fiscal 2013-2015)
		Group Biodiversity Action Guidelines
4.9	Procedures of the highest governance body for overseeing the	Corporate

	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.	Governance
		Corporate Governance
		Compliance
		Risk Management
		Ensuring Consistent Quality
		Environmental Management Structure
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 Compliance with REACH and CLP Regulations
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
		From the President
		Growth Strategies
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.	-
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
		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)
		7th Environmental Plan (Fiscal 2013-2015)
		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
		Targets & Achievements

		of the 6th Environmental Plan
		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 biodiversity.	President's Message
		Respecting Biodiversity
		Respecting 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
		Highlights of Activities in Fiscal 2012
		Environmental Technology R&D Results
		Plastic Recycling Comes of Age
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.	Environmental Risk Management
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		Compliance
		Respecting Human Rights
		Responsibility to Business Partners
		Procurement Policy
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
		Responsibility to Business Partners
		Procurement Policy
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
		Responsibility to Business Partners
		Procurement Policy
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		President's Message
		CSR Philosophy
		Compliance
		Risk Management
Community		
SO1	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on	Complying with

	communities, including entering, operating, and exiting.	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.	Compliance
SO4	Actions taken in response to incidents of corruption.	President's Message
		Compliance
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		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.	Product Development
		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	Increasing

	surveys measuring customer satisfaction.	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.	-

CSR – 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 Period and Scope of the 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 Period and Scope of the 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	Compliance 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
		Environmental Vision 2021
		6th Environmental Plan (Fiscal 2010-2012)
		7th Environmental Plan (Fiscal 2013-2015)
		Group Biodiversity Action Guidelines
		Environmental Management
		Targets & Achievements of the 6th Environmental Plan
MP-1-2: Status of environmental management systems		
a.	Status of environmental management systems	Aiming to Achieve Environmental Vision 2021
		Environmental Management Structure
		Expanding ISO 14001 Conformity
MP-2 Status of compliance with environmental regulations		
a.	Status of compliance with environmental regulations	Compliance 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
		Procurement
MP-6 Status of green purchasing or procurement		
a.	Fundamental policy, targets, plans, status of initiatives and results of green purchasing or procurement	Procurement
		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	Product Development
		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
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
		"Satoyama" Woodland Preservation
		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	Product Development
		Environment-Related Business
		Reducing CO_2 from Power Generation
		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
c.	Breakdown of total amount of energy input (the amount used by type) (unit: joule)	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.	President's Message
		From the President
		Environmental Vision 2021
		6th Environmental Plan (Fiscal 2010-2012)
		7th Environmental Plan (Fiscal 2013-2015)
		Highlights of Activities in Fiscal 2012
		Targets & Achievements of the 6th Environmental Plan
		Reducing CO_2 from Production
		Reducing Emissions of Non-CO_2 Greenhouse Gases
		Dialog on Environmental Management
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
		Highlights of Activities in Fiscal 2012
		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)	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
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	
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	Managing 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)	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 Zero Emissions Targets & Achievements of the 6th Environmental Plan
b.	Total amount of discharged wastes (unit: ton)	
c.	Amount of final disposal wastes (unit: ton)	
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	-
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 *4 Guidelines on industrial safety and hygiene management systems (in Japanese)	Ensuring Occupational Safety & Health
	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	Workforce Diversity and Equal Opportunity

	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) *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). *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)	Compliance Respecting Human Rights
(3) Information and indicators concerning human rights		
	Policy, plans, and initiatives related to human rights	Compliance Respecting Human Rights Responsibility to Business Partners Procurement Policy
	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	Compliance Respecting 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
		Procurement Policy
	Status of cooperation and assistance for provision of education and training in local communities	Philanthropic Activities
		Science & Technology
	Policies, plans, and initiatives related to social contributions other than for the environment	As a Corporate Citizen
		Philanthropic Activities
	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
		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)	President's Message
		Compliance
	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
		Mitsubishi Electric America Foundation
		Mitsubishi Electric Thai Foundation

		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	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 2011
		Awards 2012