

Changes for the Better

CSR | Corporate Social Responsibility
Environmental Report



Contents

| | |
|---|----|
| Environmental Report | 1 |
| Group Environmental Policy | 3 |
| Environmental Vision 2021 | 4 |
| Targets of the 6th Environmental Plan | 9 |
| Activities and Objectives | 10 |
| Preventing Global Warming | 12 |
| Reducing CO2 from Production | 13 |
| Reducing CO2 from Production Usage | 17 |
| Based Society | 19 |
| Reducing Resource Inputs | 20 |
| Zero Emissions | 22 |
| Reducing the Use of Disposable Packaging Materials | 24 |
| Reducing VOC Emissions | 25 |
| Expanding Global Environmental Management | 26 |
| Expanding ISO 14001 Conformity | 27 |
| Complying with Environmental Regulations | 28 |
| Training Key Environmental Personnel | 29 |
| Related Businesses | 30 |
| Businesses to Counter Global Warming | 31 |
| Helping Reduce CO2 from the Power Generation Business | 35 |
| Fostering Environmental Awareness | 37 |
| Evolution of the Environmental Plan | 38 |
| Summary of the 5th Environmental Plan | 40 |
| Review of the 5th Environmental Plan | 41 |
| Targets Achieved | 43 |
| Fiscal 2009 Achievements | 52 |
| Scope of Report | 53 |
| Environmental Management | 56 |
| Environmental Management System | 57 |
| ISO 14001 Certification | 61 |
| Environmental Audits | 68 |
| Environmental Risk Management | 70 |
| Education & Awareness | 72 |
| Products | 80 |
| Design for the Environment | 81 |


Contents

| | |
|--|-----|
| Based Society | 84 |
| Compliance with Chemical Substance Regulations | 87 |
| Special Projects | 90 |
| Manufacturing | 93 |
| Preventing Global Warming | 94 |
| Based Society | 99 |
| Managing Chemical Substances | 103 |
| Office Activities | 107 |
| Logistics | 108 |
| Preventing Global Warming | 109 |
| Saving on Distribution Materials | 113 |
| Environmental Communication | 116 |
| Material Balance | 120 |
| Environmental Accounting | 126 |
| Awards | 132 |
| Product Information | 135 |
| Energy & Electric Systems | 136 |
| Ozone Generator | 137 |
| Super Energy Efficient Transformers | 139 |
| Elevator Systems | 141 |
| Escalator | 142 |
| Industrial Automation Systems | 143 |
| Electronic Hybrid Functional Control Panel | 144 |
| Computerized Numerical Controller M700VS Series | 145 |
| Wire Electric Discharge Machine | 146 |
| Automatic Power Factor Controller | 148 |
| Electronic Measuring Instrument | 149 |
| Measuring Instrument | 151 |
| Energy Measuring Unit | 152 |
| Laser Processing Machine | 153 |
| EPS Motor | 154 |
| Information & Communication Systems | 156 |
| Optical Network Unit | 157 |
| Mitsubishi Logistics Information System: Dr. Logis | 159 |
| Integrated Environmental Information System | 160 |

Contents

| | |
|---|-----|
| Electronic Devices | 162 |
| IPM Module | 163 |
| IGBT Module | 165 |
| <hr/> | |
| Home Appliances | 167 |
| Jet Towel Hand Dryer | 168 |
| Hot Water Floor Heating System | 169 |
| Air Purifier with Humidification Function | 171 |
| Compact Cube for Commercial Use | 172 |
| Room Air Conditioner | 174 |
| Refrigerator | 176 |
| Photovoltaic Modules | 178 |
| Photovoltaic Inverter | 180 |
| Color TV | 182 |
| Package Air Conditioner | 184 |
| Heat Pump Water Heater | 185 |
| Ventilator | 186 |
| Energy Recovery Ventilator | 188 |



▶ Mitsubishi Electric Group Environmental Vision 2021--Overview  (1.35 MB)

▶ From the President



Sharing our precious Earth with future generations. President & CEO Setsuhiro Shimomura addresses new targets and challenges in helping to realize a sustainable society.

▶ Group Environmental Policy



Defines the core environmental principles to be followed by each employee as the Group works together to contribute to the realization of a sustainable society.

▶ Environmental Vision 2021



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

▶ Targets of the 6th Environmental Plan



- Activities and Objectives
- Preventing Global Warming
- Creating a Recycling-Based Society
- Expanding Global Environmental Management
- Expanding Environment-Related Businesses
- Fostering Environmental Awareness

▶ Evolution of the Environmental Plan



A review of the main points of past environmental plans, and an overview of the points of emphasis for the newly announced 6th Environmental Plan

▶ Summary of the 5th Environmental Plan



Review of the 5th Environmental Plan Targets Achieved

**Fiscal 2009
Achievements**



Scope of Report
Environmental
Management
Eco-Products
Eco-Manufacturing
Eco-Logistics
Environmental
Communication
Material Balance
Environmental Accounting
Awards

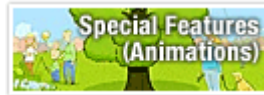
Product Information



Energy & Electric Systems
Industrial Automation
Systems
Information &
Communication Systems
Electronic Devices
Home Appliances



Back Issues



Group Environmental Policy

In February 2009, the Mitsubishi Electric Group Environmental Policy was formulated to reinforce Group management. The policy defines core environmental principles to be followed by each employee as the Group works together to contribute to the realization of a sustainable society.

Mitsubishi Electric Group Environmental Policy

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

We will reduce our environmental impacts by applying our technological know-how, future innovations and business activities. The Mitsubishi Electric Group also endeavors to make positive contributions by offering products and services that focus on energy efficiency, reduced consumption through high performance, and miniaturization.

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

As a minimum requirement, we will abide by the law and respect social norms. Furthermore, we will strive to exceed all relevant regulatory and voluntary agreements while being sensitive to societal changes.

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

February 2009
President & CEO
Setsuhiro Shimomura



Mitsubishi Electric Environmental Vision 2021

Environmental Vision 2021 is the long-term environmental management vision of the Mitsubishi Electric Group. It establishes a framework for realizing a sustainable planet, and defines long-term initiatives to prevent global warming and to create a recycling-based society.




Using technology and action to make a positive difference by the year 2021, the centennial of the founding of Mitsubishi Electric.

The guideline, "making positive contributions to the earth and its people through technology and action", calls for the company to work toward the realization of a sustainable society by utilizing our wide-ranging and sophisticated technologies as well as by promoting assertive and persistent actions by our employees.

The Vision sets 2021 as the target year, commemorating the 100th anniversary of Mitsubishi Electric's founding.

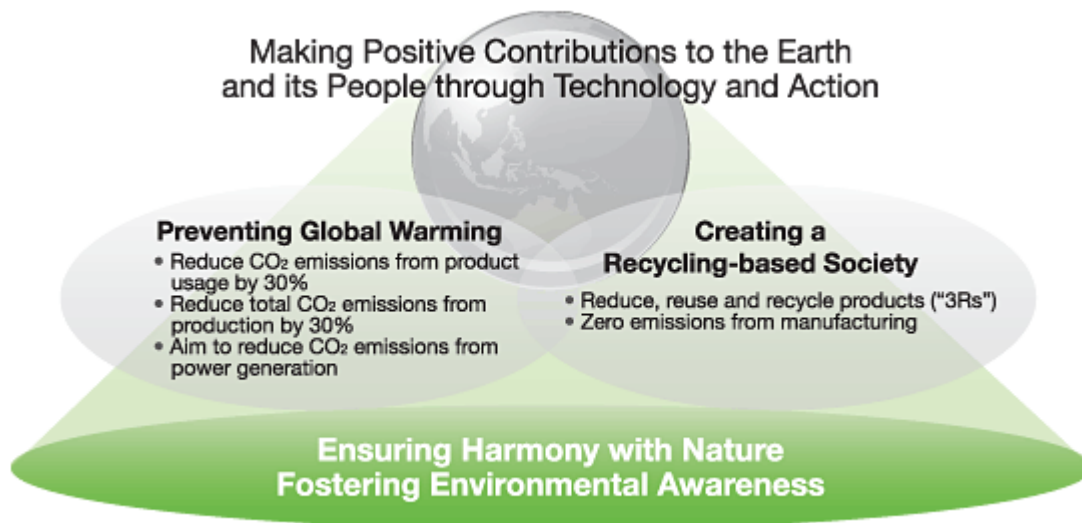
Learn more in our Environmental Topics section...

From the President: "The Goals of Environmental Vision 2021"

Mitsubishi Electric Group Environmental Vision 2021 - Overview  (1.35MB)

News Release 2007-10-22:

Mitsubishi Electric Announces "Environmental Vision 2021."  (111KB)



Helping to Prevent Global Warming

To help prevent global warming, we will:

- Work to create and popularize innovative energy-saving products to achieve the goal of reducing CO₂ emissions from product usage by 30% compared to fiscal 2001
- Strive to reduce CO₂ emissions from product production by 30% (520,000 tons) for the Mitsubishi Electric Group overall, as a precondition for sustainable growth
- Reduce CO₂ emissions from power generation by supplying the power industry with products and systems that do not give off CO₂, including solar power and nuclear power systems

Helping to Create a Recycling-Based Society

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

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

Ensuring Harmony with Nature and Fostering Environmental Awareness

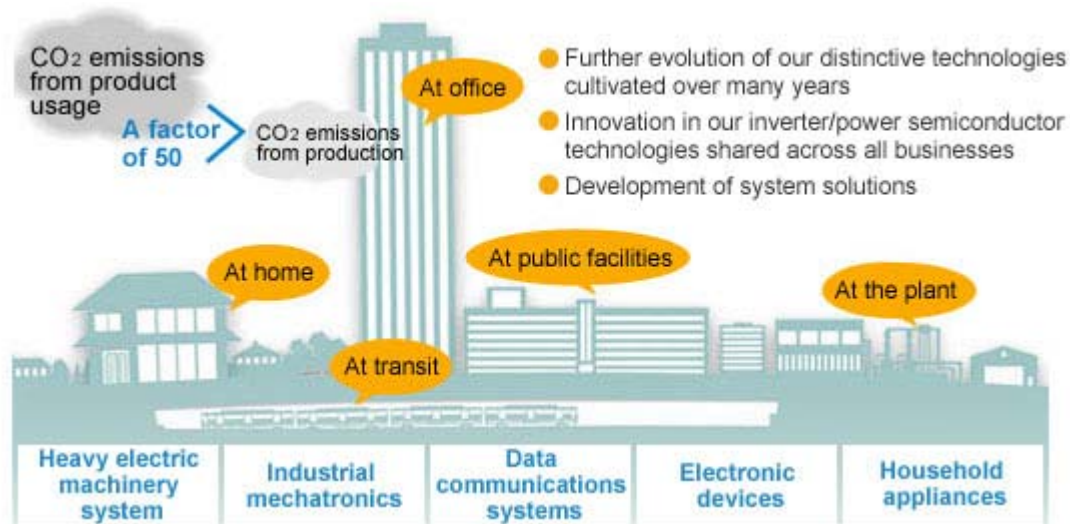
To help ensure harmony with nature and foster greater environmental awareness, we will:

- Teach employees the importance of maintaining harmony with nature by providing opportunities for nature observation and direct participation in conservation activities so that they come to act autonomously for the sake of the environment
- Engage in nature conservation activities to restore damaged woodland environments

Initiatives to Prevent Global Warming

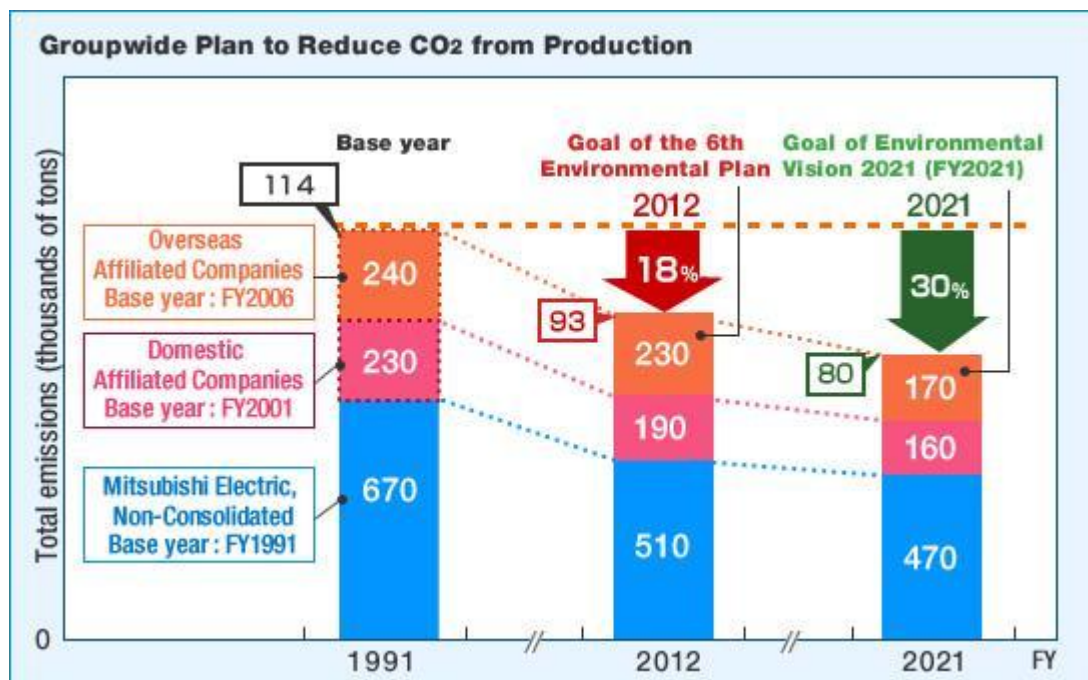
Aim to Reduce CO₂ Emissions from Product Usage by 30%

A wide variety of energy-saving products



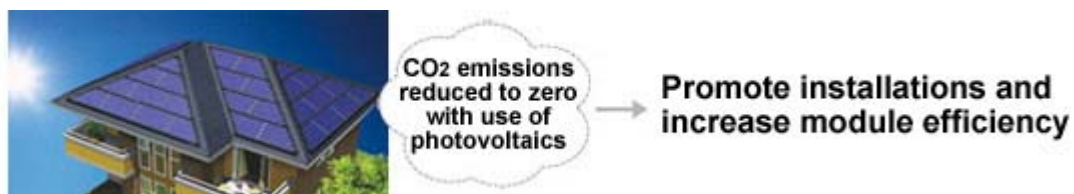
Aim to Reduce Total CO₂ Emissions from Production by 30%

Raising the efficiency and performance of air conditioning, lighting and other utility equipment, as well as improving production lines reduces the amount of CO₂ emitted during production and helps prevent global warming.



Helping to Reduce CO₂ Emissions from Power Generation

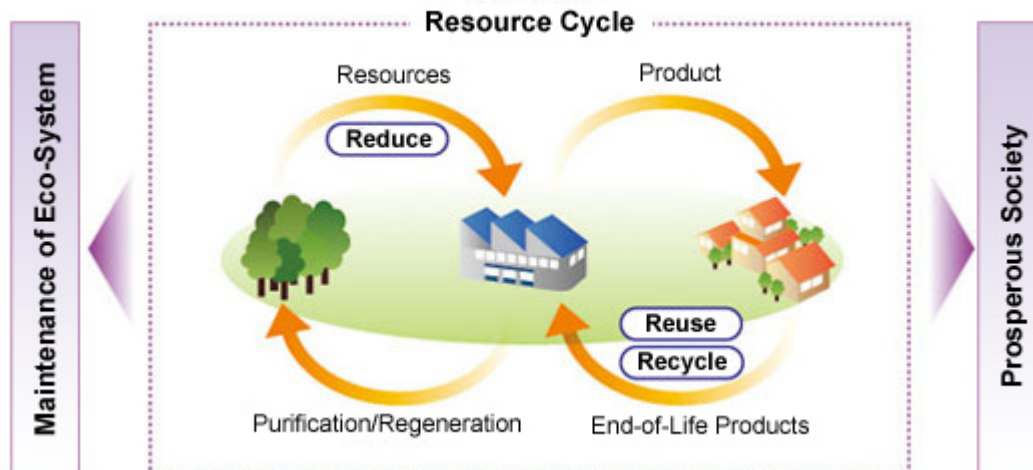
We will help reduce CO₂ emissions from power generation and thereby help prevent global warming by supplying the power industry with products and systems that do not give off CO₂, including photovoltaic power and nuclear power systems.



Initiatives to Achieve a Recycling-Based Society

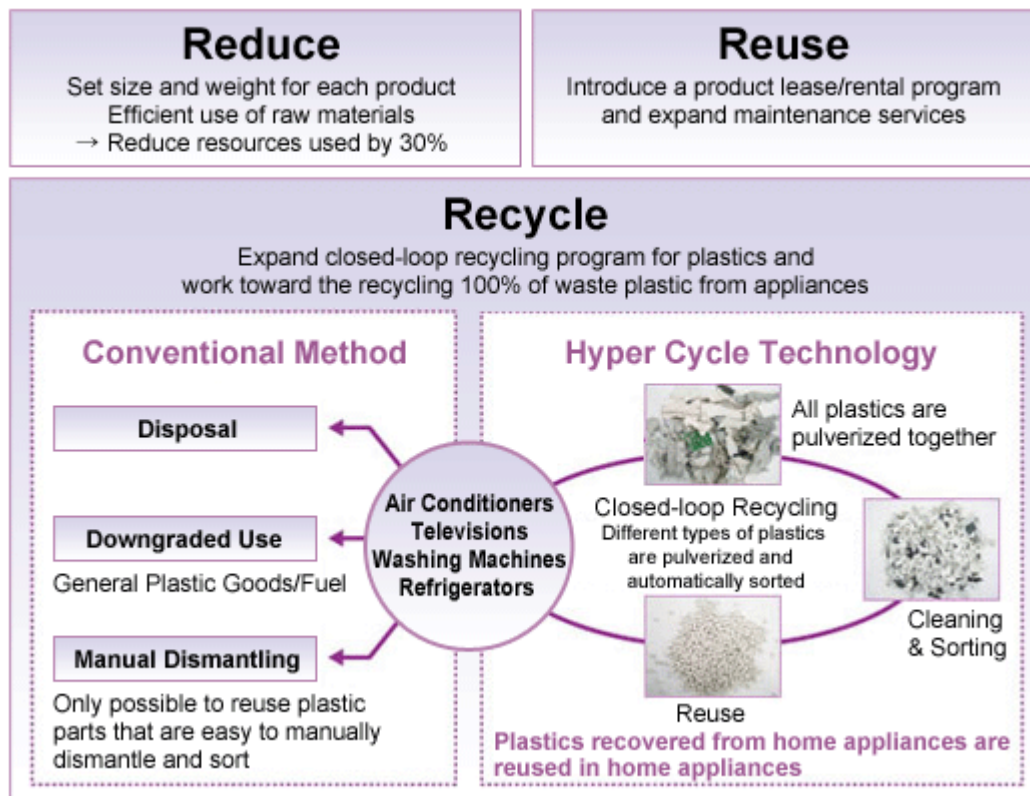
Reduce, Reuse and Recycle Products (3Rs) Utilizing DfE and LCA Technologies

Creating products that are 3R friendly through their lifecycles.



Zero Emissions (Reducing the Direct Landfill of Waste to Zero)

Restricting generation of waste and promoting the efficient reuse and re-resourcing of waste.



Ensure Harmony with Nature and Foster Environmental Awareness

Mitsubishi Electric Outdoor Classroom and Leadership Training

Education for children and leadership training for 1000 people in the promotion of nature observation and conservation.



Forest Nurturing Activity

Reforestation helps to prevent global warming, protects against natural disasters, and contributes to the preservation of biodiversity.

Woodland Preservation Activities

With a scale of 1,000,000 people including local residents, employees, families, people from all over the world band together for this nature conservation activity.

Environmental Report

Targets of the 6th Environmental Plan



▶ Activities and Objectives

The objectives and targets of the 6th Environmental Plan (FY2010-2012), the first environmental plan since the establishment of Environmental Vision 2021.

▶ Preventing Global Warming

Reducing CO₂ from Production
Reducing CO₂ from Product Usage

▶ Creating a Recycling-Based Society

Reducing Resource Inputs
Zero Emissions
Reducing the Use of Disposable Packaging Materials
Reducing VOC Emissions

▶ Expanding Global Environmental Management

Expanding ISO 14001 Conformity
Complying with Environmental Regulations
Training Key Environmental Personnel

▶ Expanding Environment-Related Businesses

Businesses to Counter Global Warming
Contributing to the Reduction of CO₂ from Power Generation

▶ Fostering Environmental Awareness

An overview of plans to expand the scope of forest development, "Satoyama" woodland preservation, and Mitsubishi Electric Outdoor Classroom activities.

Targets of the 6th Environmental Plan

Activities and Objectives

The 6th Environmental Plan (FY2010-2012, years ending March 31) focuses on the achievement of Environmental Vision 2021, established in October 2007 to coincide with the 100th anniversary of our founding. Considering the achievements of the 5th Environmental Plan, as well as challenges and changes in the social climate, the 6th Environmental Plan was formulated based on the following perspectives:

- Setting targets and action plans for environmental performance to realize Environmental Vision 2021
- Responding to social changes and imperatives surrounding environmental issues
- Contributing to the creation of a sustainable society through the expansion of environment-related business

Targets for the prevention of global warming will not be based on per unit reductions but on the total amount of reductions, setting a higher target for the creation of a recycling-based society. To fulfill its responsibility as a corporate group with global operations, Mitsubishi Electric will raise the level of its environmental management and contribute to society through the expanded activities of its environment-related businesses.

| Objectives | Targets | | |
|--|---|---|-----------------------------|
| 1. Preventing global warming | | | |
| (1) Reduce CO ₂ from production | | [CO ₂ emission] | [Required reduction amount] |
| | Mitsubishi Electric | 510,000 tons | 48,000 tons |
| | Affiliates in Japan | 190,000 tons | 21,000 tons |
| | Overseas affiliates | 230,000 tons | 26,000 tons |
| (2) Reduce CO ₂ from product usage | Average reduction rate by target products | 25% (compared to FY2001 as the base year) | |
| | Expand number of target products | 43 products → 80 products | |
| 2. Creating a recycling-based society | | | |
| (1) Reduce resource inputs | Average reduction rate by target products | 18% (compared to FY2001 as the base year) | |
| | Expand number of target products | 32 products → 60 products | |
| (2) Zero emissions | Mitsubishi Electric | Final disposal rate of less than 0.1% | |
| | Affiliates in Japan | Final disposal rate of less than 0.5% | |
| | Overseas affiliates | Final disposal rate of less than 3.0% | |
| (3) Reduce the use of disposable packaging materials (eco-logistics) | Mitsubishi Electric | 10% reduction per shipment (with FY2009 as the base year) | |
| | Affiliates in Japan | 10% reduction per shipment (with FY2009 as the base year) | |
| | Overseas affiliates | Assessment of the amount of packaging materials used and product shipment | |
| (4) Reduce emissions of volatile organic compounds (VOC) into the atmosphere | Mitsubishi Electric | 40% reduction (from FY2001 levels) | |
| 3. Expanding global environmental management | | | |
| (1) Increase the number of | Affiliates in Japan | Increase number of conforming | |

| | | |
|--|--|---|
| companies conforming with ISO 14001 | | companies from 63 to 97 |
| | Overseas Affiliates | Increase number of conforming companies from 31 to 63 |
| (2) Strict compliance with environmental regulations | Ensure compliance with European REACH regulations and individual countries' RoHS legislation | |
| (3) Designate and train key environmental personnel | Designate and train key environmental personnel at factories in China, Asia, Europe and America | |
| 4. Expanding environment-related businesses | | |
| (1) Businesses to counter global warming | Aim for sales of more than ¥1.3 trillion in Q1, FY2016 | |
| (2) Help reduce CO ₂ from the power generation business | Increase highly efficient power generation equipment and clean energy generation facilities Projected effects: Reduction in CO ₂ emissions of approximately 90 million tons (Q1, FY2021) (Amount of reduction by fiscal 2021 of equipment delivered since FY2001) | |
| 5. Fostering environmental awareness | | |
| Forest development/ "Satoyama" Woodland Preservation Project | Expand by one region each year | |
| "Mitsubishi Electric Outdoor Classroom" | Increase by five areas each year | |
| | Outdoor classroom leaders | Educate 50 each year |

Targets of the 6th Environmental Plan

Preventing Global Warming

Reducing CO₂ from Production

Installing highly efficient utility equipment and making improvements to production lines.

Reducing CO₂ from Product Usage

Helping prevent global warming through the careful selection of products that help reduce CO₂.

Targets of the 6th Environmental Plan

Preventing Global Warming

Reducing CO₂ from Production

| Objective | Targets | | |
|--|---------------------|-----------------------------|-----------------------------|
| 1. Preventing global warming | | | |
| (1) Reduce CO ₂ from production | | [CO ₂ emissions] | [Required reduction amount] |
| | Mitsubishi Electric | 510,000 tons | 48,000 tons |
| | Affiliates in Japan | 190,000 tons | 21,000 tons |
| | Overseas affiliates | 230,000 tons | 26,000 tons |

Mitsubishi Electric Action Plan

The 6th Environment Plan (FY2010-2012, years ending March 31) establishes the objective of 510,000 tons of emissions in the final year, a reduction of 48,000 tons over the three-year period.

In addition to continuing the improved and efficient use of air conditioning, lighting and other utility equipment at our manufacturing sites and R&D laboratories, we will strengthen reduction activities by improving our production lines, specifically through the elimination of waste, improved production efficiency and reduced energy consumption.

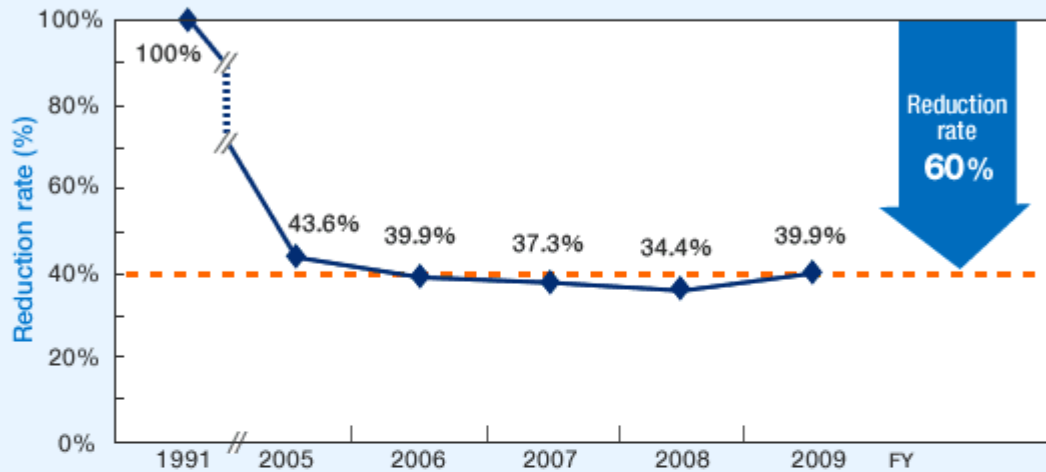
At headquarters and all branches, we are promoting energy conservation through Green IT, employing the practical usage of energy-saving IT equipment.

Environmental Topics: Reducing CO₂ During Production →

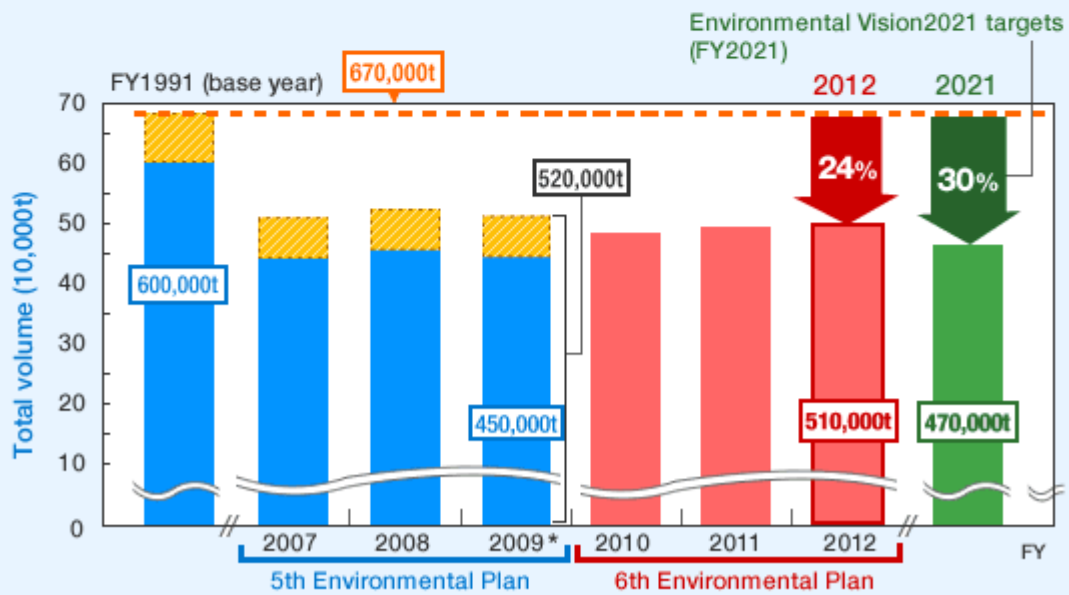
Points of Emphasis in the 6th Environmental Plan



CO2 emissions per unit of real sales (Mitsubishi Electric)



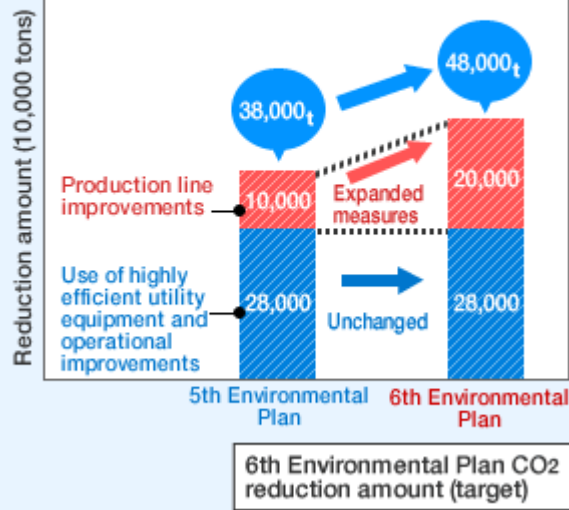
Plans to Reduce CO2 from Production under Environmental Vision 2021 (Mitsubishi Electric)



* Fiscal 2009 figures are expected values at the time the 6th Environmental Plan was formulated.

Emissions increased 70,000 tons because of a fiscal 2009 acquisition of a semiconductor plant.

Breakdown of CO₂ Reduction Plan through Expansion of Production Line Improvement Measures (data for Mitsubishi Electric)

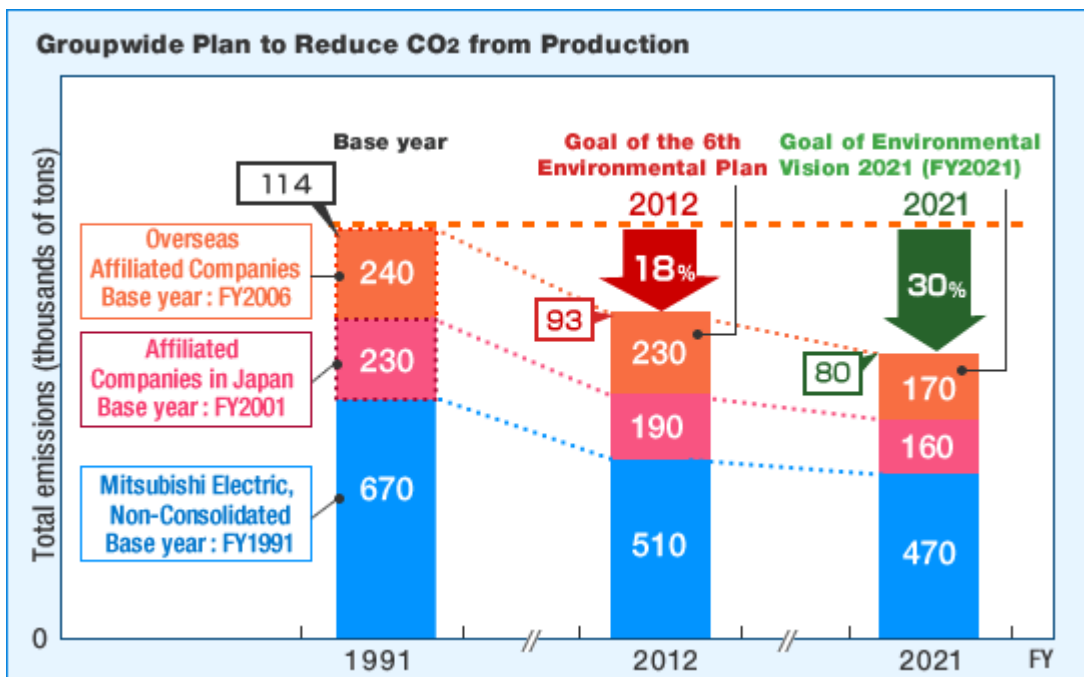
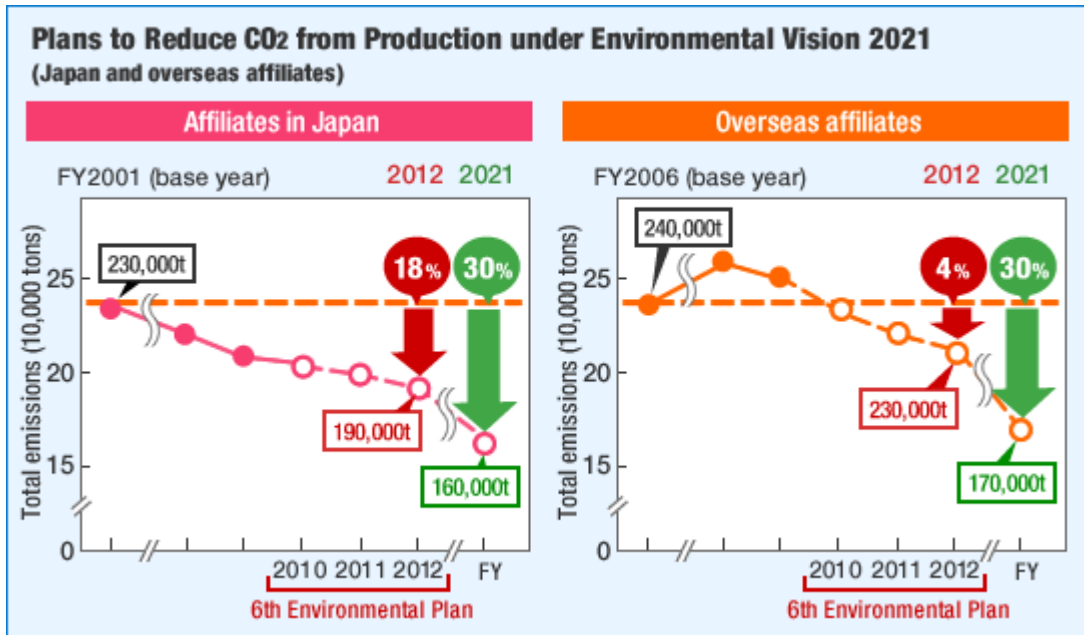


Action Plan for Affiliates in Japan and Overseas

Affiliates in Japan have an emissions target of 190,000 tons by fiscal 2012, a total reduction of 21,000 tons over three years.

Overseas affiliates have an emissions target of 230,000 tons by fiscal 2012, a total reduction of 26,000 tons over three years.

At affiliates, headquarters is diagnosing energy conservation to separate CO₂ sources between utility equipment and production lines, making the sources more visible and setting reduction targets. For its instantaneous effect on emissions, we are also seeking to upgrade older equipment with high-efficiency air conditioning and lighting equipment, and making other improvements. We are also sharing successful case studies that have proven effective at reducing CO₂ emissions at production lines.



Targets of the 6th Environmental Plan

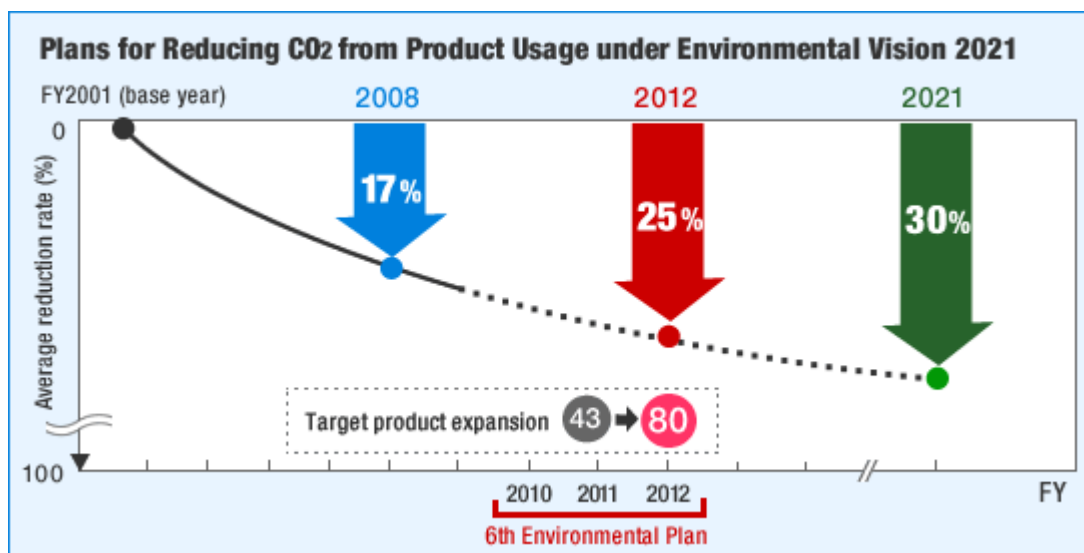
Preventing Global Warming

Reducing CO2 from Product Usage

| Objective | Targets | |
|-------------------------------------|---|---|
| 1. Preventing global warming | | |
| (2) Reduce CO2 from product usage | Average reduction rate of target products | 25% (compared to FY2001 as the base year) |
| | Expand number of target products | 43 products → 80 products |

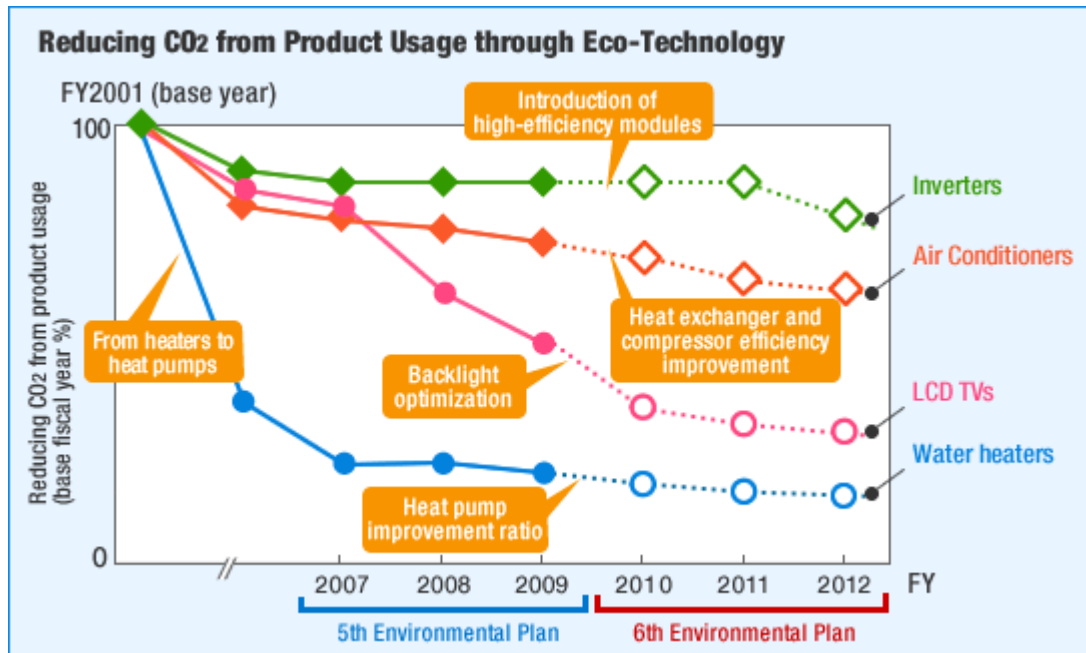
Action Plan for Mitsubishi Electric Affiliates in Japan

According to our estimates, product usage generates 40-50 times as much CO2 as does its production. Therefore, making energy-conserving products contributes significantly to helping prevent global warming. Meeting the Environmental Vision 2021 target of reducing CO2 emissions from product usage by 30% will require the careful selection of products that help reduce CO2, aiming for an average reduction of 25% compared with fiscal 2001 levels. We selected 43 products in fiscal 2009, and plan to expand this number to 80 by fiscal 2012.



Helping Reduce CO2 from Product Usage through Eco-Technology

Mitsubishi Electric has a base of technologies that support the creation of energy-saving products, such as power semiconductors, inverters and motors. By taking advantage of this base to create technical advances that result in new energy-saving products, we are aiming to reduce CO2 emissions during product usage by an average of 30% by 2021.



Targets of the 6th Environmental Plan

Creating a Recycling-Based Society

▶ Reducing Resource Inputs

Making compact, lightweight products and promoting closed-loop recycling through the recycling of plastic from end-of-life products.

▶ Zero Emissions

Thorough waste separation and regional collaboration to convert waste into saleable materials.

▶ Reducing the Use of Disposable Packaging Materials

Simplified packing (reduce), returnable containers and packaging (reuse), and recycling of packing materials (recycle).

▶ Reducing VOC Emissions

Strict VOC reduction targets and reducing resource inputs.

Targets of the 6th Environmental Plan

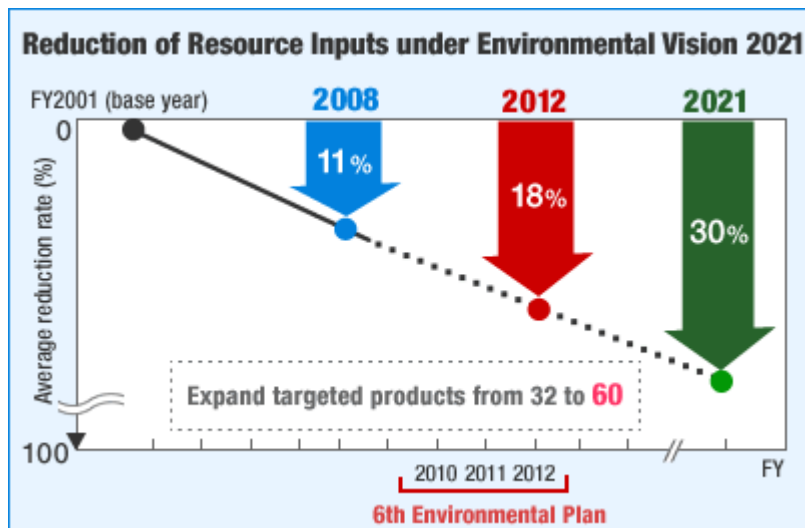
Creating a Recycling-Based Society

Reducing Resource Inputs

| Objective | Targets | |
|--|---|---|
| 2. Creating a recycling-based society | | |
| (1) Reduce resource inputs | Average reduction rate by target products | 18% (compared to FY2001 as the base year) |
| | Expand number of target products | 32 products → 60 products |

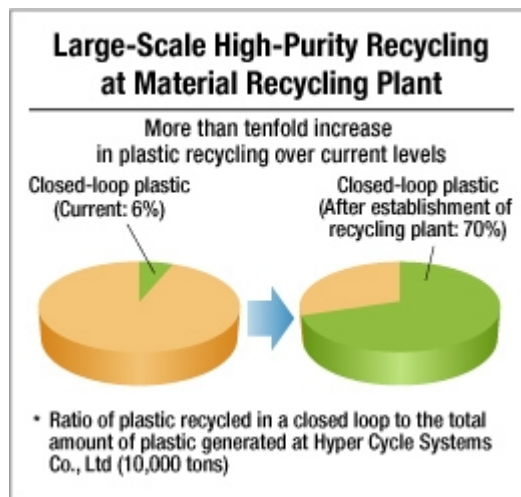
Action Plan for Mitsubishi Electric and Affiliates in Japan

Our efforts to reduce resource inputs include making products that are smaller, lighter and recyclable. In fiscal 2009, we targeted 32 products, aiming for an 18% average reduction compared with fiscal 2001 levels, and will increase this to 60 products by fiscal 2012, the final year of the 6th Environmental Plan.



Expanding Application of Recycled Parts through Closed-loop Recycling of Plastic from Home Appliances

Unlike metals, plastics from end-of-life products are difficult to recycle. Mitsubishi Electric has taken on the challenge of developing closed-loop recycling technology to make new products from used plastic. In fiscal 2009, the company succeeded in creating a recycling technology that can separate polypropylene (PP), polystyrene (PS) and acrylonitrile-butadiene-styrene (ABS)—the three main plastics—from shredded mixed plastic at a purity of more than 99%. Approximately 10,000 tons of shredded mixed plastic accumulate annually, and until recently only 600 tons of these plastics were recovered each year, separated by hand. Using this new technology, 7,000 tons of plastic can be recovered, increasing the amount of closed-loop recycled plastics used in our home appliance products by 18% (for details, please see [Environmental Topics: Recycling of Waste Plastics](#)).



Targets of the 6th Environmental Plan

Creating a Recycling-Based Society

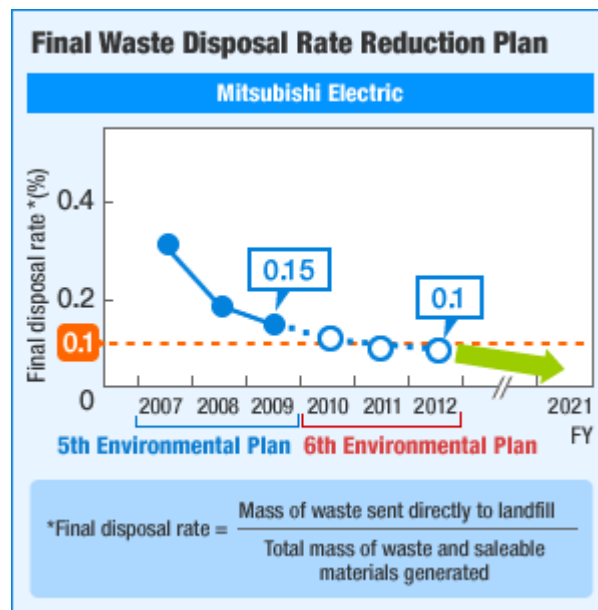
Zero Emissions

| Objective | Targets | |
|--|---------------------|---------------------------------------|
| 2. Creating a recycling-based society | | |
| (2) Zero emissions | Mitsubishi Electric | Final disposal rate of less than 0.1% |
| | Affiliates in Japan | Final disposal rate of less than 0.5% |
| | Overseas affiliates | Final disposal rate of less than 3.0% |

Mitsubishi Electric Action Plan

The 5th Environmental Plan set a target for Mitsubishi Electric on a non-consolidated basis of a final disposal rate of 0.5% or less. By promoting the thorough separation of waste, the Company achieved a final disposal rate of 0.15% in fiscal 2009. Based on this result, the 6th Environmental Plan sets a target of less than 0.1%.

Measures to achieve this target include ongoing conversion to saleable materials following thorough separation of waste. Such developments are also being considered in other areas, such as through the promotion of recycling logistics through cooperation among five locales in the Kansai Region, which commenced in June 2007.

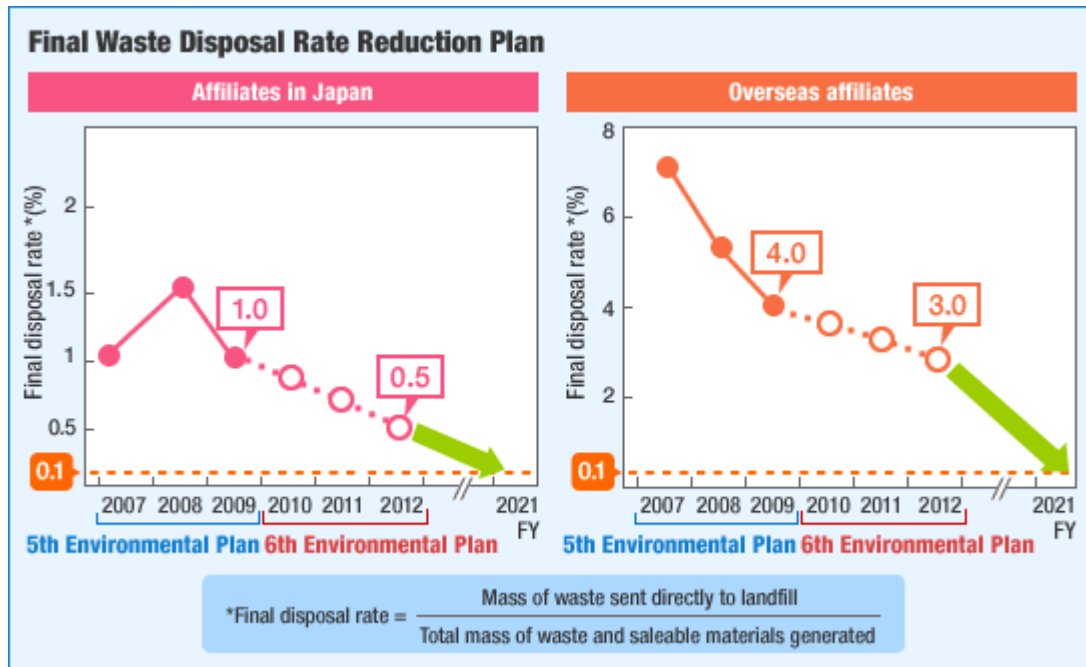


For details on recycling flow, refer to Environmental Topics: Zero Emissions

Action Plan for Affiliates in Japan and Overseas

For affiliates in Japan and overseas, we are studying the waste disposal situation and looking at ways to apply positive developments more widely. At affiliates in Japan, by fiscal 2012 we aim to achieve an average final disposal rate of less than 0.5%, and at overseas affiliates an average final disposal rate of less than 3.0%.

By fiscal 2021, the target year of Environmental Vision 2021, we aim to achieve an average final disposal rate of less than 0.1% for all bases throughout the Group.



Targets of the 6th Environmental Plan

Creating a Recycling-Based Society

Reducing the Use of Disposable Packaging Materials

| Objective | Targets | |
|--|---------------------|---|
| 2. Creating a recycling-based society | | |
| (3) Reduce the use of disposable packaging materials (eco-logistics) | Mitsubishi Electric | 10% reduction per shipment (with FY2009 as the base year) |
| | Affiliates in Japan | 10% reduction per shipment (with FY2009 as the base year) |
| | Overseas affiliates | Assessment of the amount of packaging materials used and product shipment volumes |

Mitsubishi Electric Group Action Plan

Individual targets have been set for Mitsubishi Electric and its affiliates in Japan. To reduce weight per shipping volume by 10% compared with fiscal 2009 levels on a group-wide basis, we are promoting the use of simple packaging (reduce), the use of returnable containers and packaging (reuse) and the conversion to resources of post-use wrapping (recycle).

For overseas affiliates, we are working to determine the volume of packaging materials used and their shipping volumes, and setting activity targets.

Creating a Recycling-Based Society

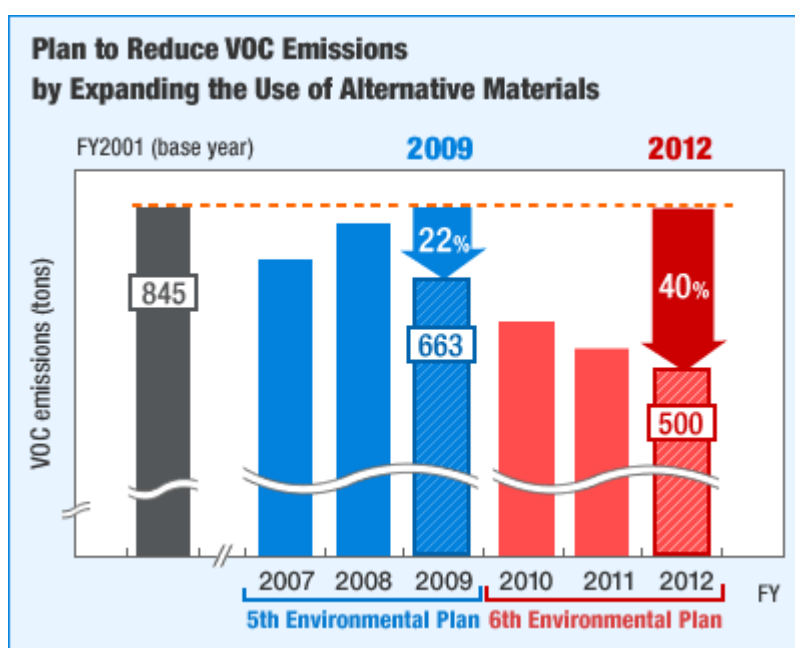
Reducing VOC Emissions

| Objective | Targets | |
|---|---------------------|------------------------------------|
| 2. Creating a recycling-based society | | |
| (4) Reduce emissions of volatile organic compounds (VOCs) into the atmosphere | Mitsubishi Electric | 40% reduction (from FY2001 levels) |

Mitsubishi Electric Action Plan

Activities to reduce the emissions of volatile organic compounds (VOCs) into the atmosphere are required by the Air Pollution Control Law. In response, the electrical and electronic products industry has adopted a voluntary action plan to reduce fiscal 2011 emissions 30%, compared with fiscal 2001 levels. Mitsubishi Electric has set a voluntary target above this level and is promoting initiatives from the standpoint of reducing the input of resources.

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.



Targets of the 6th Environmental Plan

Expanding Global Environmental Management

▶ Expanding ISO 14001 Conformity

Further raising the environmental management level of the Mitsubishi Electric Group.

▶ Complying with Environmental Regulations

Gathering and sharing the latest information, and conducting self-audits and inspections.

▶ Training Key Environmental Personnel

Raising the level of training in Japan; designating and training personnel overseas, focused on China and Asia.

Expanding Global Environmental Management

Expanding ISO 14001 Conformity

| Objective | Targets | |
|--|---------------------|---|
| 3. Expanding global environmental management | | |
| (1) Increase the number of companies conforming with ISO 14001 | Affiliates in Japan | Increase number of conforming from 63 to 97 |
| | Overseas affiliates | Increase number of conforming from 31 to 63 |

Action Plan for Japanese and Overseas Affiliates

To raise our Group environmental management level, we have created a system designed to obtain ISO 14001 conformity for the 34 affiliates in Japan and the 32 overseas affiliates (total of 66 companies) that do not yet have this certified designation.

Of these 66 companies, three are large enough to have a significant environmental impact. For these companies, we are working toward certification by a third-party institution.

The remaining 63 companies are building environmental management systems (EMS) in an effort to obtain compliance equivalent to ISO 14001. Mitsubishi Electric is auditing these EMS (second-party audits by a certified party in the same manner as an ISO examiner), and after compliance will declare voluntary conformity.

[Click here for a list of Mitsubishi Electric Group members that have received certification.](#)

*The number of companies is as of March 31, 2009.

Increasing the Number of Companies Conforming with ISO14001

| Mitsubishi Electric: Obtained certification at all bases

| Affiliates in Japan : Increase number of conforming companies from 63 to **97**

| Overseas affiliates : Increase number of conforming companies from 31 to **63**

Targets of the 6th Environmental Plan

Expanding Global Environmental Management

Complying with Environmental Regulations

| Objective | Targets |
|--|--|
| 3. Expanding global environmental management | |
| (2) Strict compliance with environmental regulations | Ensure compliance with European REACH regulations and individual countries' RoHS legislation |

Mitsubishi Electric Group Action Plan

Constantly gather and share the most recent legislative information, and make corrections based on self-audits and checks. Initiatives corresponding to various legislation are as follows.

| Legislation | Initiatives |
|---|---|
| REACH ¹ , RoHS ² , PRTR Law ³ , Chemical Substances Control Law ⁴ | Establish and operate a Chemical Substance Information Management System. Continue to confirm the environmental management level (Green Accreditation) of the Company's suppliers. Introduce alternatives for regulated substances. |
| Law Regarding the Rationalization of Energy Use Law Concerning the Promotion of the Measures to Cope with Global Warming | Determine energy use at headquarters and branches, and create and report a Medium- to Long-Term Energy Conservation Plan. |
| EuP Directive ⁵ | Comply with internationally regulated energy conservation requirements for each product group. |

- 1: REACH: REACH is a regulation on Registration, Evaluation, Authorization and Restriction of Chemicals, which went into effect in the EU in 2007. The regulation mandates the registration and risk evaluation for chemical substances in chemicals amounting to 1 ton or more per year that are manufactured in or imported into the EU, as well as provision of information concerning chemical substances to customers and consumers, and notification to the European Chemical Agency for articles such as electrical and electronic products that contain specific chemicals.
- 2: RoHS: This legislation, which went into effect in July 2006, limits the use of six specified substances.
- 3: PRTR Law: Act on confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof: This law promotes efforts to determine emissions and improve the management of specified chemical substances.
- 4: Chemical Substances Control Law: This legislation provides for the auditing of chemical substances and the restriction of their use in manufacturing.
- 5: EuP Directive: This directive specifies energy-saving/eco-designs on products that use electricity, fossil fuels and other forms of energy. The directive is being phased in from 2008.

Targets of the 6th Environmental Plan

Expanding Global Environmental Management

Training Key Environmental Personnel

| Objective | Targets |
|---|---|
| 3. Expanding global environmental management | |
| (3) Designate and train key environmental personnel | Designate and train key environmental personnel at factories in China, Asia, Europe and America |

Mitsubishi Electric Group Action Plan

The Mitsubishi Electric Group has designated as "key environmental personnel" employees who are charged with handling or managing environment-related equipment. More than 20 such personnel have received training each year since fiscal 2005. This training is set to continue under the 6th Environmental Plan, along with the implementation of the following measures.

Japan: Key environmental personnel will be sited at each factory, and training conducted to raise their level of education.

Overseas: These personnel are to be sited and training is planned, chiefly at locations in China and other parts of Asia.



Training to enhance the level of key environmental personnel in Japan



Training of key environmental personnel in China

Targets of the 6th Environmental Plan

Expanding Environment-Related Businesses

Businesses to Counter Global Warming

Expanding our photovoltaic power generation systems business, heat pump related business, and power device business.

Helping Reduce CO₂ from the Power Generation Business

Increasing highly efficient power generation equipment and clean energy generation facilities to contribute to lower environmental impact from the power generation business.

Expanding Environment-Related Businesses

Businesses to Counter Global Warming


| Objective | Targets |
|--|---|
| 4. Expanding environment-related businesses | |
| (1) Businesses to counter global warming | Aim for sales of more than ¥1.3 trillion in QY1, FY2016 |

Mitsubishi Electric Group Action Plan

The Mitsubishi Electric Group's Environmental Vision 2021 calls for a 30% reduction of CO₂ emissions from product usage, and the use of photovoltaic power generation to help reduce CO₂ emissions during power generation. Consequently, businesses to counter global warming (photovoltaic power generation systems business, heat pump-related business, power device business, etc.) are positioned as pillars of growth. By QY1, FY2016, Mitsubishi Electric aims to achieve sales from these businesses of more than ¥1.3 trillion, and is expanding these businesses accordingly. These businesses are expected to have a CO₂ reduction effect equivalent to 5.1 million tons.

News Releases

2008-11-06

Mitsubishi Electric to Extend Sustainable Growth in Global Warming-related Business. 
(30.3KB)

Photovoltaic Power Generation Systems Business Expansion Plan

To expand the photovoltaic (PV) power generation systems business, we are focusing on improving power generation efficiency and increasing production capacity.

Regarding improving power generation efficiency, by Q1/FY2009 we developed a polycrystalline silicon PV cell that achieved the world's highest photoelectric conversion efficiency of 18.9%¹ for large-size polycrystalline silicon PV cells, as well as a PV inverter with the world's highest power conversion efficiency of 97.5%². Mitsubishi Electric will continue to develop technologies for ever higher efficiency.

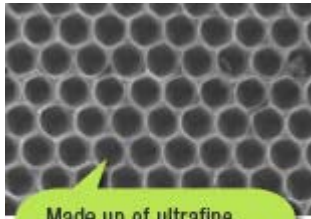
Improvements in production capacity include expanding the annual production of PV cells to 600 MW by Q1/FY2012 (annual production capacity as of April 2009 was 220 MW).

Through such activities, Mitsubishi Electric plans to expand its businesses by providing a stable supply of highly efficient products used in household, business and large-scale applications, respectively.

Notes:

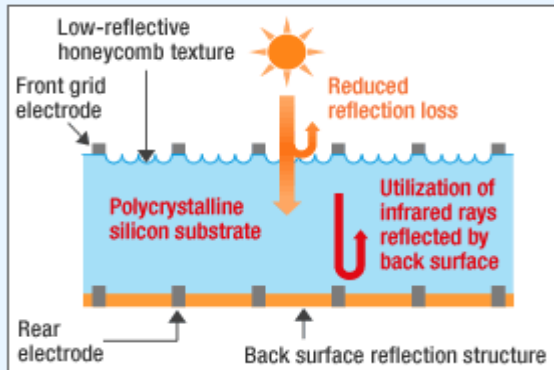
- 1: Mitsubishi Electric data, as of February 18, 2009. Conversion efficiency based on Mitsubishi Electric's measurements.
- 2: Mitsubishi Electric data, as of October 4, 2008. The PV inverter was the industry's top model in mass production for household use in Japan.

**Polycrystalline Silicon
Photovoltaic Cells with the
World's Highest Conversion
Efficiency of 18.9%**



Made up of ultrafine indentations in a honeycomb-like pattern


**Schematic Cross-sectional View of
Developed Photovoltaic Cell**




Cells with an ultrafine honeycomb surface limit reflections to a substantial degree. In addition to innovating a way to increase the absorption of sunlight through the surface structure of the cell, we have also succeeded in developing technology that utilizes infrared rays reflected by the back surface to facilitate the absorption of even more sunlight.

For details on initiatives in the photovoltaic power generation business, see Environmental Topics: PV Power Generation.

News Releases

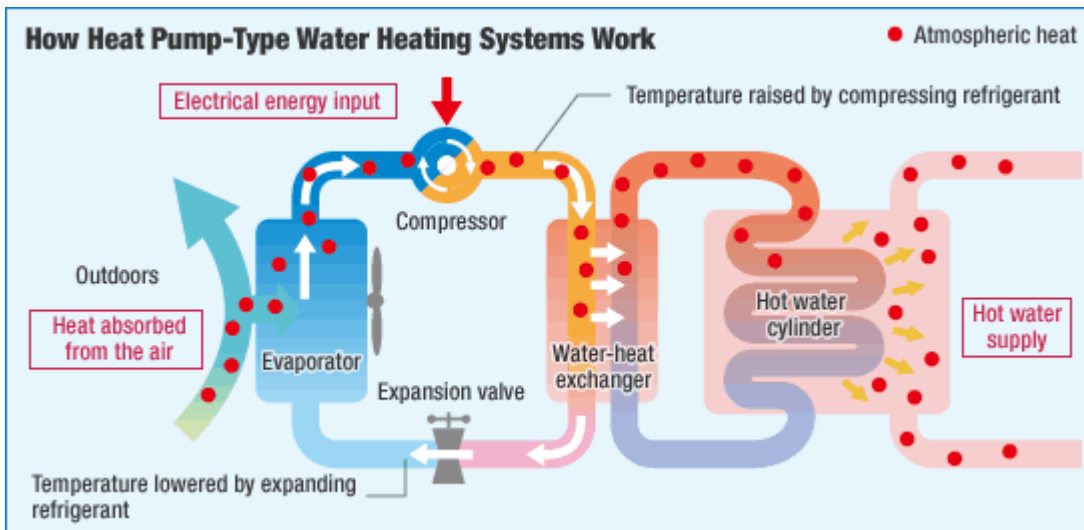
Mitsubishi Electric to Build New Photovoltaic Cell Plant in Aim to Expand Annual Photovoltaic Production Capacity to 600MW by Fiscal 2012. (August 27, 2008)  (22.6KB)

Mitsubishi Electric Breaks Own Record with World's Highest Conversion Efficiency Rate of 18.9% for Multi-crystalline Silicon Photovoltaic Cells. (February 18, 2009)  (27.4KB)

Heat Pump-Related Business Expansion Plan

A heat pump is a system that emits heat into the surrounding area when its refrigerant changes phase from a gas to a liquid (heating) and removes heat from its surroundings when the refrigerant changes phase from a liquid to a gas (cooling). This process is achieved without combustion, and can deliver between three and six times the amount of heat using the same amount of electricity, greatly reducing CO₂ emissions. For these reasons, heat pumps are considered as a sustainable energy technology in Europe and Japan.

Mitsubishi Electric developed the "Zubadan" Multi, the world's first multi air conditioner for buildings that is capable of acting as a heat source in temperatures as low as -25°C. We worked to improve the performance of the key devices used in such units, namely the compressor and heat exchanger. In the future, we expect to expand our heat pump-related business throughout the world to include room air conditioners, package air conditioners and water heater equipment. By Q1/FY2016, we expect this business to have a CO₂ reduction effect equivalent to 750,000 tons.



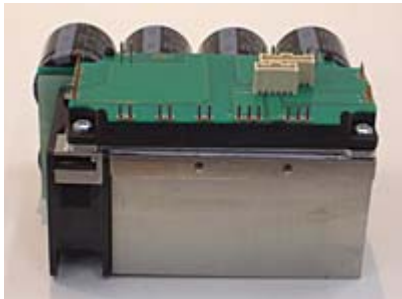
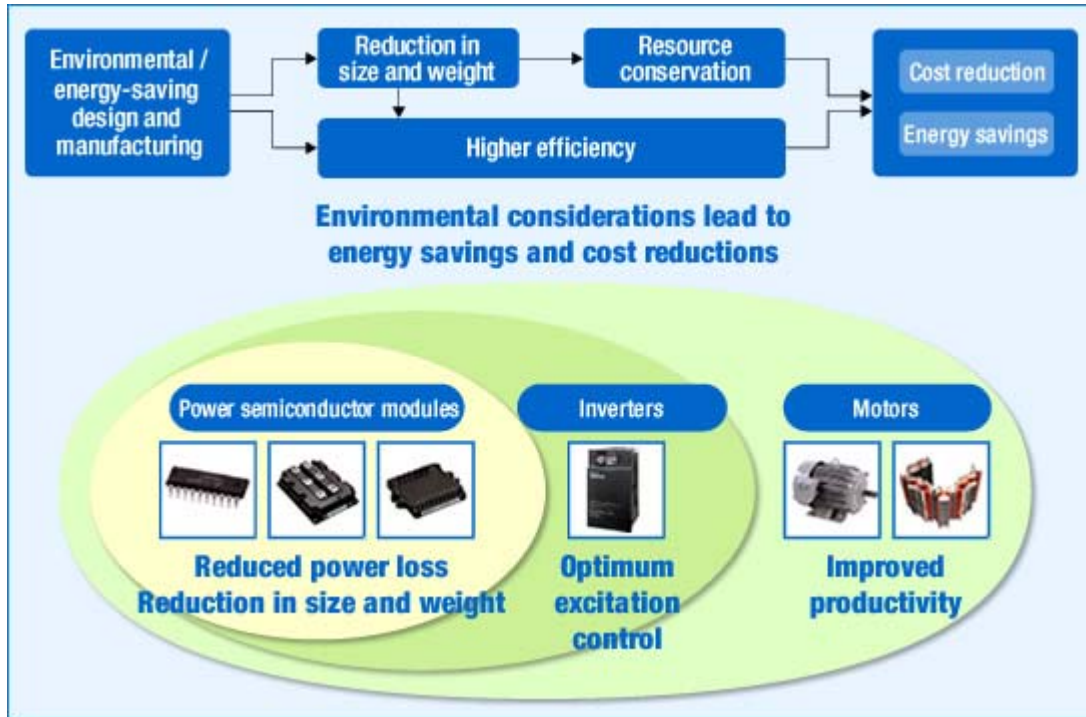
Mitsubishi Electric's Diverse Product Lineup

| Air conditioning equipment | | Hot water supply/household equipment | | |
|----------------------------|--------------------------------|--------------------------------------|---------------------------|--|
| Room air conditioner | Building multi air conditioner | Air-to-Water (for Europe) | Compact cube | Hot water heating system (in-floor heater) |
| | | | | |
| | | Eco Cute for household use | Eco Cute for business use | |

Power Device Business Expansion Plan

Power devices control the efficient use of electricity and are installed in all types of products from household electronics to industrial machinery. In the Company's efforts to prevent global warming and meet demand for highly efficient and energy-saving products, Mitsubishi Electric is developing a next-generation silicon carbide (SiC) power module that will significantly reduce the electrical power loss in power devices.

In fiscal 2009, we successfully demonstrated an 11kW inverter using an SiC power module that reduced power loss by approximately 70% compared with mainstream silicon inverters.



11kW inverter using an SiC power module

Targets of the 6th Environmental Plan

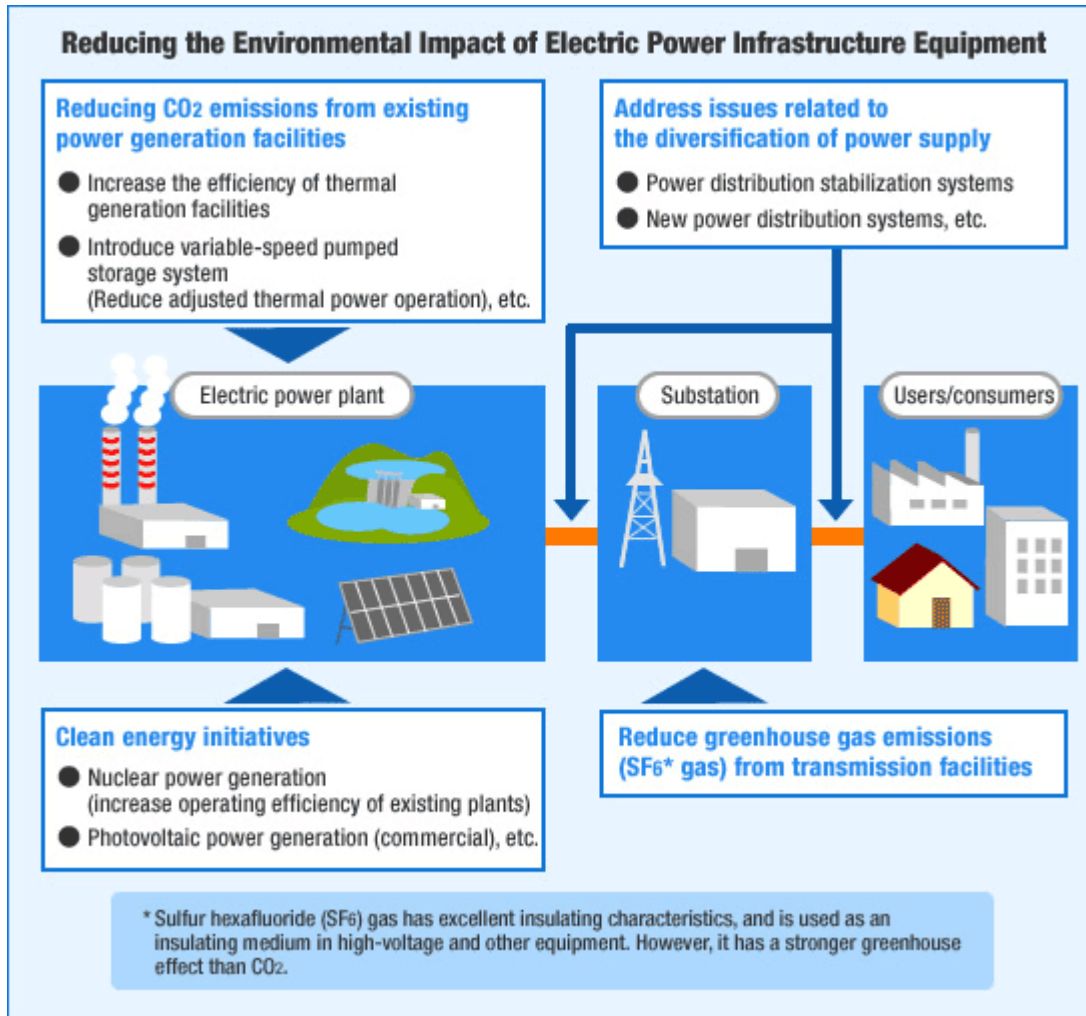
Expanding environment-related businesses

Helping Reduce CO₂ from the Power Generation Business

| Actions | Targets |
|--|--|
| 4. Expanding environment-related businesses | |
| (2) Help Reduce CO ₂ from the power generation business | Increase highly efficient power generation equipment and clean energy generation facilities. Projected effects: Reduction in CO ₂ emissions of approximately 90 million tons (Q1, FY2021) (Amount of reduction by FY2021 of equipment delivered since FY2001) |

Propose various solutions and contribute to reducing the environmental impact of electric power infrastructure equipment.

- Reduce CO₂ emissions from existing generation facilities
- Address issues related to the diversification of power supply (source)
- Clean energy initiatives
- Reduce greenhouse gas emissions from transmission facilities



Targets of the 6th Environmental Plan

Fostering Environmental Awareness

| Objectives | Targets | |
|--|--|--------------------|
| 5. Fostering Environmental Awareness | | |
| Forest development/ "Satoyama" woodland preservation: | Expand by one region or more each year | |
| Mitsubishi Electric Outdoor Classroom | Increase by five regions each year | |
| | Outdoor Classroom leaders | Train 50 each year |

Mitsubishi Electric Group Action Plan

We foster environmental awareness through the on-site efforts of employees working to preserve the environment and contribute to society. We plan to expand our forest development and "satoyama" woodland preservation activities by one region or more each year. Through the Mitsubishi Electric Outdoor Classroom we encourage employees and their families to experience nature together with local communities. We plan to conduct these activities in an additional five areas each year.

In addition, we plan to train 50 employees each year to be promotional leaders for the Mitsubishi Electric Outdoor Classroom.

[Click here for details on Forest development/ "Satoyama" woodland preservation activities](#)

[Click here for details on Mitsubishi Electric Outdoor Classroom activities](#)

Mitsubishi Electric
Outdoor Classroom



Training course for Outdoor Classroom leaders

Forest development/
"Satoyama" woodland preservation activities



Mt. Fuji Afforestation Volunteers (Head Office)



"Satoyama" woodland preservation activities (Kobe)

Evolution of the Environmental Plan

Evolution of the Environmental Plan

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

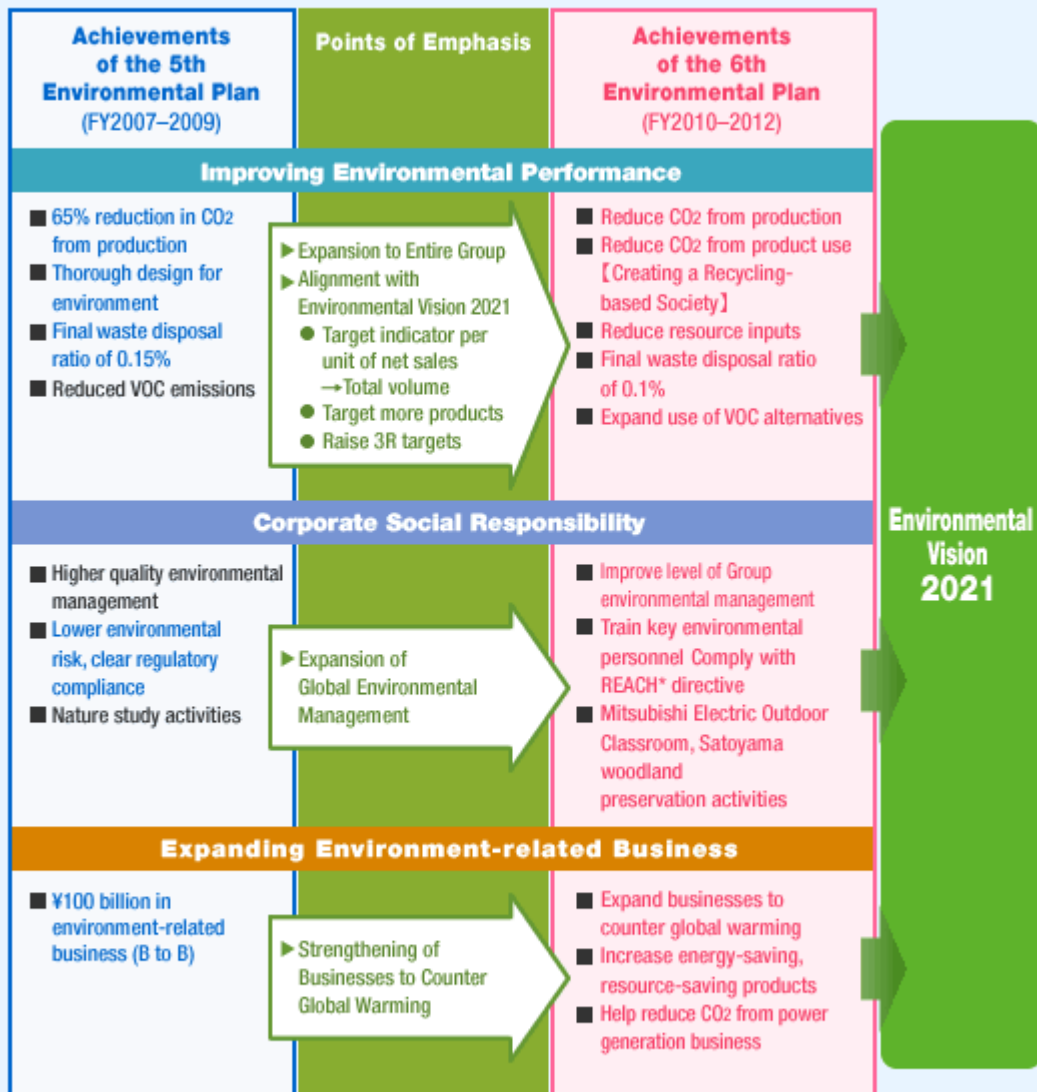
The 6th Environmental Plan, based on Environmental Vision 2021, goes into effect in fiscal 2010. Ahead of this date, we are taking advantage of the opportunity to review the successes and issues of the 5th Environmental Plan, setting goals in light of these factors and changes in the social environment.

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

6th Environmental Plan



Points of Emphasis in the 6th Environmental Plan



* REACH:
An EU directive, short for Registration, Evaluation, Authorisation and Restriction of Chemicals

Environmental Report

Summary of the 5th Environmental Plan



▶ Review of the 5th Environmental Plan

FY2009 was the final year of the 5th Environmental Plan. A review of activities and results during the three years covered by that plan.

▶ Targets Achieved

A review of the objectives of the 5th Environmental Plan and an assessment of our performance in achieving them.

▶ Fiscal 2009 Achievements

A report on environmental management and performance data and achievements for FY2009.

Review of the 5th Environmental Plan

With fiscal 2009 the final year of the 5th Environmental Plan, the Mitsubishi Electric Group made a special effort to ensure all objectives would be achieved and that the expected results would be obtained. We also formulated the 6th Environmental Plan, which is the first in a series of plans aimed at meeting long-term objectives expressed in Environmental Vision 2021. These long-term objectives will shape our activities moving forward.

1. Expansion of Global Environmental Management on a Consolidated Basis

Implementation of the 5th Environmental Plan involved the continuous strengthening of domestic and overseas management to expand global environmental management, encompassing even non-manufacturing sites in Japan and overseas.

In Japan, we expanded the scope of facilities subject to environmental audits by the head office to include not only sites and manufacturing affiliates in Japan, but also companies not engaged in manufacturing activities. We perform environmental audits on over 100 sites every year and audited 107 in fiscal 2009. Overseas, we held our Regional Environmental Conferences, one each for Europe, the Americas, China, and other parts of Asia. In conjunction with those conferences, we also conducted on-site environmental inspections focused on solving problems at manufacturing companies in particular.

We are also paying special attention to developing personnel who will play leading roles in maintaining environmental management standards. Over the past five years, we have trained a total of 118 key environmental personnel (24 in fiscal 2009) in an ongoing program aimed at developing human resources for managing environmental facilities. In fiscal 2008, we made China the first stop in developing this program overseas, as well.

2. Improvement in Environmental Performance along the Entire Supply Chain

Mitsubishi Electric worked to reduce the environmental impact of procurement, production, products, logistics, disposal, and recycling in all stages of our products' lifecycles.

In an effort to help counter global warming, we set the voluntary action target of cutting CO₂ emissions per unit of real sales 60% compared to the level for fiscal 1991. We set that target with the intent of achieving it by fiscal 2011, managed to do so by fiscal 2006, and have maintained that level of control ever since, with fiscal 2009 emissions coming in 60.1% below the fiscal 1991 level. Our success has been supported by productivity enhancement activities and other forms of active energy efficiency investment. Through these initiatives, we managed to cut our CO₂ emissions by 14,000 tons in fiscal 2009. In fiscal 2008, energy efficiency investment and reduced production cut our CO₂ emissions by 30,000 tons, to 514,000 tons (including 70,000 tons in CO₂ emissions related to a semiconductor factory acquired in fiscal 2009).

In the area of waste reduction, Mitsubishi Electric Corporation achieved a final disposal rate of 0.15% in fiscal 2009, marking the fifth consecutive year of success in meeting the final disposal rate objective of 0.5% or less. Affiliates in Japan achieved a rate of 0.99%, meeting their objective of 1% or less. Based on these results, we decided to incorporate stricter objectives in the 6th Environmental Plan. Mitsubishi Electric Corporation will now strive to keep its final disposal rate at 0.10% or less, while affiliates in Japan strive for a level of 0.50% or less. Ultimately, we aim to bring the final disposal rate down to 0.10% or less for all Group sites by fiscal 2021.

On the product front, we are steadily advancing the adoption of Design for the Environment (DfE) and have increased our Eco-Product ratio to 99% (by production volume) of mass-produced products (vs. a target of 100%) and 81% of other products (vs. a target of 80%). At those levels, reflecting an overall Eco-Product ratio of 95%, we have basically achieved our goals. Under the 6th Environmental Plan, therefore, we have decided to target certain products for the achievement of particularly ambitious product usage CO₂ emission and resource input reduction objectives set forth as part of our Environmental Vision. To expand recycling of plastics recovered from used appliances, we are concentrating on commercializing and developing high-volume processing capability for the Group's proprietary technology for producing recycled material from shredded mixed plastic. Our aim in this respect is to have a large-scale, high-purity recycling operation up and running sometime during fiscal 2010. In the area of green procurement, we have pursued our Green Accreditation system for proper long-term management of chemical substances used in products, and accredited 100% of the suppliers covered by the system.

In logistics, we are striving to eliminate waste, bring about more economical operations, and implement Logistics JIT Improvement Activities for reducing environmental impact. In fiscal 2009, Mitsubishi Electric Corporation cut its CO₂ emissions related to product (sales) logistics 32% compared to the fiscal 2003 level, achieving the 5th Environmental Plan objective. It also reduced its use of disposable packaging materials by 18% (packaging volume per unit of shipping weight) compared to the fiscal 2005 level, meeting the objective in that area.

3. Expansion of Environmentally Beneficial Businesses (Developing New Offensive Initiatives)




Our business for providing energy-saving solutions to companies recorded sales of 99.5 billion yen, an 18% increase versus the prior year. As a new objective in this area of our operations, we are now aiming to expand sales for our businesses to counter global warming, which are led by photovoltaic power generation systems, heat pumps, and power devices, to over 1.3 trillion yen in fiscal 2016. Along the way, we will also work to expand sales of high-efficiency and clean power generation facilities.

4. Formulating the 6th Environmental Plan with Environmental Vision 2021 in Mind



In October 2007, Mitsubishi Electric Corporation completed the formulation of Environmental Vision 2021, the core objectives of the Mitsubishi Electric Group's environmental management activities leading up to the 100th anniversary of Mitsubishi Electric Corporation, in 2021. In fiscal 2009, the Company developed its 6th Environmental Plan (covering fiscal years 2010-2012) to: 1) Set environmental performance objectives and establish an action plan to realize Environmental Vision; 2) Address societal changes and imperatives regarding environmental issues; and 3) Contribute to the creation of a sustainable society through the expansion of environment-related businesses. In realizing our Environmental Vision, we will strive to not only achieve our highest-ever environmental performance objectives but also increase the number of ISO14001-conforming companies in a bid to facilitate the adoption of global environmental management, and work to develop businesses to counter global warming.



Summary of the 5th Environmental Plan


Targets Achieved

 Well done
  Almost there
  More effort needed





Environmental Management


| Enhance environmental management systems | | |
|---|--|---|
| FY2009 Targets <ul style="list-style-type: none"> ■ Expand global environmental management to include non-manufacturing sites in Japan and overseas ■ Incorporate regular company management and administration into environmental management, and strengthen supervisory responsibilities at the business group level ■ Conduct environmental audits at both manufacturing sites and non-manufacturing sites in Japan and overseas, and increase the number of environmental auditors | FY2009 Targets | <ul style="list-style-type: none"> ■ Hold regional conferences in the U.S., China, other parts of Asia and Europe ■ Conduct auditing training at sites subject to audits and ensure auditor competence |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ Held regional conferences in the U.S., China, other parts of Asia and Europe ■ Conducted environmental audits and compliance inspections at 107 affiliates in Japan, and environmental inspections at 11 manufacturing sites overseas (Europe: 2, Americas: 2, China: 4, Other parts of Asia: 3) ■ Five environmental regulation briefings were held for a total of 341 participants in Japan. ■ 208 people participated in entry-level training for environmental auditors conducted in Japan (193 successfully completed this training); 155 people participated in intermediate-level training (148 successfully completed this training) |
| | Level of Achievement (Self-Evaluation) |  Well done |
| Strengthen preventative protection in connection with the environment | | |
| FY2009 Targets <ul style="list-style-type: none"> ■ Increase the number and competence of environmental management administrators in line with the environmental management system ■ Formulate and execute a plan to quickly deal with stored PCB, and soil and groundwater contamination ■ Devise and carry out measures to prevent environmental accidents and strengthen environmental protection | FY2009 Targets | <ul style="list-style-type: none"> ■ Have at least 20 employees complete key environmental personnel training (with a total of 100 completing training by fiscal 2009) ■ Create processing plan for stored PCB, and implement processing |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ 24 employees completed key environmental personnel training (Total completing training by fiscal 2009: 118) ■ Processed 11 units of PCB waste as planned |
| | Level of Achievement |  Well done |

| (Self-Evaluation) | | |
|---|--|---|
| Further develop an environmental mindset (Raise environmental awareness and train personnel) | | |
| FY2009 Targets <ul style="list-style-type: none"> ■ Encourage people to voluntarily take up environmental conservation activities. Also, promote nature preservation activities for employees and their families and move forward with environmental philanthropic activities ■ Raise environmental awareness through education and by developing an educational system that takes into account the employee's stage in life. | FY2009 Targets | <ul style="list-style-type: none"> ■ Continue Mitsubishi Electric Outdoor Classroom programs and the development of Conservation Leaders ■ As Philanthropic Activities, promote "satoyama" woodland preservation and forest nurturing activities ■ Raise environmental awareness through general and specialized education |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ 35 employees participated in leadership classes. Approximately 500 participated in 19 classes held in 10 regions (five newly added) ■ Held satoyama woodland preservation and forest nurturing activities in the Nagoya, Kobe, Nakatsugawa, and Shizuoka regions, as well as the head office ■ Conducted general and specialized education based on employee life stage |
| | Level of Achievement (Self-Evaluation) |  Well done |
| Expand environment-related businesses | | |
| FY2009 Targets <ul style="list-style-type: none"> ■ Expand environmentally beneficial businesses with the goal of ¥100.0 billion in sales by fiscal 2011 | FY2009 Targets | <ul style="list-style-type: none"> ■ Promote energy saving solutions business for countering global warming ■ Increase sales from environmentally beneficial businesses for corporations by 10% over FY2008 year |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ Increased sales from environmentally beneficial businesses for corporations by 18% (¥99.5 billion) over the previous fiscal year |
| | Level of Achievement (Self-Evaluation) |  Well done |
| Hold dialogues with diverse groups of stakeholders and maintain channels of communication | | |
| FY2009 Targets <ul style="list-style-type: none"> ■ Enhance dialogue and collaboration ■ Enhance environmental communication in every region, including overseas | FY2009 Targets | <ul style="list-style-type: none"> ■ Exhibit at environmental exhibitions (in Japan and overseas) ■ Enhance environmental information provided on website and Environmental Sustainability Report |




| | | |
|--|--|--|
| | | <ul style="list-style-type: none"> ■ Conduct awareness-raising activities linked with national campaigns against global warming (Team -6% Campaign) |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ Exhibited at Eco-Products Exhibition and the Eco-Products International Fair (Philippines) ■ Published environmental report and environmental topics on website; published printed digest version of the report (Japanese and English), and a Chinese version ■ Participated in the Light-Down Campaign and advanced "Cool-biz" objectives |
| | Level of Achievement (Self-Evaluation) |  Well done |



Eco-Products: Initiatives at the Procurement/Product Use/Recycling Level

| Environmental considerations down the supply chain | | |
|--|--|--|
| FY2009 Targets <ul style="list-style-type: none"> ■ Create Mitsubishi Electric Group Green Accreditation Guidelines and give priority to certified suppliers | FY2009 Targets | <ul style="list-style-type: none"> ■ Increase to 100% the proportion of targeted business partners accredited as green suppliers |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ Achieved 100% green accreditation of targeted business partners |
| | Level of Achievement (Self-Evaluation) |  Well done |
| Create Eco-products by promoting Design for the Environment (DfE) | | |
| FY2009 Targets <ul style="list-style-type: none"> ■ Raise the ratio of Eco-Products to production output <ul style="list-style-type: none"> ● Home appliances, mass produced industrial automation systems, and information and communication systems: 100% ● Other than the above: 80% ■ Double product environmental efficiency (=Factor 2) ■ Strengthen DfE-related technology development | FY2009 Targets | <ul style="list-style-type: none"> ■ Achieve Eco-Products ratio (compared to production amount) of 100% for mass produced products, and 80% for other products |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ Achieved Eco-Products ratio (compared to production amount) of 95% (99% for mass produced products; 81% for others) ■ Certified 90 Hyper Eco-Products |
| | Level of Achievement (Self-Evaluation) |  Almost there |
| Completely eliminate HCFC | | |
| FY2009 Targets <ul style="list-style-type: none"> ■ Abolish the use of HCFC for refrigerants by the end of FY2011 | FY2009 Targets | <ul style="list-style-type: none"> ■ Eliminate all use of HCFC as a refrigerant for all products for the Japanese market |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ Eliminated HCFC use (shifted to HFC) in all home and commercial air-conditioning equipment, and refrigerators and freezers, for the Japanese market <p><small>*Eliminated all use except for that in a small number of older products made to customer specifications.</small></p> |
| | Level of Achievement (Self-Evaluation) |  Well done |
| Comply with the RoHS Directive | | |
| FY2009 Targets <ul style="list-style-type: none"> ■ Continue to strictly comply with RoHS Directive | FY2009 Targets | <ul style="list-style-type: none"> ■ Strictly comply with RoHS Directive |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ Promoted contamination risk management at each business unit; complied with RoHS Directive ■ Enhanced analytical capabilities and checked analytical equipment, confirming analytical precision in conformity with international standards |
| | Level of Achievement |  Well done |





| | | |
|---|--|---|
| | (Self-Evaluation) | |
| Comply with REACH regulation | | |
| FY2009 Targets <ul style="list-style-type: none"> ■ Establish systems for managing chemical substances to comply with the REACH regulations | FY2009 Targets | <ul style="list-style-type: none"> ■ Strengthen chemical substance management systems to comply with REACH regulations |
| | FY2009 Achievements | <ul style="list-style-type: none"> ■ Completed preliminary registrations at European production sites and built an internal system employing JAMP information distribution |
| | Level of Achievement (Self-Evaluation) |  Almost there |

Eco-Factories: Initiatives at the Manufacturing Level

| Greening of factories and offices | | |
|--|--|---|
| FY2009 Targets <ul style="list-style-type: none"> Develop eco-factory/eco-office guidelines, and build and initiate an internal certification system | FY2009 Targets | <ul style="list-style-type: none"> Revise eco-factory/eco-office assessments and activities |
| | FY2009 Achievements | <ul style="list-style-type: none"> Revised the eco-factory standards, conducted assessments on 5 indicators (environmental management, resource recycling, factory energy conservation, product energy conservation, and environmental awareness), and confirmed improvements. Moved on to improvement activities based on the Environmental Vision objectives |
| | Level of Achievement (Self-Evaluation) |  Almost there |
| Promote zero emissions | | |
| FY2009 Targets <ul style="list-style-type: none"> Mitsubishi Electric: Reduce final disposal volume to 0.5% of total waste emissions or less Affiliates and subsidiaries in Japan: Reduce final disposal volume to 1.0% of total waste emissions or less | FY2009 Targets | <ul style="list-style-type: none"> Mitsubishi Electric: Reduce final disposal volume to 0.5% of total waste emissions or less Affiliates and subsidiaries in Japan: Reduce final disposal volume to 1% of total waste emissions or less |
| | FY2008 Achievements | <ul style="list-style-type: none"> Mitsubishi Electric: Reduced final disposal volume to 0.15% of total waste emissions Affiliates and subsidiaries in Japan: Reduced final disposal volume to 0.99% of total waste emissions |
| | Level of Achievement (Self-Evaluation) |  Well done |
| Reduce total waste emissions | | |
| FY2009 Targets <ul style="list-style-type: none"> Factories: Improve by 10% per nominal net sales amount from FY2005 Offices: Improve by 10% per unit of floor space from FY2005 | FY2009 Targets | <ul style="list-style-type: none"> Factories: Improve by 10% per nominal net sales amount from FY2005 Offices: Improve by 10% per unit of floor space from FY2005 |
| | FY2009 Achievements | <ul style="list-style-type: none"> Factories: Improved by 18% from FY2005 Offices: Improved by 10% from FY2005 |
| | Level of Achievement (Self-Evaluation) |  Almost there |
| Use water effectively | | |
| FY2009 Targets <ul style="list-style-type: none"> Confirm the status of water usage at Mitsubishi Electric's works and | FY2009 Targets | <ul style="list-style-type: none"> Confirm the status of water usage at Mitsubishi Electric's works and affiliates, and promote effective |

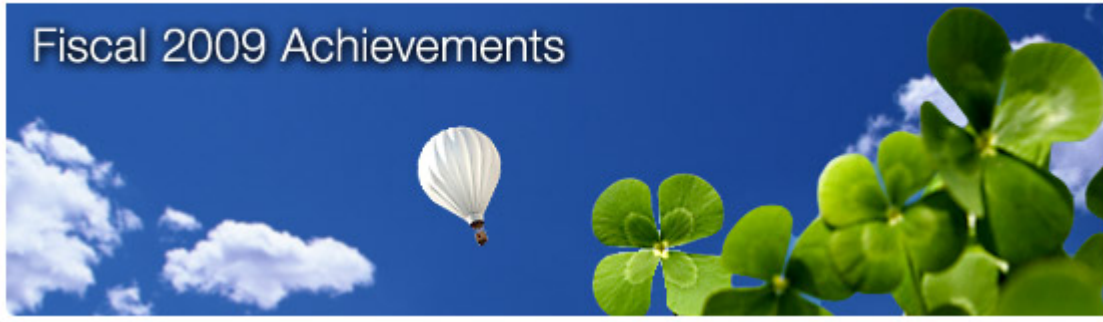
| | | |
|---|--|--|
| affiliates, and promote effective usage policies | | usage policies |
| | FY2008 Achievements | <ul style="list-style-type: none"> Implemented water-saving and water-recycling initiatives for industrial water and public waterworks |
| | Level of Achievement (Self-Evaluation) |  Almost there |
| Reduce CO2 emissions | | |
| FY2009 Targets <ul style="list-style-type: none"> Mitsubishi Electric's Works in Japan (including research centers): Reduce by 2% per year per real nominal net sales Head office, Branch offices, Non-Manufacturing Companies in Japan and Overseas: Reduce by 1% per year per unit of floor space Manufacturing Affiliates in Japan: Reduce by 1% per year per nominal net sales Manufacturing Affiliates Overseas: Reduce by 1% per year per nominal net sales | FY2009 Targets | <ul style="list-style-type: none"> Mitsubishi Electric's Works in Japan (including research centers): Reduce by 2% per year per real nominal net sales Manufacturing Affiliates in Japan: Reduce by 1% per year per nominal net sales Manufacturing Affiliates Overseas: Reduce by 1% per year per nominal net sales Head office, Branch offices, Non-Manufacturing Companies in Japan and Overseas: Reduce by 1% per year per unit of floor space |
| | FY2009 Achievements | <ul style="list-style-type: none"> Mitsubishi Electric's Works in Japan: Increased by 15.9% per year per unit of real nominal net sales Manufacturing Affiliates in Japan: Reduced by 6.6% per year per unit of real nominal net sales Manufacturing Affiliates Overseas: Increased by 9.9% per year per unit of net sales Head office, Branch offices: Increased by 7.5% per year per unit of floor space |
| | Level of Achievement (Self-Evaluation) |  More effort needed |

Eco Logistics: Initiatives at the Transport/Logistics Level

| Reduce CO2 emissions from product (sales) logistics | | |
|---|--|---|
| FY2009 Targets <ul style="list-style-type: none"> Japan: Reduce by 30% per unit of shipping weight from FY2003 Overseas: Increase the number of companies tracked | FY2009 Targets | <ul style="list-style-type: none"> Japan: Reduce by 27% from FY2003 levels Overseas: 6 companies |
| | FY2009 Achievements | <ul style="list-style-type: none"> Japan: Reduced by 21% from FY2003 levels (Mitsubishi Electric: reduced by 32% from FY2003) Overseas: 19 companies tracked, increased by 4 companies versus FY2008 |
| | Level of Achievement (Self-Evaluation) |  Almost there |
| Reduce CO2 emissions from waste logistics | | |
| FY2009 Targets <ul style="list-style-type: none"> Establish method for calculating CO2 emissions, and devise and execute reduction plans | FY2009 Targets | <ul style="list-style-type: none"> Establish method for calculating CO2 emissions, and devise and execute reduction plans |
| | FY2009 Achievements | <ul style="list-style-type: none"> Established method for calculating CO2 emissions for transporting waste, and gathered data |
| | Level of Achievement (Self-Evaluation) |  Almost there |
| Reduce CO2 emissions from procurement logistics | | |
| FY2009 Targets <ul style="list-style-type: none"> Establish method for calculating CO2 emissions, and devise and execute reduction plans | FY2009 Targets | <ul style="list-style-type: none"> Establish method for calculating CO2 emissions, and devise and execute reduction plans |
| | FY2009 Achievements | <ul style="list-style-type: none"> Established method for calculating CO2 emissions, and gathered data |
| | Level of Achievement (Self-Evaluation) |  Almost there |
| Reduce use of disposable packaging materials | | |
| FY2009 Targets <ul style="list-style-type: none"> Japan: Reduce by 10% per net shipping weight from FY2005 Overseas: Increase the number of companies tracked Continue eliminating use of wood products (Japan only) | FY2009 Targets | <ul style="list-style-type: none"> Japan: Reduce by 13% from FY2005 levels Overseas: Continue calculation for 20 companies |
| | FY2009 Achievements | <ul style="list-style-type: none"> Japan: Reduced by 15% from FY2005 levels (Mitsubishi Electric: Reduced by 18% from FY2005 levels) Overseas: Continuously calculated for 23 companies, increased by 2 companies versus FY2008 |
| | Level of Achievement (Self-Evaluation) |  Well done |

Environmental Report

Fiscal 2009 Achievements



▶ Scope of Report

Defines the period covered and list of companies with an environmental plan that are in the scope of the report.

▶ Environmental Management

Environmental Management System
ISO 14001 Certification
Environmental Audits
Environmental Risk Management
Education & Awareness

▶ Eco-Products

Design for the Environment
Recycling-Based Society
Compliance with Chemical Substance Regulations
Special Projects

▶ Eco-Manufacturing

Preventing Global Warming
Recycling-Based Society
Managing Chemical Substances
Eco-Factory Indicators

▶ Eco-Logistics

Preventing Global Warming
Saving on Distribution Materials

▶ Environmental Communication

A sampling of communication activities being carried out around the world.

▶ Material Balance

An overview of lifecycle environmental impact throughout manufacturing, logistics, product usage, and recycling.

▶ Environmental Accounting

A report for FY2009. Calculated based on the Japanese Government's Environmental Accounting Guidelines 2005.

▶ Awards

Presenting awards and achievements from Japan and around the world.

Fiscal 2009 Achievements

Scope of Report

This report provides information on noteworthy initiatives, events and changes in fiscal 2009 pertaining to the Mitsubishi Electric Group's activities to help bring about a sustainable society. In addition, given that fiscal 2009 is the final year of the 5th Environmental Plan, it also provides a summary report on achievements under that plan.

An action policy for fiscal 2010 and beyond has been developed in light of the objectives included in Environmental Vision 2021 and the 6th Environmental Plan. For more information on this action policy, please refer to Targets of 6th the Environmental Plan.

Mitsubishi Electric is committed to public accountability and broadening communication with all its stakeholders. We encourage and appreciate any honest opinions and advice related to the further improvement of this report.

Period Covered

April 1, 2008 to March 31, 2009

*The report also includes some information on policies, targets and plans beyond fiscal 2009.

Scope of Report

Companies with an environmental plan: Mitsubishi Electric and 100 affiliates (76 domestic, 24 overseas)

76 Domestic Affiliates

| | |
|-------------------------------------|---|
| Inaryo Technica Corporation | Mitsubishi Electric Applied Refrigeration Systems Co., Ltd.* |
| Uemori Denki Co., Ltd. | Mitsubishi Electric Control Software Corporation |
| SGC Company Ltd. | Mitsubishi Electric System & Service Co., Ltd. |
| Osram-Melco Ltd. | Mitsubishi Electric Information Network Corporation |
| Kita Koudensha Corporation | Mitsubishi Electric Lighting Corporation |
| Kohshin Electric Corporation | Mitsubishi Electric Documentex Ltd. |
| The Kodensha Co., Ltd. | Mitsubishi Electric Tokki Systems Corporation. |
| Koryo Electric Co.,Ltd. | Mitsubishi Electric Business Systems Co., Ltd. |
| Sun-A Micro-Semiconductor Co., Ltd. | Mitsubishi Electric Building Techno-Service Co., Ltd. |
| Sanshin Electronics Co., Ltd. | Mitsubishi Electric Plant Engineering Corporation |
| Sanryo Technica Co., Ltd. | Mitsubishi Electric Home Appliance Co., Ltd. |
| Sanwa Electric Co., Ltd. | Mitsubishi Electric Micro-Computer Application Software Co., Ltd. |
| SPC Electronics Corporation | Mitsubishi Electric Mechatronics Software Corporation |
| Japan Net Corporation | Mitsubishi Electric Metecs Co., Ltd. |
| Super Communications, Inc. | Mitsubishi Electric Life Service Corporation |
| Seiryu Technica Co., Ltd. | Mitsubishi Electric Logistics Corporation |
| Setsuyo Astec Corporation | Mitsubishi Space Software Co., Ltd. |
| Setsuryo Technica Co., Ltd. | Mitsubishi Precision Co., Ltd. |
| Sowa Technica Inc. | Miyoshi Electronics Corporation |
| Diamondtelecom, Inc. | Meiryu Technica Corporation |
| Taiyo Musen Co., Ltd. | Melco Airtec Corporation |

| | |
|--|--|
| Tada Electric Co., Ltd. | Melco Control Products Corporation |
| Churyo Technica Co., Ltd. | Melco Display Technology Inc. |
| Tsuryo Technica Corporation | Melco Technorex Co., Ltd. |
| DB Seiko Co., Ltd. | Melco Power Systems Corporation |
| Toyo Engineering Co., Ltd. | Melco Mechatronic System Engineering Corporation |
| Toyo Electric Corporation | Melhan Computer System Co., Ltd. |
| Tokan Co., Ltd. | Rakuryo Technica Co., Ltd. |
| Nagasaki Ryoden Technica Co., Ltd. | Ryoei Technica Corporation |
| Nakayama Machinery Co., Ltd. | Ryosai Technica Co., Ltd. |
| Nihon Kentetsu Co., Ltd. | Ryosan Industry Corporation |
| Hyper Cycle Systems Corporation | Ryoshin Kosan Co., Ltd. |
| Himeryo Technica Co., Ltd. | Ryoden Asahi Technica Co., Ltd. |
| Fukuryo Semiconductor Engineering Corporation | Ryoden Kasei Co., Ltd. |
| Mitsubishi Electric Information Systems Corporation | Ryoden Koki Engineering Co., Ltd. |
| Mitsubishi Electric Information Technology Corporation | Ryoden Shonan Electronics Corporation |
| Mitsubishi Electric FA Industrial Products Corporation | Ryohoku Electronics Corporation |
| Mitsubishi Electric Engineering Co., Ltd. | Ryoma Technica Co., Ltd. |

*Waryo Technica Co., Ltd. changed its name to Mitsubishi Electric Applied Refrigeration Systems Co. Ltd. as of April 1, 2009.

24 Overseas Affiliates

| |
|---|
| Electric Powersteering Components Europe s.r.o. |
| Laguna Auto-Parts Manufacturing Corporation |
| Mitsubishi Digital Electronics America, Inc. |
| Mitsubishi Electric Air Conditioning Systems Europe Ltd. |
| Mitsubishi Electric Automotive America, Inc. |
| Mitsubishi Electric Automotive Czech s.r.o. |
| Mitsubishi Electric Automotive Europe B.V. |
| Mitsubishi Electric Automation, Inc. |
| Mitsubishi Electric Automotive India Pvt. Ltd. |
| Mitsubishi Electric Automation (Thailand) Co., Ltd. |
| Mitsubishi Elevator Asia Co., Ltd. |
| Mitsubishi Electric Consumer Products (Thailand) Co., Ltd. |
| Mitsubishi Electric de Mexico S.A. de C.V. |
| Mitsubishi Electric (Malaysia) Sdn. Bhd. |
| Mitsubishi Electric Power Products, Inc. |
| Mitsubishi Electric Thai Auto-Parts Co., Ltd. |
| Siam Compressor Industry Co., Ltd. |
| Mitsubishi Electric (Guangzhou) Compressor Co., Ltd. |
| Mitsubishi Electric TianWei Power Transmission Equipment Co.,Ltd. |
| Mitsubishi Electric Dalian Industrial Products Co., Ltd. |
| XD Mitsubishi Electric Switchgear Co., Ltd. |
| Shanghai Mitsubishi Electric & Shangling Air-Conditioner and Electric Appliance Co., Ltd. |
| Taiwan Mitsubishi Elevator Co., Ltd. |
| Mitsubishi Electric Shihlin Automotive ChangZhou, Co., Ltd. |

Environmental Management

▶ Environmental Management System

Integrated operation of a management system based on the Environmental Plan; increased collaboration in Japan and overseas to expand global environmental management.

▶ ISO 14001 Certification

As of March 31, 2009, 26 sites, 65 affiliates in Japan, and 27 affiliates overseas have achieved certification.

▶ Environmental Audits

Improving environmental management through internal environmental audits, third-party compliance assessments, and audits by the head office.

▶ Environmental Risk Management

Handling groundwater and soil contamination, preventing environmental accidents, storing and processing PCBs appropriately.

▶ Education & Awareness

Training employees working in environmental management; fostering the environmental awareness of each employee.

Environmental Management

Environmental Management System

Integrated Environmental Management System Operation Based on the Environmental Plan

In its 5th Environmental Plan, launched in fiscal 2007, the Mitsubishi Electric Group adopted the goal of realizing integrated operation of its environmental management systems (EMS) for companies with a specified environmental plan (companies that fall within the scope of the Environmental Report).

In fiscal 2007, taking advantage of head office and branch system updates to the ISO14001:2004 edition in March 2006, we embarked on an effort to bring the environmental management programs (EMP) of each EMS organization (works, R&D centers, etc.) in line with the Environmental Plan.

Continuing these efforts in fiscal 2008, we also developed procedures that would allow business groups to determine whether each EMS organization's EMP was consistent with the Environmental Plan. These procedures were implemented in fiscal 2009.



Expanding Global Environmental Management

The Mitsubishi Electric Group is working to raise the level of environmental management and sharing improvement examples and other information both within Japan, and in Europe, China, other parts of Asia, and the Americas, under the theme of enhancing and expanding global environmental management.

To strengthen management systems, we are training key environmental personnel in China, holding annual Environmental Promotion Managers Conferences to share information, and taking steps to ensure broad understanding of and compliance with both the action policy based on the Environmental Plan and regulatory requirements. We are also sharing information through reports on activity results, descriptions of exemplary initiatives, and notifications regarding trends in local environmental regulations.

In addition to this conference, we also hold annual Regional Environmental Conferences in four different parts of the world to maximize benefits from: 1) the strengthening of Japan-overseas collaboration aimed at achieving reliable compliance with global environmental regulations, and 2) efforts to raise the level of environmental management at individual sites. In fiscal 2009, regional conferences worked to broaden understanding of Environmental Vision 2021 and discussed themes particular to each region.

Fiscal 2009 Environmental Conference Reports

Environmental Promotion Managers Conference (June 17 and December 2, 2008)



The conference held in the first fiscal half provided a general overview of fiscal 2008 activities, confirmed directions for fiscal 2009 and provided updates on overseas environmental businesses. The President's address stressed the importance of expanding operations while practicing production and sales activities with low environmental impact.

The meeting held in the second fiscal half included discussions of environmental audit results and recent

developments in environmental regulations, descriptions of and progress updates on initiatives aimed at achieving the company's Environmental Vision, and presentations on outstanding environmental initiatives including efforts to acquire Eco-Leaf LCA third-party certification labels and implement closed-loop recycling of plastics.

Americas Regional Environmental Conference (September 30, 2008)



At this conference, which was attended by 18 representatives of five companies located in the Americas, an explanation of Environmental Vision 2021 by the head office preceded a review of activities for the current fiscal year and a discussion of matters related to reports for the coming fiscal year. Regarding the latter, it was suggested and agreed that each site should prepare detailed reports

of the energy-saving activities they are pursuing. This information will be posted on the Group intranet.

The committee also included a description of activities being undertaken at the Mexico and North America sites. The former is pursuing environmental management above and beyond regulatory requirements and has received the government's environmental certification, while the latter is encouraging employees to carpool, and pursuing recycling and other environmental activities. These initiatives in both regions indicate progress in environmental activities throughout the Group.

China Regional Environmental Conference (November 28, 2008)



The fiscal 2009 meeting was attended by around 40 representatives of 17 companies in China. The meeting focused on achieving a broad understanding of Environmental Vision 2021 and the importance of its promotion to the development of individual Group companies. In addition, it was announced that companies in China will be added to those required to reduce CO₂ emissions. Their efforts will contribute to the goal of reducing the entire Group's CO₂ emissions from

production by 30% by 2021, an objective included in Environmental Vision 2021. It was suggested that testing of energy-saving products be pursued as a tool for reducing CO₂ emissions, and determined that Mitsubishi Electric Dalian Industrial Products Co. Ltd. would perform the testing. At the same time, a requirement that Chinese companies perform self-audits based on regulatory checklists was introduced.

Asia Regional Environmental Conference (November 6, 2008)



This meeting was attended by 41 representatives from 10 companies in Thailand, Malaysia, Indonesia, and the Philippines. Following the head office's explanation of the Mitsubishi Electric Group's environmental management direction and policies, individual sites presented reviews of their activities for the current fiscal year and descriptions of initiatives for the coming fiscal year. These presentations confirmed that Group companies are acting to realize Environmental Vision 2021.

For the three companies located in Thailand, where CO₂ emissions exceed levels in other areas, testing of energy-savings was performed before and after the meeting to gather energy consumption data.

Presentations of examples of outstanding activities were accompanied by discussions of similar developments at other companies, indicating a positive trend. The sharing of outstanding activity examples will continue in the future.

Europe Regional Environmental Conference (May 23, 2008)



In Europe, two meetings were held with participation by representatives from manufacturing sites, country branches, and corporate offices. Having implemented regulations like the RoHS (Restriction of Hazardous Substances) Directive and the REACH (Registration, Evaluation, Authorisation and restriction of CHemicals) Regulation, Europe has set an example for the rest of the world and taken a particularly strong stand on environmental protection. Products can be imported and sold there only after

achieving an understanding of and confirming compliance with strict regulations.

At the meeting, participants discussed matters like the procedures branches should use for handling customer inquiries regarding the REACH Regulation, which took full effect during fiscal 2009, and it was determined that the system would be revised.

To help ensure that Environmental Vision 2021 leads to concrete activities, the head office gave a presentation on initiatives underway in Japan. And, from the UK Branch, which sells air-conditioning equipment, participants heard about efforts to inform tradeshow and seminar attendees that purchasing environmentally conscious products with low CO₂ emissions helps to prevent global warming. Participants were also told about the branch's efforts to expand sales of environmentally responsible air conditioners. With this information in hand, individual European sites began examining possibilities for their own initiatives.

Fiscal 2009 Achievements

Environmental Management

ISO 14001 Certification

The number of sites in the Mitsubishi Electric Group that have acquired ISO 14001 certification as of March 31, 2009 is as follows:

Mitsubishi Electric: 26 (All sites)

Domestic Affiliates: 65

Overseas Affiliates: 27

ISO 14001 Certified Companies

Mitsubishi Electric

| Organization | Registration Data | Registration Number | Examination Organization |
|--|--------------------|---------------------|--------------------------|
| Head Office, Branches | March 20, 2006 | EC02J0333 | JACO |
| Kobe Works Energy Systems Center | March 10, 1998 | EC97J1218 | JACO |
| Itami Works Transmission & Distribution Systems Center | March 9, 1998 | JQA-E-90123 | JQA |
| Nagasaki Works | December 24, 1997 | EC97J1159 | JACO |
| Transmission & Distribution Systems Center Ako Area | August 26, 1997 | EC97J1064 | JACO |
| Power Distribution Systems Center | March 9, 1998 | EC97J1211 | JACO |
| Inazawa Works | March 7, 1996 | EC98J2017 | JACO |
| Communication Systems Center | November 25, 1997 | EC97J1116 | JACO |
| Communication Networks Center, Kamakura Works | May 22, 1998 | EC98J1013 | JACO |
| Communication Networks Center, Koriyama Factory | June 22, 1998 | EC98J1014 | JACO |
| Nakatsugawa Works | March 24, 1998 | EC97J1232 | JACO |
| Air Conditioning & Refrigeration Systems Works | March 10, 1998 | EC97J1227 | JACO |
| Shizuoka Works | December 22, 1997 | EC97J1132 | JACO |
| Kyoto Works | June 22, 1998 | EC98J1021 | JACO |
| Gunma Works | April 20, 1998 | EC98J1008 | JACO |
| Nagoya Works | November 25, 1997 | EC97J1113 | JACO |
| Fukuyama Works | November 26, 1997 | EC97J1128 | JACO |
| Himeji Works | March 24, 1998 | EC97J1234 | JACO |
| Mita Works | March 25, 1998 | EC97J1249 | JACO |
| Power Device Works | September 29, 1997 | EC97J1084 | JACO |
| Power Device Works Kumamoto Factory | March 25, 1997 | EC96J1096 | JACO |
| High Frequency & Optical Device | October 27, 1997 | EC97J1098 | JACO |

| | | | |
|--|-------------------|-----------|------|
| Works | | | |
| Mitsubishi Electric Sagami Area | March 10, 1989 | EC97J1220 | JACO |
| Western Research Institute Area | November 24, 1998 | EC98J1103 | JACO |
| Eastern Research Institute Area | July 24, 1998 | EC99J1034 | JACO |
| Plant Engineering and Construction Generalization Division | December 24, 2004 | 4003195 | LRQA |

Affiliates in Japan

*The companies below have received certification(s) for all or a part of their operations.

| Organization | Registration Date | Registration Number | Examination Organization |
|--|--------------------|---------------------|--------------------------|
| SPC Electronics Corporation | March 15, 2000 | EC99J1204 | JACO |
| Mitsubishi Electric Life Service Corporation | June 22, 2005 | EC05J0082 | JACO |
| Mitsubishi Electric Logistics Corporation | February 14, 2003 | JQA-EM2984 | JQA |
| The Kodensha Co., Ltd. | February 1, 2002 | RE0265 | JTCCM |
| Mitsubishi Electric Engineering Co., Ltd. | January 14, 2009 | EC08J0120 | JACO |
| Mitsubishi Electric System & Service Co., Ltd. | March 14, 2001 | EC00J0264 | JACO |
| Mitsubishi Electric Documentex Ltd. | November 16, 2001 | JQA-EM1909 | JQA |
| Nakayama Machinery Co., Ltd. | March 10, 2004 | EC03J0389 | JACO |
| Melco Technorex Co., Ltd. | May 24, 2000 | EC00J0017 | JACO |
| Mitsubishi Electric Credit Co., Ltd. | September 30, 2004 | E916 | JICQA |
| Kita Koudensha Corporation | March 26, 1999 | JMAQA-E041 | JMA |
| Miyoshi Electronics Corporation | March 28, 2001 | EC00J0325 | JACO |
| Shizuki Electric Co., Inc. | February 18, 2005 | JQA-EM4547 | JQA |
| Oi Electric Co.,Ltd. | November 20, 1998 | JQA-EM0252 | JQA |
| Nakatani Engineering & Transportation Inc. | January 16, 2004 | JQA-EM3697 | JQA |
| Kyushu Mitsubishi Electric Sales Corporation | December 25, 2008 | C2008-02551 | Perry Johnson Registrars |
| Chugoku Mitsubishi Electric Sales Corporation | November 24, 2000 | EC00J0140 | JACO |
| Chiyoda Mitsubishi Electric Sales Corporation | August 2, 2002 | JQA-EM2532 | JQA |
| Seikousha Co.,Ltd. | October 24, 2006 | 6206 | EQA |
| Shikoku Mitsubishi Electric Sales Corporation | February 23, 2004 | EC03J0348 | JACO |
| Chubu Mitsubishi Electric Sales Corporation | May 10, 2002 | JQA-EM2380 | JQA |
| Ryoden Trading Co., Ltd. | December 19, 2001 | EC01J0212 | JACO |
| Kanaden Corp. | October 26, 2001 | ER-00001 | Deloitte-TECO |
| Mansei Corporation | March 19, 2001 | EC00J0293 | JACO |
| Nagano Mitsubishi Electric Sales Corporation | September 26, 2001 | EC01J0122 | JACO |
| Mitsubishi Electric Information Systems Corporation | March 25, 1998 | EC97J1246 | JACO |
| Mitsubishi Electric Information Technology Corporation | March 25, 1998 | EC97J1246 | JACO |
| Mitsubishi Electric Business Systems Co., Ltd. | December 28, 2004 | EC04J0414 | JACO |

| | | | |
|---|--------------------|------------|--------------------------------------|
| ITEC Hankyu Hanshin Co., Ltd. | February 25, 2004 | EC03J0361 | JACO |
| Ohmori Electric Industries Co., Ltd. | September 30, 2005 | JQA-EM4931 | JQA |
| Mitsubishi Electric Plant Engineering Corporation | December 9, 2007 | 4004028 | LRQA |
| Toyo Electric Corporation | March 24, 2000 | JQA-EM0792 | JQA |
| MEIRYO DENSHI | September 1, 2008 | KES2-0426 | KES Environmental Organization |
| SGC Company Ltd. | December 14, 2007 | JQA-EM5987 | JQA |
| Ryoden Kasei Co., Ltd. | December 24, 1999 | JQA-EM0662 | JQA |
| Ryosan Industry Corporation | December 28, 2001 | JQA-EM2052 | JQA |
| Tada Electric Co., Ltd. | August 25, 1999 | EC99J1051 | JACO |
| Hanshin Kiki Co., Ltd. | March 17, 2005 | JMAQA-E555 | JMA |
| Ryosai Technica Co., Ltd. | November 12, 1999 | JQA-EM0581 | JQA |
| Mitsubishi Electric Building Techno-Service Co., Ltd. | May 21, 1999 | JQA-EM0429 | JQA |
| Tokan Co., Ltd. | November 13, 1998 | JQA-EM0247 | JQA |
| Ryoden Elevator Construction Ltd. | December 28, 1999 | EC99J1147 | JACO |
| Mitsubishi Hitachi Home Elevator Corporation | December 2, 1999 | EC99J1122 | JACO |
| Taiyo Musen Co., Ltd. | March 9, 2001 | JQA-EM1378 | JQA |
| Toyo Precision Parts Mfg. Co., Ltd. | April 7, 2006 | JQA-EM5311 | JQA |
| Seiryō Electric Corporation | January 15, 2008 | 4004041 | LRQA |
| Hyper Cycle Systems Corporation | April 18, 2001 | EC01J0002 | JACO |
| Mitsubishi Electric Lighting Corporation | March 15, 2000 | EC99J1217 | JACO |
| Mitsubishi Electric Home Appliance Co., Ltd. | March 12, 1999 | JQA-EM0367 | JQA |
| Ryoden Asahi Technica Co., Ltd. | December 28, 1999 | EC99J1158 | JACO |
| Mitsubishi Electric Osram Ltd. | March 19, 2001 | EC00J0287 | JACO |
| Nihon Kentetsu Co., Ltd. | March 16, 2001 | JQA-EM1409 | JQA |
| Sowa Technica Inc. | October 6, 2000 | JQA-EM1042 | JQA |
| Ryohoku Electronics Corporation | May 12, 2004 | EC04J0051 | JACO |
| Osram-Melco Ltd. | September 29, 1997 | EC97J1076 | JACO |
| Kohshin Electric Corporation | December 11, 2002 | EC02J0228 | JACO |
| BCC Corporation | March 14, 2001 | EC00J0268 | JACO |
| Hirobo Electric Corporation | October 5, 2007 | E07-582 | JET |
| Koryo Electric Co., Ltd. | September 24, 2001 | EC00J0210 | JACO |
| Sanwa Electric Co., Ltd. | March 9, 2001 | JQA-EM1380 | JQA |
| | | | |

| | | | |
|---------------------------------------|--------------------|------------|-----------|
| DB Seiko Co., Ltd. | October 11, 2005 | EC05J0181 | JACO |
| Nippon Injector Corporation Co., Ltd. | November 12, 1999 | JQA-EM0579 | JQA |
| Melco Display Technology Inc. | December 27, 2000 | EC00J0189 | JACO |
| Sun-A Micro-Semiconductor Corporation | April 27, 2004 | SGS/J/E378 | SGS Japan |
| Isahaya Electronics Corporation | September 20, 2007 | 4003924 | LRQA |

Overseas Affiliates

*The companies below have received certification(s) for all or a part of their operations.

| Organization | Registration Date | Registration Number | Examination Organization |
|--|--------------------|----------------------|--|
| Mitsubishi Electric Power Products, Inc. | March 3, 2003 | 5051 | Det Norske Veritas |
| Mitsubishi Digital Electronics America, Inc. | February 1, 2002 | 1111 | ANAB |
| Mitsubishi Electric Automation, Inc. | September 14, 2005 | C2005-01973 | Perry Johnson Registrars |
| Mitsubishi Electric Automotive America, Inc. | June 24, 1999 | 164195 | BVC |
| Mitsubishi Electric de Mexico S.A. de C.V. | March 17, 2004 | 0/1/22/959 | PROFEPA |
| Mitsubishi Electric Air Conditioning Systems Europe Ltd. | February 21, 2000 | EMS-53485 | British Standards Institute |
| Mitsubishi Electric Automotive Europe B.V. | November 25, 2001 | NL7002013 | Bureau Veritas Certification |
| Electric Powersteering Components Europe s.r.o. | March 7, 2007 | 728-07-03 | CERT-ACO |
| Mitsubishi Electric Automotive Czech s.r.o. | October 18, 2006 | 622-06-04 | CERT-ACO |
| Mitsubishi Electric Automotive India Pvt. Ltd. | November 18, 2003 | 467 | DET NORSKE VERITAS |
| Mitsubishi Elevator Asia Co., Ltd. | October 30, 1998 | TH08000083 | BUREAU VERITAS |
| Siam Compressor Industry Co., Ltd. | September 30, 2006 | 01 104 7040 | TUV Rheinland |
| Mitsubishi Electric Consumer Products (Thailand) Co., Ltd. | January 26, 2001 | TH07000320 | Bureau Veritas Certification (Thailand)Ltd. |
| Kang Yong Electric Public Co., Ltd. | September 21, 2001 | 89194 | BVQI |
| Mitsubishi Electric Automation (Thailand) Co., Ltd. | October 28, 2008 | AJA02/5857 | AJA |
| Mitsubishi Electric Thai Auto-Parts Co., Ltd. | July 11, 2001 | TH07000471 | Bureau Veritas |
| Laguna Auto-Parts Manufacturing Corporation | August 7, 2006 | TUV104 05 0597 | TUV Asia Pacific Ltd. Suddeutschland |
| Mitsubishi Electric (Malaysia) Sdn. Bhd. | March 19, 1999 | ER0147 | SIRIMQAS |
| Shihlin Electric & Engineering Corp. | August 4, 1998 | 4A4E003-5 | BSMI |
| Taiwan Mitsubishi Elevator Co., Ltd. | November 21, 1998 | 4MDE001-04 | Lift and parking equipments activities of the production, installation and servicing |
| XD Mitsubishi Electric Switchgear Co., Ltd. | July 20, 2001 | 0015-2001-AE-RGC-RvA | DET NORSKE VERITAS |
| Shanghai Mitsubishi Elevator Co., Ltd. | December 23, 1998 | C982001 | LRQA |
| Shandong Hualing Electronics Co., Ltd. | November 26, 2002 | 03-2002-110 | CEPREI Environmental |

| | | | Management System Certification body |
|---|----------------------|------------------------|---|
| Mitsubishi Electric (Guangzhou) Compressor Co., Ltd. | April 1, 2004 | 01 104 032021 | TUV Rheinland |
| Shanghai Mitsubishi Electric & Shangling Air-Conditioner and Electric Appliance Co., Ltd. | March 29, 2006 | 098 06 E1 014 R1 M | shanghai huanke environmental certification co.,ltd |
| Mitsubishi Electric Dalian Industrial Products Co., Ltd. | December 30, 2006 | 0106E20071 R1M/2100 | CQC |
| Mitsubishi Electric Shihlin Automotive ChangZhou, Co., Ltd. | December 17, 2004 | 01-104-043218 | TUV |

Environmental Management

Environmental Audits

Multifaceted Monitoring of Activities with Three Types of Environmental Audits

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

The first type is internal environmental audits, which are conducted by manufacturing works, research centers and affiliates. They are performed once or twice a year to check on compliance with regulations and local laws and conformance with ISO standards at the organization level.

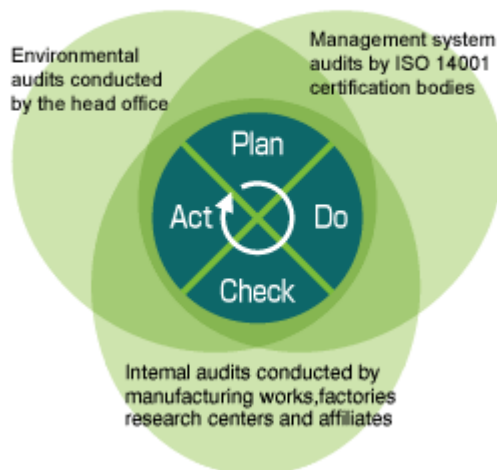
The second type is management system audits, which are conducted by the certification body based on ISO 14001.

The third type is conducted by the head office. These environmental audits cover branches, manufacturing works, R&D centers and affiliates in Japan and confirm progress on the Group's Environmental Plan and compliance with related laws. The audits are performed at branches and manufacturing works twice a year and at affiliates once a year.

The results of environmental audits are reported to the President by the executive officer in charge of the environment and conveyed to the Group's manufacturing works and affiliates via the Environmental Managers Conference and various reports, in an effort to improve the quality of environmental management at each site.

Through these three types of audits we will continue to work to qualitatively improve environmental management in a multifaceted manner.

Three Types of Audits for Environmental Management



Overview of the Three Types of Environmental Audits

| | Internal audits conducted by manufacturing works, factories, research centers and affiliates | Environmental audits conducted by the head office | Management system audits conducted by the ISO certification body |
|--------------------|--|--|---|
| Auditing Standards | <ul style="list-style-type: none"> • Laws and regulations • ISO standards • Site-specific regulations • Progress on Environmental Plan | <ul style="list-style-type: none"> • Laws and regulations • Company regulations related to the environment • Environmental Plan | <ul style="list-style-type: none"> • ISO standards |
| Frequency | Once or twice a year | Once a year or every two years | Once a year |

Environmental Audits and Inspections by the Head Office

Environmental audits by the head office involve interviewing the management of Mitsubishi Electric sites and affiliates and checking documentation and progress in implementing the Environmental Plan. This involves looking into the status of compliance and environmental risk management, which includes onsite disaster prevention and safety measures, how internal environmental audits have been conducted, the handling of chemical substances used in products and manufacturing processes, and the nature of product assessments and green procurement.

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

For Group companies in Japan, we expanded the audit scope in fiscal 2008 to include non-manufacturing sites, conducted audits at 107 sites in fiscal 2009, and confirmed that activities had been properly implemented according to plans; we also confirmed that management accuracy had been improved. In addition, lectures aimed at deepening regulatory understanding and sharing improvement examples were held five times for a total of 341 participants.

Overseas, the head office conducts on-site environmental inspections for risk management purposes. The thrust of these inspections, which take place once every three years, is discussions aimed at solving problems at manufacturing sites. Inspections are conducted based on a common global checklist and reflect the management directions of individual business groups and related factories in Japan. In fiscal 2009 we conducted inspections at eleven sites, two in Europe, two in the Americas, four in China and three in the Asia region. The inspections found that production activities and management are being conducted with appropriate consideration for the environment by overseas sites as well.

In the future we plan to intensify inspections to raise them to the level of environmental audits.



On an environmental audit in Asia



On an environmental audit in Japan

Environmental Management

Environmental Risk Management

Handling Groundwater and Soil Contamination

The Mitsubishi Electric Group conducts environmental assessments based on internal rules in conjunction with land changes and other developments. For the 12 areas confirmed as having contaminated groundwater or soil, we have undertaken remediation measures complying with regulations, and are reporting monitoring results to authorities on an ongoing basis.

In fiscal 2009, we examined soil and groundwater test results and contamination prevention measures for 16 cases in which land usage had changed, and determined that appropriate measures were being taken in all cases.

Preventing Environmental Accidents

Environmental accidents are prevented through the early replacement of aging equipment and through preventive maintenance based on inspections sites perform on one another.

We pursue the early replacement of aging equipment by first preparing lists of risks for the equipment at individual sites. Equipment that is at least 10 years old is examined and replaced as necessary. As of the end of fiscal 2009, boilers, chimneys, fuel tanks, chemical tanks, sewage treatment equipment, and other types of equipment/facilities numbering 79 in all had been replaced.

In connection with the preventive maintenance activities mentioned above, we calculate values according to various environmental indices we use to assess environmental risks, and determine the types and degrees of risks at individual sites.

An analysis of environmental accidents (including leaks confined to site premises) that have occurred at Mitsubishi Electric and its affiliates over the past five years shows that 66% were caused by improper work procedures or inadequate rules or instructions, and 34% were caused by defective construction or excessive wear and tear.

Appropriate PCB Storage and Processing

At least once per year at each storage site, we inspect and check PCB waste being stored by the company, as well as devices in use that contain PCBs.

Personnel responsible for supervising or carrying out work involving PCBs are trained to help ensure that storage conditions are properly managed. We currently dispose of PCB waste in a regular manner on the basis of a contract signed in fiscal 2007 with the Japan Environmental Safety Corporation (a fully owned government body that conducts PCB waste disposal under government supervision). In fiscal 2009, processing of 11 units was completed as planned.

Going forward, the processing schedule for high-concentration PCBs now being stored by Mitsubishi Electric calls for the processing of 930 units by the end of fiscal 2012, the last year of the 6th Environmental Plan, and the completion of processing for all 1,931 units by fiscal 2014. Affiliates in Japan are also moving ahead with processing in a systematic fashion. Processing plans for low-concentration PCBs will be created once the Japanese government makes the related policy determinations.

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

Handling Transformers with Low-Concentration PCBs

With respect to the chance that small amounts of PCB have contaminated transformers and other devices, Mitsubishi Electric has considered the possibilities of contamination during the manufacturing process, contamination after the devices have been delivered, contamination through insulating oil and other scenarios; but it has not been possible to identify the causes, devices involved or time of manufacture. We have therefore concluded that we cannot deny the possibility that small amounts of PCBs could have contaminated electrical devices that use electrical insulating oil and that were manufactured prior to 1989.

Quality control for insulating oil has been strengthened for devices manufactured since 1990, so we have judged that there has been no contamination by low-concentration PCBs as of product shipment.

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

Mitsubishi Electric also participates in the Japan Electrical Manufacturers' Association's PCB Disposal Committee, an industry group. We help the group disseminate information and consider disposal policies.

Products Containing Asbestos

Mitsubishi Electric has banned the use of all six types of asbestos* as of July 1, 2006. We require that suppliers provide a guarantee of non-use when purchasing materials from them and confirm that there has been no contamination (revisions have already been made to our list of chemical substances for green procurement). Our group companies have also finished replacing asbestos with alternative materials and have destroyed asbestos-containing inventory as of September 2006.

*The six types of asbestos are Chrysotile, Amosite, crocidolite, anthophyllite, actinolite and tremolite.

Environmental Management

Education & Awareness

Environmental Education for Different Career Stages

The environmental education Mitsubishi Electric offers in Japan consists of both general and job-specific courses. General environmental education is for all employees, and is conducted for four different career stages: new hires, section managers, management and overseas appointments. Job-specific training is broken up into environmental management, materials, product design, manufacturing and sales divisions. Various innovative approaches are incorporated into each course.

Voice

I Instructor's Perspective

The environment is of critical concern to all employees. Preventing global warming, creating a recycling-based society, compliance (with internal rules and government regulations), and expanding the range of environmental products are just a few of the broad spectrum of environmental activities in which development, design, production, management, supply, sales, and other departments are involved. From this perspective, it has become particularly important in recent years for section and group managers, who play key roles in moving Mitsubishi Electric Group operations forward, to understand environmental initiatives.

I've been in the Corporate Environmental Sustainability Group only since April of last year and am still rather new to environment-related work. However, having renewed my awareness of Environmental Vision 2021 and worked on formulation of the 6th Environmental Plan, I understand very clearly the importance of the Group's environmental initiatives. I aim to communicate what I've learned to other employees and work with others in making sure that environmental activities ultimately strengthen our business and contribute to society.



Corporate Environmental
Sustainability Group
Planning Group Manager
Yoshio Kasuga

New Section Manager's Perspective

In my previous position in the Associated Companies Division, I gained some exposure to the Group's environmental initiatives through negotiations with affiliates. When I was assigned to my current position in October 2008, I underwent environmental training for section managers and renewed my understanding of Environmental Vision 2021 goals.

Environmental initiatives are taking on greater and greater importance regardless of one's particular job or assigned position. I feel very strongly that it is important for individuals to consider the needs of the environment while pursuing their daily activities and for companies to offer products that help to lower environmental impact. Speaking of products in particular, the Public-Use Systems Marketing Division, which I am assigned to, handles a broad range of products that lower environmental impact. Examples include photovoltaic power generation systems for the government and industrial markets, water treatment systems that apply the power of ozone, and building power supply devices that save energy and resources. Looking ahead, I will pay particular attention to not only regulatory compliance, but also helping to lower environmental impact by providing better products to more customers, and, at the same time, increasing our business competitiveness.



Public-Use Systems
Marketing Division, Planning
Department, Planning Section
Takaichi Takemura

New Hire's Perspective

What I learned about various environmental initiatives in new hire training further strengthened both my pride in working at Mitsubishi Electric and my sense of mission. Environmental Vision 2021 in particular makes a clear statement of the importance of environmental activities and reinforces my belief that the environment must be protected.

I learned that Mitsubishi Electric makes so many environmentally beneficial products, ranging from air conditioners and other commonplace items to industrial devices that allow other companies to reduce their CO₂ emissions through using them. I'm very happy that our company's products can contribute to the environment, and I appreciate the importance of manufacturers providing products that have excellent environmental properties.

In the Legal Division, we help all business groups close agreements and deal with matters of regulatory compliance. In the future, I would like to help promote environmental consciousness from ethical and legal perspectives, through classes or other types of legal training, and be even more involved in work focused on the relationship between business and the environment.

I'm also interested in the company's Outdoor Classroom, forest development, and other environmental awareness education activities and will definitely seize on opportunities to participate.



Legal Division, Sales Law
Group
Naoko Tsushima

Specialized Training for Employees Working in Environmental Management

The Mitsubishi Electric Group has been conducting special training for head office Environmental Managers and Environmental Promotion Committee Members since fiscal 2007. The purpose of this training is to help strengthen the role of the Environmental Managers for

individual business groups. The training aims to improve the skills of employees expected to function as environmental experts, and goes beyond factory environmental protection activities, to cover environmentally conscious products and services and other matters, in an attempt to support business activities from multiple perspectives.

Several types of training were conducted in fiscal 2009. Of the programs offered, the environmental courses focusing on objectives like providing ISO 14001 information useful to managers and looking at internal audits from a management perspective were taken by regular employees, as well as Environmental Promotion Committee Members. Furthermore, in March 2009, we held briefings on the revisions of the Act on Promotion of Global Warming Countermeasures and the Act on the Rational Use of Energy, where active Q&A sessions helped to deepen everyone's knowledge.

Training Key Environmental Personnel

Transferring to younger generations the skills and experience of experts who have spent years managing environmental facilities is critical for maintaining high levels of environmental management. The Mitsubishi Electric Group, therefore, has been training 20 new key environmental personnel every year since fiscal 2005 to take the lead in managing environmental facilities.

This group training is led by employees who are seasoned veterans in the management of pollutants and waste. Up-and-coming employees selected from throughout Japan are chosen to take part and study the basics of environmental law, as well as analytical technologies, danger signals, risk management, environmental audits, and other topics that will be of practical use.

In fiscal 2009, 24 employees passed the key environmental personnel final examination. That brought the total over the past five years to 118 and allowed us to meet our goal of reaching 100 during fiscal 2009. Employees who passed the final examination are now overseeing environmental matters at Mitsubishi Electric works, factories, and affiliates. As an additional benefit of key environmental personnel training, nearby offices are beginning to form groups in which they evaluate each other's environmental protection activities.

Under the 6th Environmental Plan, key environmental personnel will be assigned to each manufacturing site in Japan, and will then conduct enhanced training. As for overseas sites, assignments of key environmental personnel and training are being planned primarily for China and other parts of Asia.



Curriculum of Key Environmental Personnel Training and Abilities Acquired by Trainees

| Curriculum | Features | Abilities |
|---|--|--|
| Explanation of legal requirements (fundamentals and practical application) | In-house instructors convey required knowledge based on their experience | Ability to understand what environmental laws and regulations require and explain the requirements to others |
| Acquisition of analytical techniques | Assessments are conducted based on data derived from chemical experiments | Ability to understand the chemical basis of phenomena and explain it to others |
| Identification of risks related to environmental facilities and formulation of improvement measures | Management expertise is conveyed using examples of past accidents and deficiencies | Ability to discover and mitigate latent environmental risks before they materialize |
| Internal auditing | Onsite inspections and compliance audits are practiced | Ability to perform audits based on knowledge of and experience with environmental laws and regulations |

Training Environmental Auditors

The purview of environmental audits has now expanded far beyond the management of pollutants and waste, and energy efficiency, to cover areas like environmentally conscious product design and green procurement. Environmental auditors, therefore, must have expert knowledge of and practical experience in their specialty field. Auditing is a form of communication, so verbal abilities are a must, along with an objective, impartial orientation. To ensure access to an outstanding core of environmental auditors, the Mitsubishi Electric Group takes steps to develop new auditor candidates and continuously conducts training aimed at improving auditor skills. We also appoint experts to perform audits in areas such as the Mitsubishi Electric Group's environmental accounting, and compliance with new European regulations.

Individual sites train their own internal auditors, and these efforts are supplemented by mutual auditing arrangements in which auditors conduct audits of other sites, visiting auditor training performed by the head office, and Internet-based Mitsubishi Electric Seminars. Training for senior-level auditors is held to help them refine their skills. Auditing procedure manuals and guidelines, casebooks, and other materials have been prepared and are posted on the intranet so they are accessible throughout the Group.

In fiscal 2009, participants in environmental auditor training over the Internet numbered 168 in the lower level and 146 in the middle level. Of these trainees, 163 passed the lower-level final exam and 144 passed the middle-level final.



Fostering Environmental Awareness

Fostering environmental awareness is one of the principal features of Environmental Vision 2021. Accordingly we are promoting environmental awareness through Group environmental policies and measures, and by publishing an "Eco News" poster in a bimonthly Japanese version and semi-annual English and Chinese versions to highlight environmental activity innovations and results in various offices. From a different perspective, we are also conducting Mitsubishi Electric Outdoor Classroom and forest cultivation/"Satoyama" woodland preservation activities for employees to participate in.

In Outdoor Classrooms, employees promote conservation education as "nature conservation leaders," who guide local children, and employees and their families, through activities in which they experience the cycle of nature through observation, and are encouraged to view the environment as something precious. In fiscal 2009, 35 employees attended nature conservation leader training, bringing the cumulative total to 68. Moving forward, we plan to train nature conservation leaders at the rate of 50 per year on the way to achieving the goal of 1,000 by 2021. Since their inception in October 2006, Outdoor Classroom activities have been held a total of 27 times in 10 regions, for 700 participants (as of November 2008).

For more details, please refer to the Mitsubishi Electric Outdoor Classroom website.

Forest cultivation/Satoyama woodland preservation activities are intended to give employees and their families opportunities to work up a sweat in a natural setting, gain a direct appreciation for the role and importance of the natural environment, and help both the environment and society. In the head office region, activities aimed at cultivating trees in the Fujisanroku area have been going on since fiscal 2004. Furthermore, the "satoyama" concept has been adopted for natural environments close to developed coastal, river, and wooded land or farmland, and individual offices have been working to protect these satoyama areas since fiscal 2007.

For more details, please refer to the Satoyama Woodland Preservation website.

Mitsubishi Electric Outdoor Classroom



Observing, through a magnifying glass, marks made in moss from insects eating it



Observing field irrigation channels where creatures make their homes

Forest cultivation/Satoyama woodland preservation



Mt Fuji volunteer (head office)



Woodland preservation (Kobe)

Eco-Products

▶ Design for the Environment

Mitsubishi Electric produces Eco-Products with ease of use and functionality that contribute to reducing the environmental impact over the entire product life cycle.

▶ Recycling-Based Society

We established a system to collect and recycle end-of-life household appliances and PCs, and strive for technological developments that pursue the successful circulation of natural resources.

▶ Compliance with Chemical Substance Regulations

We started the Green Accreditation system to address regulatory controls such as the RoHS Directive and the REACH Regulation throughout the entire supply chain.

▶ Special Projects

Based on the know-how nurtured from introducing the company's high-efficiency and energy-saving equipment, we develop solutions that contribute to further reducing environmental impact.

Eco-Products

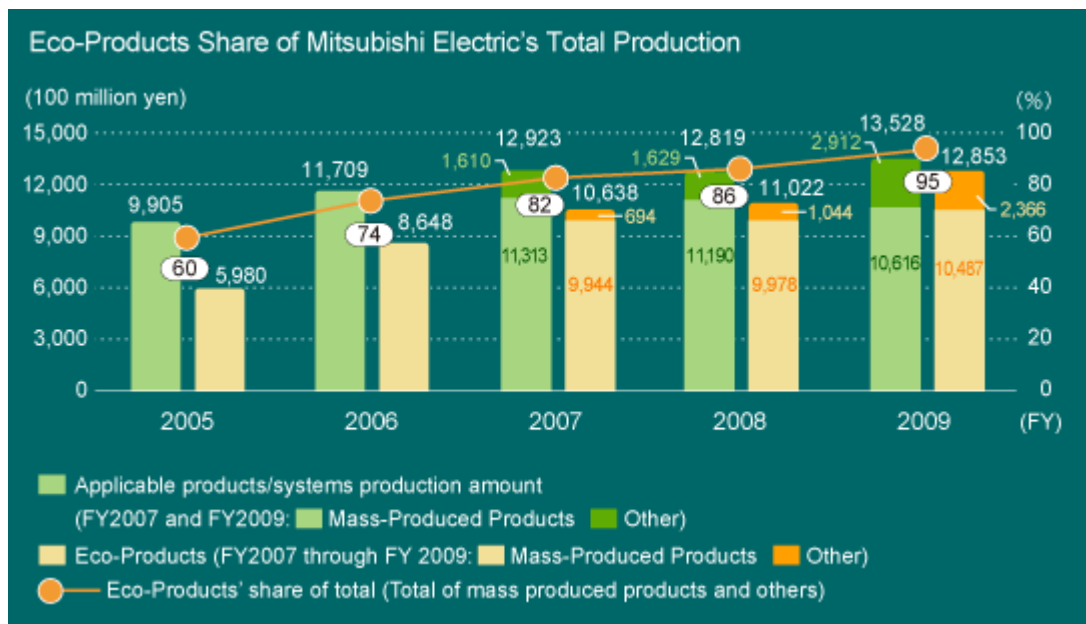
Design for the Environment

Design for the Environment, Eco-Products and Hyper Eco-Products

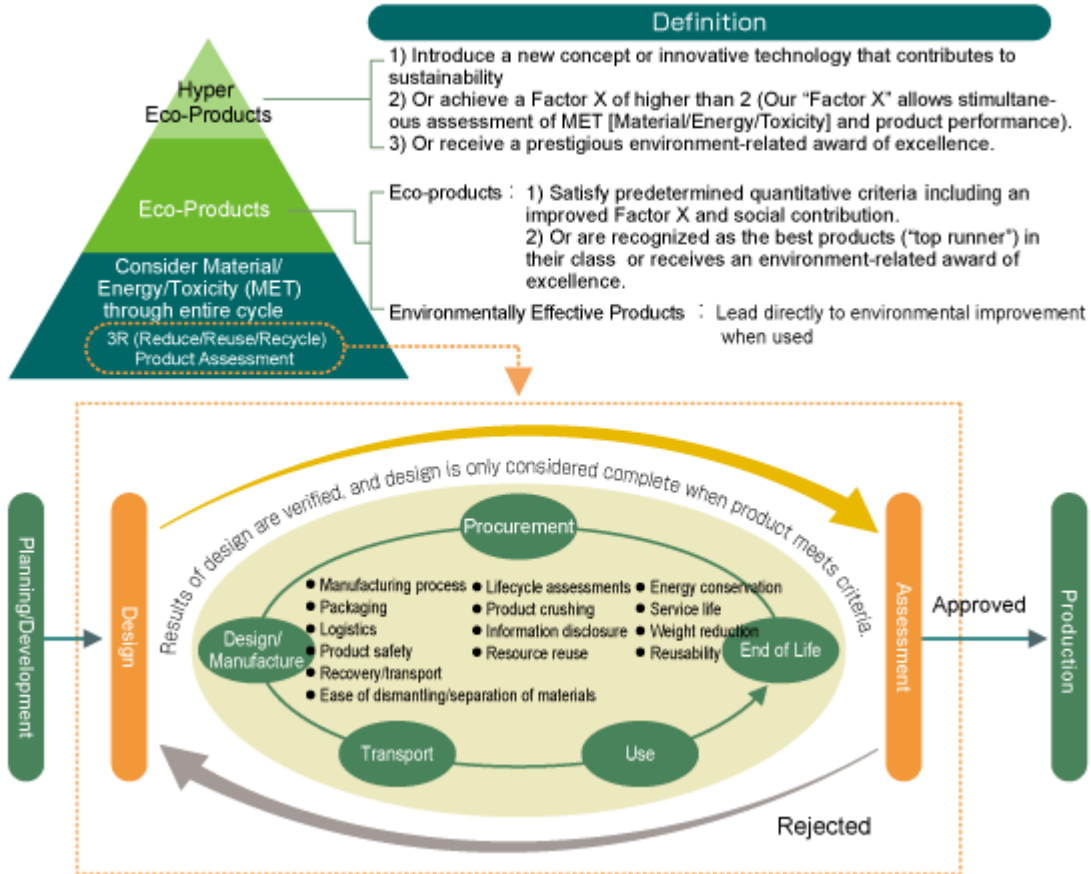
The Mitsubishi Electric Group is advancing design for the environment (DfE) based on product assessments from the MET¹ perspective. More sophisticated product assessments are performed based on the LCA² approach. In pursuing design for the environment, we use the "Factor X" environmental efficiency improvement index to certify products with exceptional environmental attributes as "Eco-Products" or "Hyper Eco-Products." We began announcing our Eco-Product ratio — the percentage of our production made up by Eco-Products — with our 4th Environmental Plan. Hyper Eco-Products are products that have characteristics that are even more environmentally beneficial than those of Eco-Products. In fiscal 2009, we selected 83 of our 162 product groups for consideration as DfE designs, and certified 90 items as Hyper Eco-Products.

Beginning with our 5th Environmental Plan, we established Eco-Product ratio goals for "mass-produced products," exemplified by home appliances and certain industrial mechatronics, and for "other products," which includes products made one unit at a time or in response to specific orders. In fiscal 2009, we came close to achieving our goals with a 99% result versus the 100% goal for mass-produced products and an 81% result versus the 80% goal for other products. Based on these results, we believe that we have sufficiently adopted design for the environment based on product assessments and will bring our Eco-Product ratio goal management to a close. Under our 6th Environmental Plan, we are working anew to meet even higher environmental impact reduction goals to reduce product usage CO₂ emissions and resource inputs. These efforts will also bring us closer to achieving our Environmental Vision 2021 objectives.

- 1: "MET" stands for Material (the efficient use of resources), Energy (the efficient use of energy), and Toxicity (reducing the use of substances potentially harmful to the environment).
- 2: LCA stands for Life Cycle Assessment. This product assessment approach seeks to quantitatively and comprehensively evaluate the environmental impacts of products beginning with the collection of resources and continuing through design, manufacturing, shipping, usage, and end of life.



The Concept of Design for the Environment



Utilizing Factor X

Factor X is an index that quantifies the idea of maximizing product value while minimizing impact on the environment. "X" is a value that compares a new product to a baseline product. The larger it is, the greater the improvement in product performance and the lower is the environmental impact. For example, a factor of 4 indicates a fourfold improvement in environmental consideration. Factor X, as employed by the Mitsubishi Electric Group, is calculated by considering product performance improvement in addition to natural resource inputs, energy usage, and emissions of substances that pose risks to the environment.

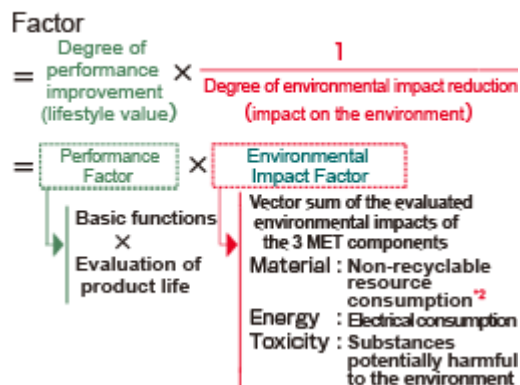
Factor X is useful for setting objectives for the development of environmentally conscious products, but its benefits would not be fully realized unless it is also practical for consumers to use in comparing products for purchase. Each appliance manufacturer, however, has its own method for calculating Factor X, so values are not comparable across manufacturers. In response, therefore, appliance manufacturers began in 2006 to focus on CO₂ emissions for the products with the largest electricity consumption, and came up with "Common Factor," which appliance manufacturers calculate using the same variables and equation. With Common Factor, product value is defined as "basic performance x standard usage period."

As of March 31, 2009, Common Factor guidelines have been formulated for six products—air conditioners, refrigerators, lamps, lighting fixtures, washer/dryers, and personal computers. Moving toward fulfillment of Environmental Vision 2021, we will focus on areas like reducing CO₂ emissions from product usage by 30% and reducing resource inputs as we push forward with efforts to provide information on product environmental performance. At the same time, we will examine ways to improve the calculation and application of Factor X.

Mitsubishi Electric's Basic Concepts to Calculate Factor X

- Comparison between a new product and a baseline product (in principle, we use Mitsubishi Electric products and a base year of 1990).
- Evaluations of the performance factor (improvement in product performance) and the environmental impact factor (reduction in environmental impact) are multiplied together to produce the rating.
- The performance index is evaluated by basic functions (product functions, performance, quality, etc.) multiplied by product life¹. The environmental impact of a product is evaluated using a sub-index for 1) non-recycled materials², 2) energy consumption, 3) toxicity ("MET," where M is the amount of non-recyclable resources consumed, E is the amount of electrical consumption, and T is the amount of substances potentially harmful to the environment), from which the environmental impact is calculated for the new product (using a value of 1 for the baseline product), and the final environmental impact index is represented by the length of vector that combines the three sub-indices.

● Factor Calculation



1: The performance index is defined separately for each product.

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

Eco-Products

Recycling-Based Society

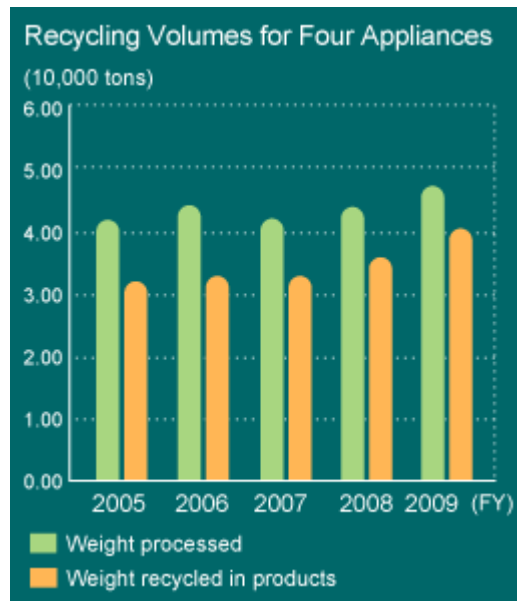
Recycling Four Kinds of Home Appliances

In fiscal 2009, we produced 1.16 million recycled products in four categories. That figure represents a 7% increase versus fiscal 2008 and an 86% recycling rate. The Home Appliance Recycling Law originally required that air conditioners, CRT televisions, refrigerators/freezers, and washers be recycled. A December 5, 2008 Cabinet order added LCD televisions, plasma televisions, and dryers to the list of products that must be recycled as of April 1, 2009. Our recycling efforts, therefore, will include these products as well moving forward.

Mitsubishi Electric Corporation pioneered the industry's first appliance recycling plant (operated by Hyper Cycle Systems, Inc.) in 1999. Through the end of fiscal 2009, that recycling operation had processed 400,000 tons of products, of which 370,000 tons, or 92.6%, were recycled. In fiscal 2009 alone, it processed 55,000 tons, recycling 54,000 tons, for an even higher recycling rate of 98.3%. Disassembly and separation information gained through this operation is fed back to product design units, where it is used to create products that are even more recyclable.

Mitsubishi Electric Corporation has developed, and is working to expand the application of, closed-loop recycling technology for recycling plastic from products, which is said to be more difficult than recycling metal. In fiscal 2009, the Company perfected technology for recovering the three primary types of plastic — PP

(polypropylene), PS (polystyrene), and ABS (Acrylonitrile Butadiene Styrene) — at purity levels exceeding 99%. Therefore, while Hyper Cycle Systems has been able to recycle only 6%, or about 600 of the approximate 10,000 tons, of plastic waste it has handled in the past into new Mitsubishi Electric home appliances, going forward, it will be able to increase that figure to approximately 6,400 tons a year through closed-loop recycling.



Appliance disassembly at Hyper Cycle Systems (In learning design for the environment, product design personnel receive guidance from appliance disassembly line veterans.)

For more information, please refer to the Environmental Feature, "Recycling of Waste Plastics"

Home Appliance Collection and Recycling (Fiscal 2009)

| | Unit | Air Conditioners | Televisions CRT LCD / Plasma | Refrigerators/ Freezers | Washing Machines | Total |
|--|----------------|---------------------|---------------------------------------|----------------------------|---------------------|--------|
| Units received at designated collection points | 1,000 Units | 272 | 402 | 317 | 187 | 1,178 |
| Units processed | 1,000 Units | 271 | 390 | 315 | 186 | 1,162 |
| Weight processed | tons | 11,193 | 11,451 | 18,424 | 6,085 | 47,153 |
| Weight recycled in products | tons | 10,284 | 10,407 | 14,228 | 5,407 | 40,326 |
| Ratio recycled in products | % | 91 | 90 | 77 | 88 | - |

Recycling Personal Computers

In fiscal 2009, we collected a total of 4,291 computers, which represented a recycling rate of 76%.

Making it easy for customers to acquire recycling ("Recycle Mark") tags indicating that a PC is eligible for recycling at no charge is an effective way to encourage customers to recycle equipment they no longer need. Mitsubishi Electric Corporation has made it possible for customers to get recycling tags by sending in a postcard or requesting one via the Internet. Furthermore, when it receives a disposal request for a product sold in October 2003 or later, the Company determines 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.

* 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 (Home and Office) (Fiscal 2009)

| | Unit | Desktop | | Notebooks | | CRT Displays | | LCD Displays | | Total | |
|---------------------------------------|------|---------|-------|-----------|-------|--------------|-------|--------------|-------|--------|-------|
| | | Office | Home | Office | Home | Office | Home | Office | Home | Office | Home |
| Collected | tons | 22.11 | | 2.192 | | 28.217 | | 3.563 | | 56.022 | |
| | | 18.993 | 3.117 | 1.994 | 0.198 | 25.291 | 2.926 | 3.342 | 0.221 | 49.62 | 6.462 |
| | | | | | | | | | | | |
| Number of units collected | Unit | 1620 | | 752 | | 1340 | | 579 | | 4291 | |
| | | 1391 | 229 | 684 | 68 | 1189 | 151 | 543 | 36 | 3807 | 484 |
| | | | | | | | | | | | |
| Weight recycled | tons | 22.05 | | 2.192 | | 28.217 | | 3.563 | | 56.022 | |
| Weight reused | tons | 18.633 | | 1.506 | | 19.529 | | 2.886 | | 42.554 | |
| Ratio of reuse and material recycling | % | 84.5 | | 68.7 | | 69.2 | | 81 | | 76 | |

* The figures for CRT Displays and LCD Displays for office computers are combined figures from Mitsubishi Electric Information Technology Corp. and Mitsubishi Electric Corp. The figures for Desktops and Notebooks are from Mitsubishi Electric Information Technology Corp.

* Figures for home computers are figures from Mitsubishi Electric Information Technology Corp.

Eco-Products

Compliance with Chemical Substance Regulations

Implementing the Green Accreditation System and Lowering Risk to the Environment

The Mitsubishi Electric Group promotes green procurement on the basis of its Green Procurement Standards Guide, which was originally drafted in September 2000 and continues to be revised to accord with current laws and regulations. In April 2006, we implemented our Green Accreditation system, which is based on green procurement standards. Under this system, we evaluate suppliers of manufactured items to be used in products and indirect materials used in production, for their environmental initiatives and management of chemical substances incorporated in products. Those who meet our standards are certified as accredited suppliers. Through this system, we help to lower risk to the environment.

By the end of fiscal 2009, all of the suppliers included in the Green Accreditation system scope had been certified as green suppliers. We see this as the result of briefings and countless other exchanges we engaged in with suppliers who had failed to meet our standards by fiscal 2008. Looking ahead, we will work to make sure we maintain our 100% green supplier ratio.

Status of Compliance 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 has completely achieved compliance on the use of the six specific substances¹ regulated by the EU's RoHS Directive (enforced July 2006) as of December 2005. China's Administrative Measure on the Control of Pollution Caused by Electronic Information Products² went into effect on March 1, 2007. The first stage made it mandatory for labeling to include information on the six specified substances. Product labels must include the environmental period of validity (the period during which the product can be used without causing serious environmental pollution) and the manufacturing date. In fiscal 2007, we achieved compliance with these requirements.

The second stage of implementation has yet to begin, but such products as printers and mobile phones are to be included in the regulations.

To comply with these regulations, we are acquiring information on the inclusion of chemical substances in parts and materials, as well as non-usage certificates to ensure reliability. We are also continuing contamination prevention and traceability controls for the specified substances from a compliance standpoint, for example, by carrying out analysis ourselves on parts and materials with contamination risk, and confirming the presence or absence of the substances.

In fiscal 2009, we improved our analysis capabilities through an internal technology working group, and carried out a crosscheck of all the company's fluorescent X-ray analysis equipment. This check confirmed that all such equipment was delivering the analysis precision stipulated by the IEC³. In response to a trend toward reviewing unregulated items, we will replace currently used substances with alternatives, thereby ensuring compliance with these regulations.

- 1: The six specific 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 the so-called Chinese version of the RoHS Directive. These regulations were developed jointly by China's Ministry of Information Industry with six central government agencies, including the 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.
- 3: IEC: The International Electrotechnical Commission

Compliance with the REACH Policy

At the World Summit on Sustainable Development, held in September 2002, it was agreed that all countries should work to ensure "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. As a step toward achieving that goal, the EU implemented its REACH regulations¹ in June 2007. These rules require that data be gathered for a myriad of chemical substances used in not only chemical products but also electronic and electric products.

Responding to this and other chemical substance regulation developments spreading throughout the world, members of Japan's chemical industry came together to launch JAMP², the Joint Article Management Promotion consortium. The purpose of JAMP is to create a system for properly managing and communicating information on chemical substances included in all parts and raw materials used by both upstream chemical manufacturing industries and downstream product manufacturing industries. The consortium began to actively promote acceptance and adoption of its system in November 2008. As one of JAMP's founding members, Mitsubishi Electric Corporation (Japan domestic operations) is actively applying the JAMP information distribution scheme as it moves ahead with the construction of its internal system.

In fiscal 2009, Mitsubishi Electric held briefings on both the REACH regulations and JAMP activities for suppliers and business partners. In addition, we worked with European sales offices to establish a communications channel and procedures for responding to inquiries from EU customers, and affirmed common understanding of these steps in the European Regional Environmental Conference attended by representatives of European sales companies and the heads of corporate environmental sections. With the support of mother factories, we also completed the implementation of preliminary measures for registering chemicals used at European manufacturing sites by the mandated deadline.

Presently, in anticipation of stricter regulations moving forward, we are focusing on developing an internal management system capable of handling the over 4000 types of chemical substances covered by the JAMP report form.

- 1: EU regulations requiring the Registration, Evaluation, Authorisation and Restriction of Chemicals. Under REACH, companies must register and evaluate the safety of the approximately 30,000 types of chemical substances they sell in the EU. Information on regulated chemical substances³ 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 345 member companies (as of May 21, 2009) 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: Regulated chemical substances include carcinogens, chemicals that persist in the environment, and bio-accumulative substances. A list of 15 types of regulated chemical substances was released on October 28, 2008. Going forward, this list will be updated up to twice a year, and could ultimately exceed 1,000 items.

Fiscal 2009 Achievements

Eco-Products

Special Projects

The Mitsubishi Electric Group is applying know-how gained from using its own products, and energy-saving results, in developing environmentally beneficial businesses that help to lower environmental impact.

To achieve the 5th Environmental Plan objective of boosting sales in our environmentally beneficial businesses to ¥100 billion in fiscal 2011, we first established the intermediate goal of increasing sales 10% in fiscal 2009 (vs. fiscal 2008) and then went to work promoting sales of products and services targeting manufacturing industry customers that would be hit hard by tough regulations included in the revised Rationalization in Energy Use Law. More specifically, we developed regional strategies for every region of Japan, pursued projects based on cooperation across the Group, and implemented joint sales promotions. Examples of the latter included the preparation of product information on all of the Group's energy-saving products and services, and holding of seminars.

These efforts helped to increase net sales in our environmentally beneficial businesses by 18% year on year, to ¥99.5 billion in fiscal 2009, and allowed us to largely achieve our goal.

The revised Rationalization in Energy Use Law, which took effect on April 1, 2009, includes stricter energy management requirements for businesses and tougher energy-saving demands for home and building owners. Looking ahead, we aim to provide solutions that help businesses and individuals comply with the law.

In addition, with an eye toward achieving the CO₂ emission reductions from product usage and power generation targeted in Environmental Vision 2021, we will also pursue improvements in the energy efficiency of our products and work to expand adoption of our photovoltaic power generation systems.

Sales Promotion Measures for Fiscal 2009 in Energy-Saving Solution Businesses

Improvement of the Energy-Saving Support Site

To help make the Mitsubishi Electric Group's official website not only a source of information but also a tool for gathering inquiries and actively developing business discussions, we are making improvements to the energy-saving support section of our (Japanese domestic) website as necessary.

In fiscal 2009, we added a form that allows site visitors to easily submit inquiries from any page within the site, and took steps like revising the top page based on site access log data.

We intend to continue to update the website by providing more case examples and establishing links to related websites.



省エネサポートサイト

"Energy-Saving Support Site" page

Solutions Highlighted at Toyako Summit Exhibitions

The Mitsubishi Electric Group highlighted its environmental initiatives at the "Eco & Energy Exhibition" (Aspam Aomori Prefecture Tourist Center), the Integrated Exhibition of the Environment 2008 (Sapporo Dome), and the Zero Emission House event (Rusutsu Resort), all of which were held in June 2008. At each venue, we provided Japanese and overseas visitors with introductions to the steps the Mitsubishi Electric Group is taking to counter global warming and to the unique solutions we offer to help reduce CO₂ emissions.



Introductions to micro-grid and solar cell technology at the Eco & Energy Exhibition

The Mitsubishi Electric Group's booth at the Integrated Exhibition of the Environment 2008 welcomed over 2000 visitors.

Seminars for Corporate Customers

The Mitsubishi Electric Group held "Proactive Energy Conservation Seminars" in meeting rooms at the Electrical Construction Equipment and Materials Fair and the Energy Solution & Thermal Storage Fair, both of which were held at INTEX OSAKA in May 2008. The seminars included talks by speakers invited from The Energy Conservation Center, Japan and promotions of the Group's energy-saving activities and products.



Seminar in actively implementing energy conservation at production sites

Furthermore, in October 2008, we held a two-day residential seminar on actively implementing energy conservation measures at production sites. This seminar served as a venue for introducing the energy-saving activities, achievements, and know-how of Mitsubishi Electric Group works, and as an opportunity for brainstorming energy-saving approaches with customers.

Condensed Brochures

We make two kinds of condensed brochure that provide an overview of the Mitsubishi Electric Group's energy-saving products and services. One is for factories and the other is for buildings and stores. These brochures are updated every six months.

In addition, for fiscal 2009, we have issued a special "Energy Monitoring and Control" brochure in anticipation of company-level energy management requirements included in the revised Rationalization in Energy Use Law.



Brochure for plants



Brochure for buildings and stores



Energy Monitoring and Control

Eco-Manufacturing

▶ Preventing Global Warming

The Mitsubishi Electric Group is investing in high-efficiency equipment and other types of environmental facilities, increasing production line efficiency, and taking energy-saving measures at offices.

▶ Creating a Recycling-Based Society

In an effort to use limited resources effectively, the Mitsubishi Electric Group recycles waste and reuses water.

▶ Managing Chemical Substances

The Mitsubishi Electric Group uses its Chemical Substance Management System to properly manage and reduce releases of harmful chemical substances.

▶ Eco-Factory & Eco-Office Activities

Here, we report on initiatives aimed at lowering the environmental impact of offices and ultimately raise the quality of activities and management at all of our sites.

Eco-Manufacturing

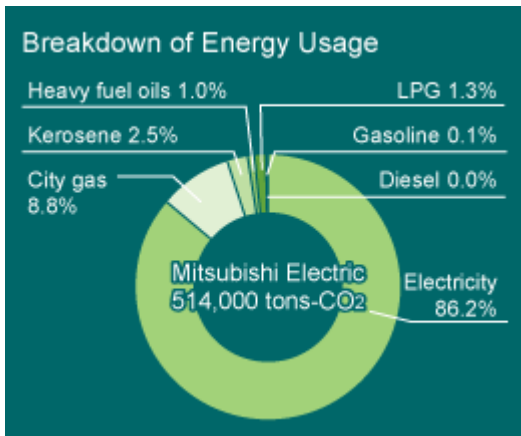
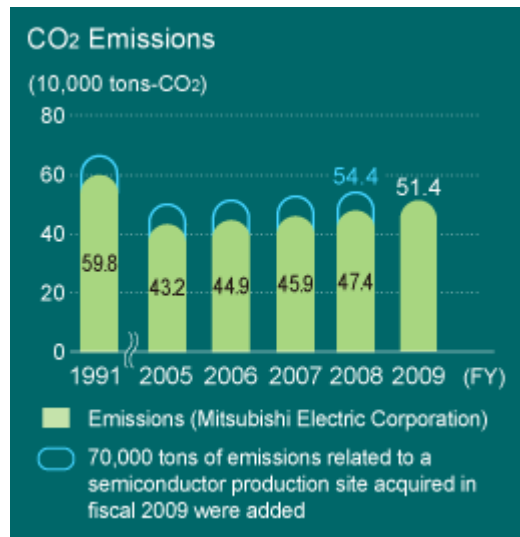
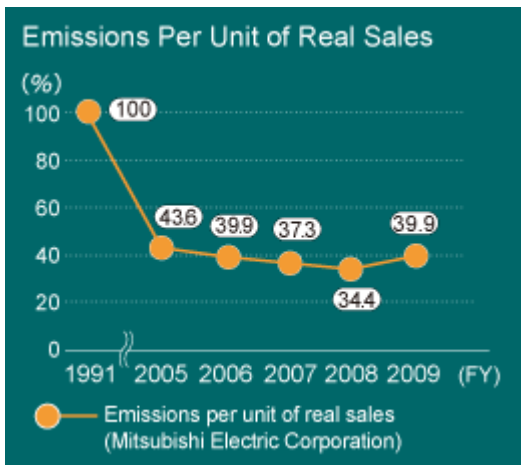
Preventing Global Warming

Target and Achievements for Production Sites in Japan (Including Research Labs)

Mitsubishi Electric has established a voluntary target of reducing its CO₂ emissions per unit of real sales¹ by 60% or more compared to fiscal 1991 at manufacturing sites in Japan (including research labs). The Company first achieved that goal in fiscal 2006, well ahead of the target date, and has maintained the same level of performance in the four years since. In fiscal 2009, CO₂ emissions per unit of sales were kept 60.1% below the base year. Implementation of the Energy Conservation Action Plan drafted in fiscal 2005 has been the primary factor enabling this kind of early and ongoing achievement of targets.

The Energy Conservation Action Plan consists of three types of measures—introducing high-efficiency equipment, undertaking Energy Loss Minimum (EM) activities², and moving ahead with fuel conversion. In fiscal 2009, Mitsubishi Electric invested a total of 2.85 billion yen in these measures, reducing CO₂ emissions by 11,000 tons in the process. Productivity improvement investments totaling 220 million yen cut CO₂ emissions an additional 3,000 tons, bringing the total to 14,000 tons. Counting the impact of lower production, total CO₂ emissions for fiscal 2009 fell 30,000 tons³, to 514,000 tons.

- 1: Emissions per unit of real sales is calculated by using product price indices to adjust sales revenue data. Doing this is thought to result in a closer approximation of CO₂ emissions per unit of production.
- 2: The objective of Energy Loss Minimum (EM) activities is to make energy usage visible at the factory, production process or facility level, and reduce losses.
- 3: Because a semiconductor factory was acquired in fiscal 2009, the related 70,000 tons in CO₂ emissions was also added to the emissions total for the prior year for comparison purposes.



Energy Conservation Action Plan

| Action Plan | FY2011 Reduction Target (tons-CO ₂) | FY2007 | | FY2008 | | FY2009 | |
|-------------------------------------|--|-------------------------|-------------------|-------------------------|-------------------|-------------------------|-------------------|
| | | Result | | Result | | Result | |
| | | Reduction | Investment | Reduction | Investment | Reduction | Investment |
| | | (tons-CO ₂) | (Millions of yen) | (tons-CO ₂) | (Millions of yen) | (tons-CO ₂) | (Millions of yen) |
| Install high efficiency equipment | 34,800 | 8,842 | 2,481 | 7,514 | 2,753 | 10,213 | 2,769 |
| Energy Loss Minimum (EM) activities | 8,000 | 890 | 156 | 454 | 153 | 605 | 50 |
| Fuel conversion | 3,200 | 320 | 25 | 4 | 2 | 136 | 28 |
| Total | 46,000 | 10,052 | 2,662 | 7,972 | 2,908 | 10,954 | 2,847 |
| Cumulative (from FY2005) | - | 22,746 | 5,787 | 30,718 | 8,695 | 41,672 | 11,542 |

CO₂ Emissions per Facility for Fiscal 2009
(Mitsubishi Electric's Six Facilities Highest Emissions)

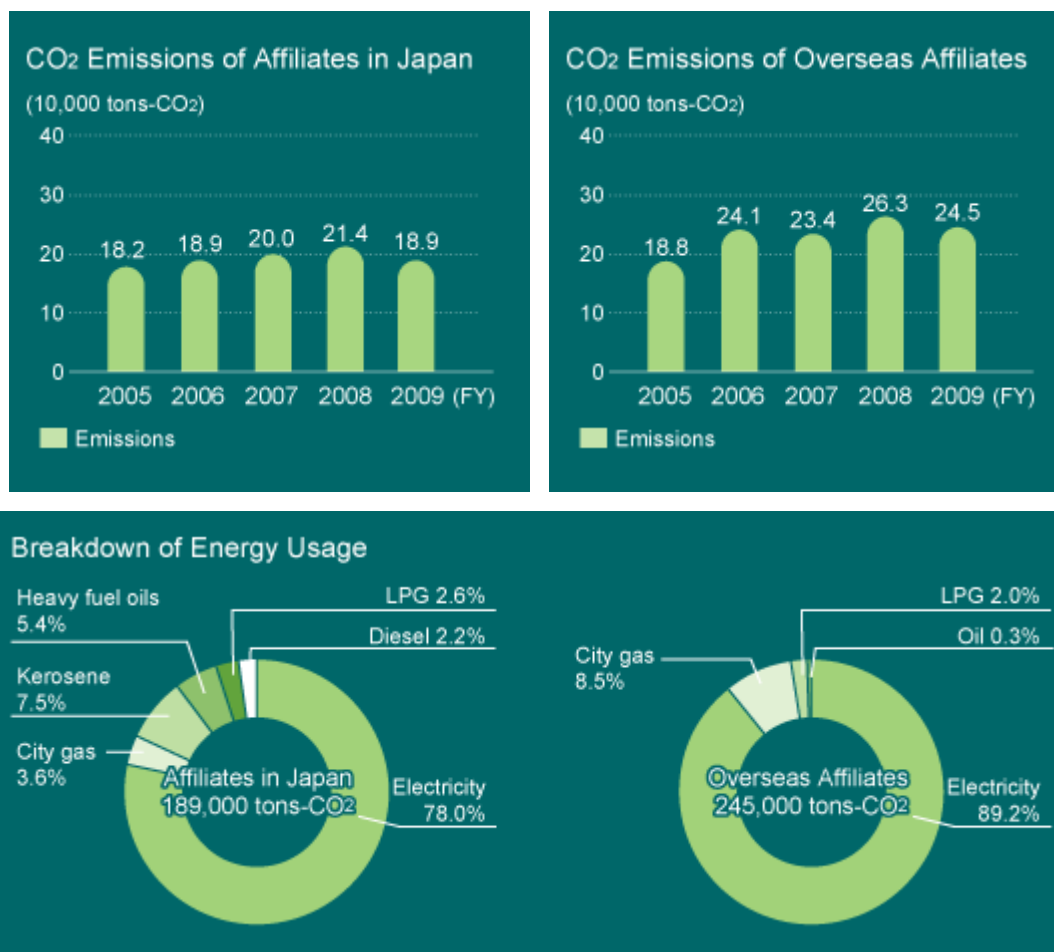


Targets and Achievements for Manufacturing Affiliates in Japan and Overseas

Mitsubishi Electric Group manufacturing sites, both in Japan and overseas, established the goals of reducing emissions per unit of real sales by 1% per year by fiscal 2009.

Manufacturing sites in Japan undertook efforts like updating boilers and air conditioning equipment, and limiting air conditioner usage. As a result, fiscal 2009 CO₂ emissions totaled 189,000 tons.

Overseas manufacturing sites replaced lighting fixtures with energy-efficient alternatives, relocated ceiling vents, and undertook other actions. As a result, fiscal 2009 CO₂ emissions totaled 245,000 tons.



Targets and Achievements for Offices

In pursuit of energy conservation activities in offices, Mitsubishi Electric's head office and branch offices established the goal of reducing emissions per unit of floor space by 1% per year by fiscal 2009. To conserve energy in office environments, various steps were taken, such as turning off all lights during lunch break and having employees shut down PCs when they leave their desks. As a result, the Company managed to reduce its fiscal 2009 CO₂ emissions by 3,685 tons* and reduce its emissions per unit of floor space by 0.7% versus the prior year. Going forward, the Company will expand EM activities making use of eco-monitors (energy measurement devices) in a bid to put IT to work in achieving even greater office energy conservation.

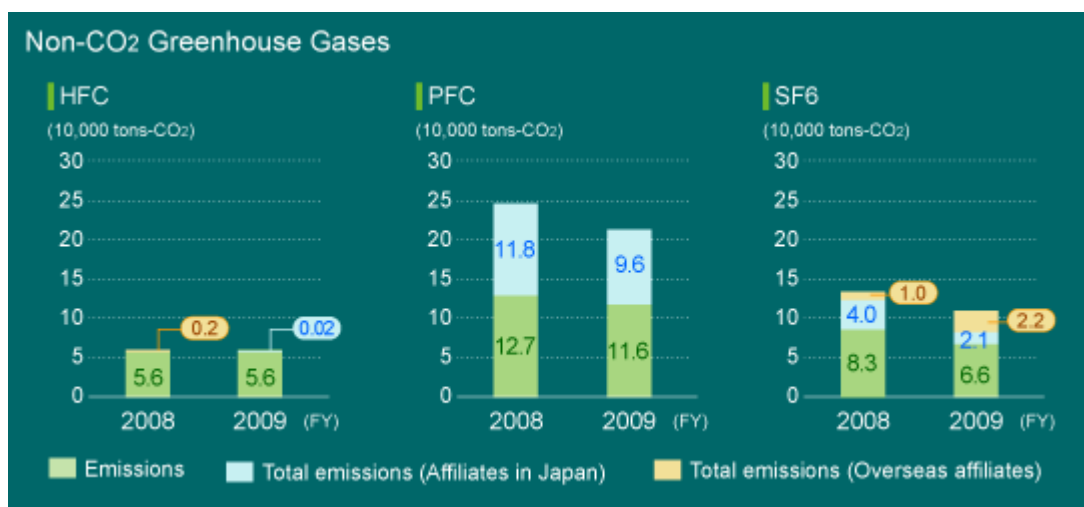
* Electricity usage for lighting and at wall outlets.

Reducing Emissions of Non-CO2 Greenhouse Gases

Non-CO2 greenhouse gases Mitsubishi Electric emits through its business activities include a refrigerant used in air conditioners and refrigerators; perfluorocarbon (PFC), an etching gas used in making products like semiconductors and liquid crystals; and SF6 (sulfur hexafluoride), an electrical insulating gas used in gas insulated switchgears.

Regarding SF6, in particular, which has a very high global warming potential (23,900 times that of CO2), the Mitsubishi Electric Group's emissions declined 2.4 tons (18%), from 13.3 tons in fiscal 2008 to 10.9 tons in fiscal 2009. Emissions increased by 1.2 tons compared with fiscal 2008 results for all overseas affiliates, but decreased by 1.7 tons at Mitsubishi Electric and by 1.9 tons for all affiliates in Japan. These decreases resulted from proactive measures like the enhancement of gas recovery devices and reduction of leaks through the upgrading of aging facilities at both Mitsubishi Electric and affiliates in Japan. At overseas affiliates, leaks resulting from the aging of gas recovery devices and other equipment accounted for increased emissions. Problem devices and equipment have already been upgraded to prevent future leaks.

Moving forward, we will continue our efforts to reduce greenhouse gas emissions by lowering the use of greenhouse gases and introducing highly efficient gas recovery technology throughout the Mitsubishi Electric Group.



Eco-Manufacturing

Creating a Recycling-Based Society

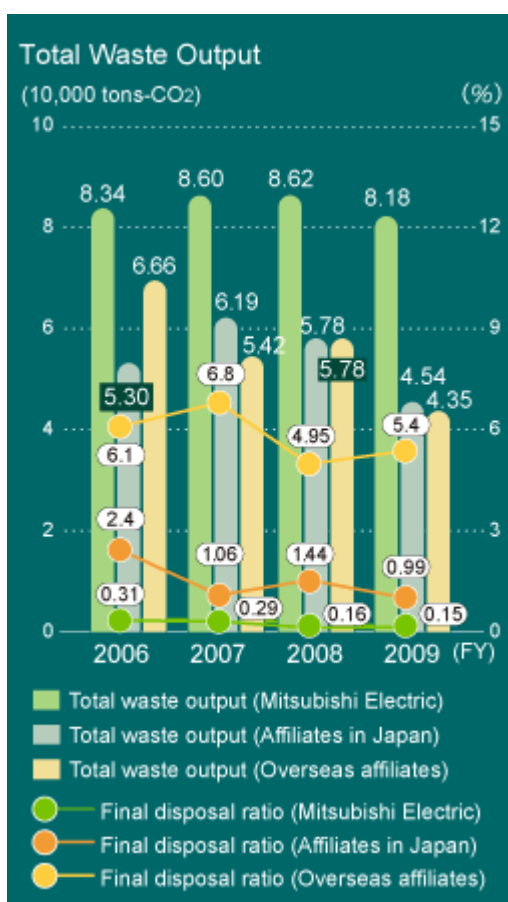
Zero Emission Initiatives

Under its 5th Environmental Plan, the Mitsubishi Electric Group has been working toward the goals of reducing the amount of directly landfilled waste to 0.5% or less of total waste at manufacturing sites in Japan, and 1% or less at manufacturing affiliates in Japan.

In fiscal 2009, directly landfilled waste as a percentage of total waste came to 0.15% at manufacturing sites in Japan—the seventh consecutive year of results of 1% or less and the fifth consecutive year of results of 0.5% or less. Manufacturing affiliates in Japan achieved significant progress in cutting their final disposal volume to 0.99% of total waste, and achieving their goal, through steps like recycling glass and recovering thermal energy from waste plastic (using waste plastic as a fuel for producing thermal energy). Meanwhile, the final disposal rate for overseas manufacturing sites increased versus the prior year, to 5.4%. To reduce this figure moving forward, waste management at these facilities will be examined in detail and appropriate measures will be taken.

Environmental Vision 2021 includes the goal of reducing the final disposal rate to less than 0.1% at all Group sites. As milestones on the way to achieving that goal, the 6th Environmental Plan 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, and steps aimed at achieving each of those targets are being taken.

For a more detailed description of our zero emissions activities, please see the Environmental Topic: Towards Zero Emissions



Promoting the Recycling and Reuse of Water at Business Sites

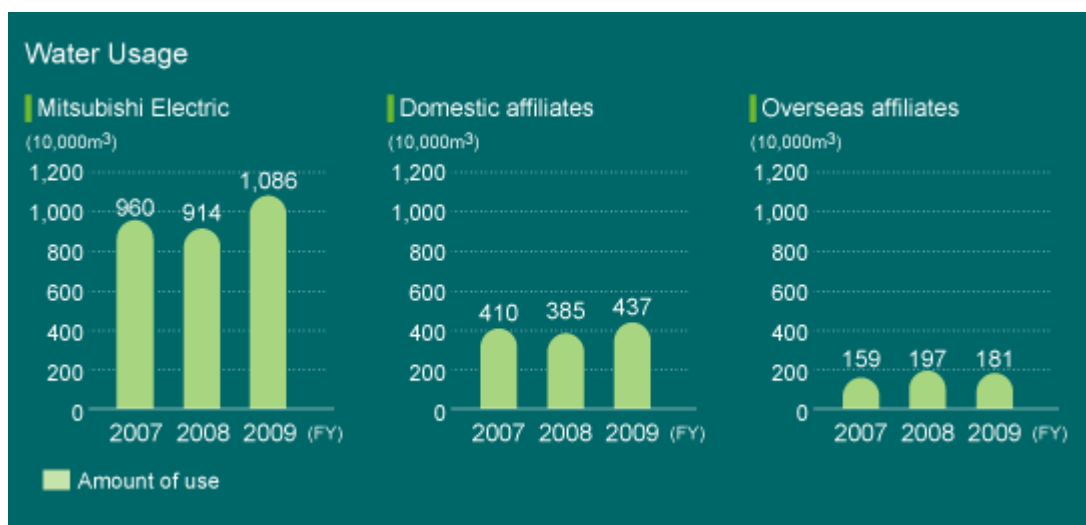
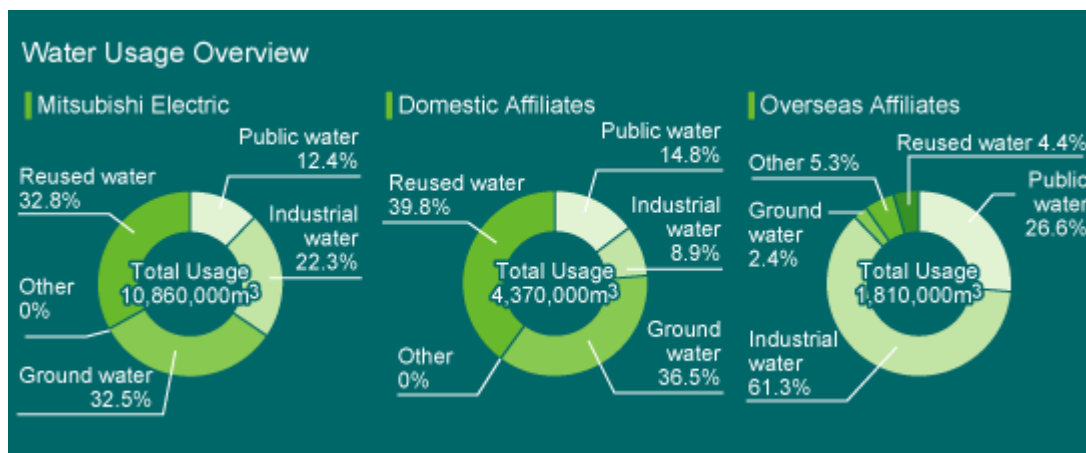
In its 5th Environmental Plan the Mitsubishi Electric Group set forth the goal of re-investigating and reconfirming how water is used at each business site and affiliated company, and formulating and promoting measures for more effective water usage. The goal of this initiative is to promote recycling and reuse of public water, industrial water, groundwater, and other precious water resources at manufacturing sites.

In fiscal 2009, Mitsubishi Electric used 10.86 million m³ of water, 18.8% more than the 9.14 million m³ used the previous year. The primary cause of this increase was a newly acquired semiconductor factory, which added 2.21 million m³ of water to the total. Had that site not been acquired, Mitsubishi Electric's water usage would have come to 8.65 million m³, or slightly less than the previous year's total. That reduction, on a comparable basis, resulted from water conservation measures at factories and offices, and from lower production.

The volume of water recycled for reuse in fiscal 2009 came to 3.56 million m³, compared to 2.85 million m³ in the previous fiscal year. That put the water reuse rate at 32.8% for fiscal 2009, a 1.6 percentage point increase produced by ongoing efforts to recycle public and industrial water over the year.

Water usage by affiliates in Japan grew 13.5%, to 4.37 million m³, from 3.5 million m³ the previous fiscal year. This increase was caused mainly by the inclusion of a greater number of organizations in the reporting scope and by a greater need for purified water in the washing process for liquid crystal displays, production of which was increased by the semiconductor segment.

Going forward, Mitsubishi Electric will continue its efforts to use water effectively by reducing usage, reusing wastewater, and advancing other such measures at factories and offices.

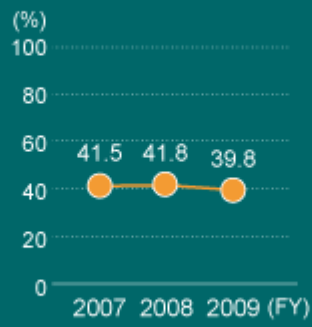


Recycled Water Percentage

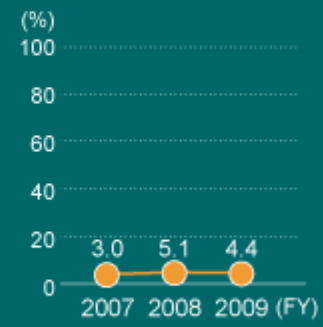
Mitsubishi Electric



Domestic affiliates



Overseas affiliates



● Recycled water percentage

TOPICS

Repeated reuse of wastewater at a factory to greatly reduce water usage and wastewater discharge

Headquartered in Thailand, Mitsubishi Elevator Asia Co., Ltd. (A-MEC) manufactures passenger elevators, escalators, and moving walkways. Beginning around 2000, its production volume began to rise and so too the volume of wastewater treated at its factory. In response, the company decided to introduce a system for recycling and reusing water.

One of the company's production lines, that for polishing coatings, requires water that has low electrical conductivity, hinders the formation of rust, and is largely free of impurities. An expensive reverse osmosis (RO) system*, therefore, is used to produce the required water.

[Improvement Overview]

The following measures are used to treat wastewater from the polishing process.

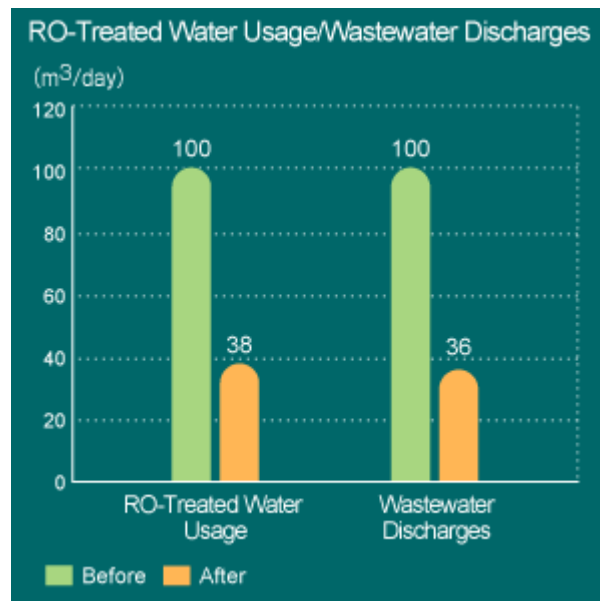
- 1) The electrical conductivity of wastewater from the polishing process is automatically measured. Water falling below the required threshold is sent back for reuse in the polishing process.
- 2) When electrical conductivity is above the required threshold, an alarm sounds and a valve is switched to send the water to the wastewater processing facility.

[Impact]

Over 60% reductions were achieved in both usage of RO-treated water and wastewater discharges. Going forward, the Company will seek to reuse water on an even greater scale within its factory.



Equipment for processing wastewater for reuse



Impact (Reduced water usage and wastewater discharge)

* Reverse osmosis systems force water through a filter that removes ions, salts, and other impurities. They are used, for example, to produce drinking water from seawater.

Eco-Manufacturing

Managing Chemical Substances

Reducing the Release of Chemical Substances

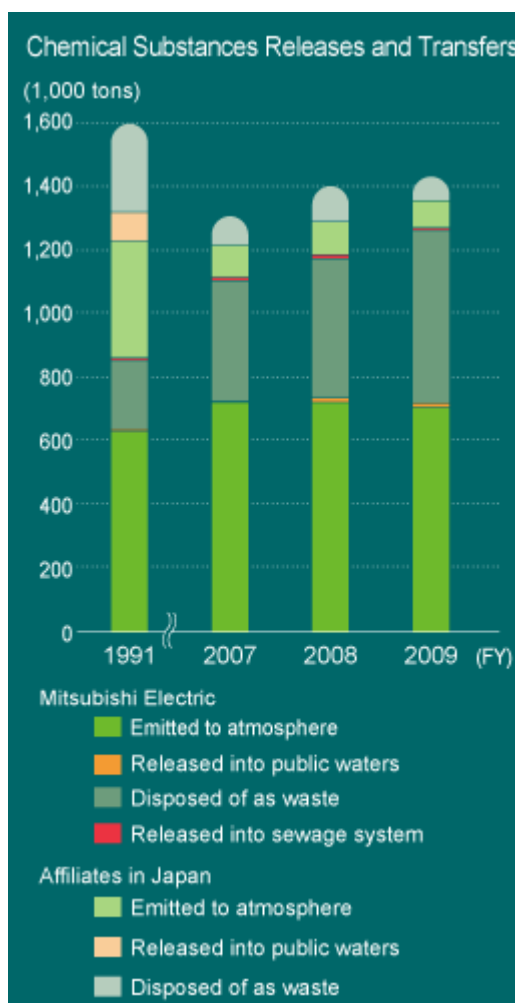
The Mitsubishi Electric Group's production facilities in Japan have been managing chemical substances on a voluntary basis since 1997.

We currently manage a total of 580 substances: 354 PRTR-designated substances¹ and 226 others managed voluntarily. These include refrigerant fluorocarbons (HFC² and HCFC³) used in air conditioners and refrigerators, volatile organic compounds, and the six RoHS substances.

Looking ahead to implementation of the revised PRTR Law in 2010, we are updating our list of controlled chemical substances.

The graph on the right shows chemical substance releases and transfers for fiscal 2009. The top ten chemical substances in terms of release and transfer volume handled by the Group are shown in the tables below.

The Group's highest priority concerning chemical substances is reducing releases of styrene, xylene, and other VOCs. To date, we have used alternative substances wherever possible. Under the 6th Environmental Plan, however, we are working to develop and apply new substitute technologies with the aim of holding VOC releases 40% below the 845-ton level recorded in fiscal 2001.

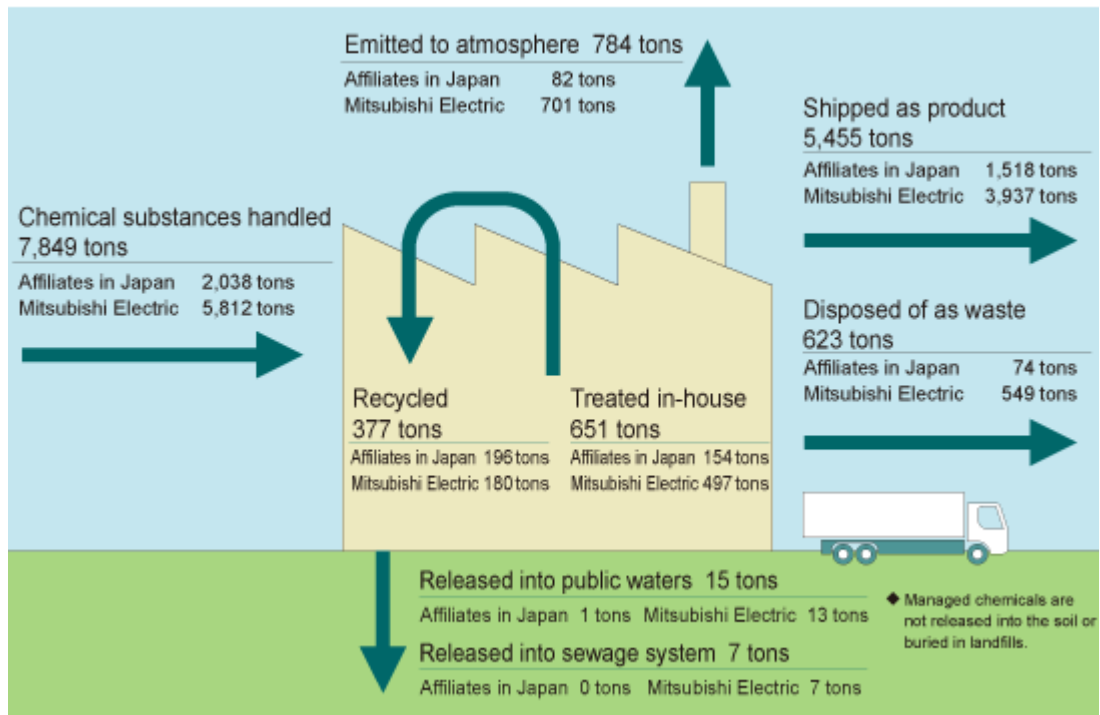


1: PRTR: Pollutant Release and Transfer Register, a system to collect and disseminate information on the release and transfer of toxic chemicals into the environment.

2: HFC: hydrofluorocarbon

3: HCFC: hydrochlorofluorocarbon

Material Balance of Chemical Substances Subject to Regulation



Mitsubishi Electric Group Chemical Release/Transfer Ranking (for Fiscal 2009)

(Mitsubishi Electric)

Unit: tons

| Rank | Chemical | Volume Handled | Release | Release | | |
|------|---|----------------|----------|---------|---------------|------|
| | | | Transfer | Air | Public waters | Soil |
| 1 | 1,1,1,2,2-Pentafluoroethane | 1,520 | 32 | 24 | 0 | 0 |
| 2 | Difluoromethane | 1,510 | 28 | 22 | 0 | 0 |
| 3 | Isopropyl alcohol | 754 | 410 | 130 | 0 | 0 |
| 4 | Polymer of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid) | 325 | 15 | 0 | 0 | 0 |
| 5 | Styrene | 258 | 126 | 97 | 0 | 0 |
| 6 | Hydrogen fluoride and other water soluble salts | 169 | 21 | 0 | 5 | 0 |
| 7 | Sulfur hexafluoride | 156 | 12 | 12 | 0 | 0 |
| 8 | Xylene | 142 | 111 | 94 | 2 | 0 |
| 9 | Butyl acetate | 134 | 129 | 35 | 0 | 0 |
| 10 | Toluene | 121 | 101 | 90 | 1 | 0 |

| Rank | Chemical | Transfer | | | Treated in-house | Recycled |
|------|---|----------|---------------|----------|------------------|----------|
| | | Waste | Sewage system | Consumed | | |
| 1 | 1,1,1,2,2-Pentafluoroethane | 8 | 0 | 1,482 | 21 | 7 |
| 2 | Difluoromethane | 6 | 0 | 1,474 | 20 | 7 |
| 3 | Isopropyl alcohol | 280 | 0 | 18 | 320 | 0 |
| 4 | Polymer of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid) | 15 | 0 | 301 | 6 | 3 |
| 5 | Styrene | 29 | 0 | 131 | 0 | 0 |
| 6 | Hydrogen fluoride and other water soluble salts | 15 | 1 | 0 | 45 | 102 |
| 7 | Sulfur hexafluoride | 0 | 0 | 140 | 2 | 1 |
| 8 | Xylene | 14 | 1 | 29 | 4 | 1 |
| 9 | Butyl acetate | 94 | 0 | 0 | 1 | 1 |
| 10 | Toluene | 10 | 0 | 4 | 1 | 16 |

(Affiliates in Japan)

Unit: tons

| Rank | Chemical | Volume Handled | Release | Release | | |
|------|---|----------------|----------|---------|---------------|------|
| | | | Transfer | Air | Public waters | Soil |
| 1 | Styrene | 443 | 4 | 1 | 0 | 0 |
| 2 | Polymer of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid) | 345 | 6 | 0 | 0 | 0 |
| 3 | 2-aminoethanol | 222 | 0 | 0 | 0 | 0 |
| 4 | Toluene | 114 | 53 | 40 | 0 | 0 |
| 5 | Methanol | 113 | 13 | 0 | 0 | 0 |
| 6 | Methyl ethyl ketone | 96 | 11 | 0 | 0 | 0 |
| 7 | Xylene | 84 | 32 | 29 | 0 | 0 |
| 8 | Maleic anhydride | 81 | 4 | 0 | 0 | 0 |
| 9 | Phenol | 77 | 2 | 0 | 0 | 0 |
| 10 | Tetrahydromethylphthalic anhydride | 73 | 1 | 0 | 0 | 0 |

| Rank | Chemical | Transfer | | | Treated in-house | Recycled waste |
|------|---|----------|---------------|----------|------------------|----------------|
| | | Waste | Sewage system | Consumed | | |
| 1 | Styrene | 3 | 0 | 421 | 17 | 0 |
| 2 | Polymer of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid) | 6 | 0 | 339 | 0 | 0 |
| 3 | 2-aminoethanol | 0 | 0 | 33 | 1 | 189 |
| 4 | Toluene | 13 | 0 | 43 | 17 | 1 |
| 5 | Methanol | 13 | 0 | 71 | 28 | 0 |
| 6 | Methyl ethyl ketone | 11 | 0 | 61 | 24 | 0 |
| 7 | Xylene | 3 | 0 | 49 | 3 | 1 |
| 8 | Maleic anhydride | 4 | 0 | 77 | 0 | 0 |
| 9 | Phenol | 2 | 0 | 76 | 0 | 0 |
| 10 | Tetrahydromethylphthalic anhydride | 1 | 0 | 72 | 0 | 0 |

Eco-Manufacturing

Eco-Factory & Eco-Office Activities

Developing Eco-factory and Eco-office Evaluation Indicators

The Mitsubishi Electric Group outlined its "Eco-factory and Eco-office" stance in its 5th Environmental Plan. The plan extends environmental impact reduction activities that so far focused on factories to offices in order to elevate activity and management-level quality at business sites.

In fiscal 2007, we established Eco-factory and Eco-office indicators, performed quantitative assessments of latent environmental risks at factories and offices to make them visible, and conducted trial evaluations of five manufacturing sites. In fiscal 2008, we expanded coverage of these assessments and evaluations to all Group sites. We then revised our Eco-factory standards in fiscal 2009, and determined that improvements had been made based on assessments conducted using five indicators: environmental management, resource recycling, factory energy conservation, product energy conservation, and environmental awareness. For offices, we confirmed that environmental audits are helping to achieve progress in promoting orderly organization and the separation and recycling of waste.

We concluded our Eco-factory and Eco-office activities in fiscal 2009 to turn our attention to activities incorporated in new initiatives under the 6th Environmental Plan, which took effect with fiscal 2010. These new initiatives are consistent with the framework of Environmental Vision 2021.

Eco-Logistics

Preventing Global Warming

Lessening CO₂ emissions from logistics through the promotion of JIT (Just in Time) activities in logistics, efficient transport, and optimization of the transportation stage.

Saving on Distribution Materials

Minimizing resources through actively using less packaging and recycling packing materials.

Eco-Logistics

Preventing Global Warming

Reducing CO2 Emissions in Product Distribution

The Mitsubishi Electric Group is promoting Just-in-Time (JIT) activities to improve logistics. These activities quantify logistics work to make it visible and open the door to greater efficiency and economy by eliminating irrational, irregular, and wasted efforts. They also help to reduce environmental impact.

One of our Group goals in Japan under the 5th Environmental Plan was to reduce our fiscal 2009 CO2 emissions 30% per unit of shipping weight compared to fiscal 2003. For overseas Group members, our efforts have been focused on expanding the scope of companies where this data is gathered.

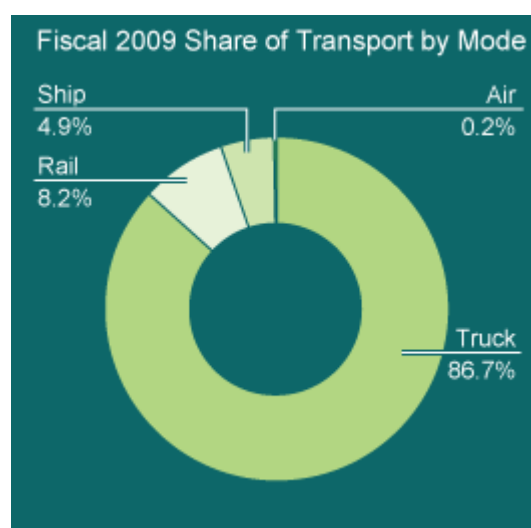
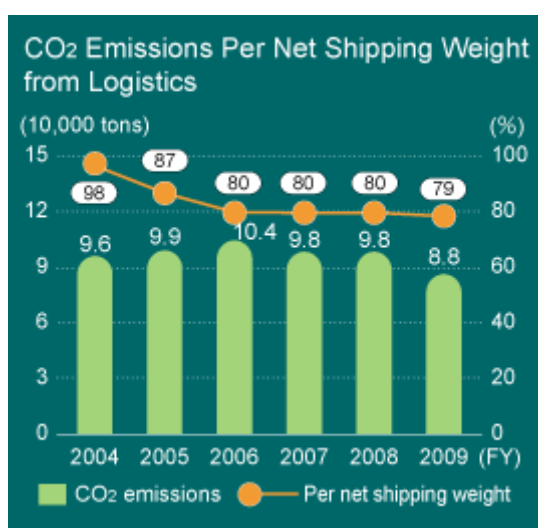
In fiscal 2009, the Group in Japan emitted a total of 88,000 tons of CO2. That amount reflects only a 21% reduction per unit of shipping weight compared to fiscal 2003, so we did not achieve our Group objective for within Japan. It should be noted, however, that Mitsubishi Electric Corporation on its own registered a 32% reduction, surpassing the goal. This achievement resulted from continuous efforts to improve truck loading efficiency by making products more compact, to reduce the number of trucks used, and to employ the modal shift concept. (Specific examples are given in the "Topics" section, below).

Outside Japan, we succeeded in expanding the number of companies where logistics-related CO2 data is gathered to 19 (from 13 in fiscal 2008).

Under the 6th Environmental Plan, we will take actions aimed at achieving the total CO2 emissions reduction objectives included in Environmental Vision 2021.

Specific objectives for the fiscal 2010-2012 timeframe include a 3% fiscal 2009 CO2 emissions reduction by Mitsubishi Electric Corporation and each of its affiliates in Japan, and expansion of the number of overseas affiliates gathering logistics-related CO2 data, while also increasing the level of detail covered.

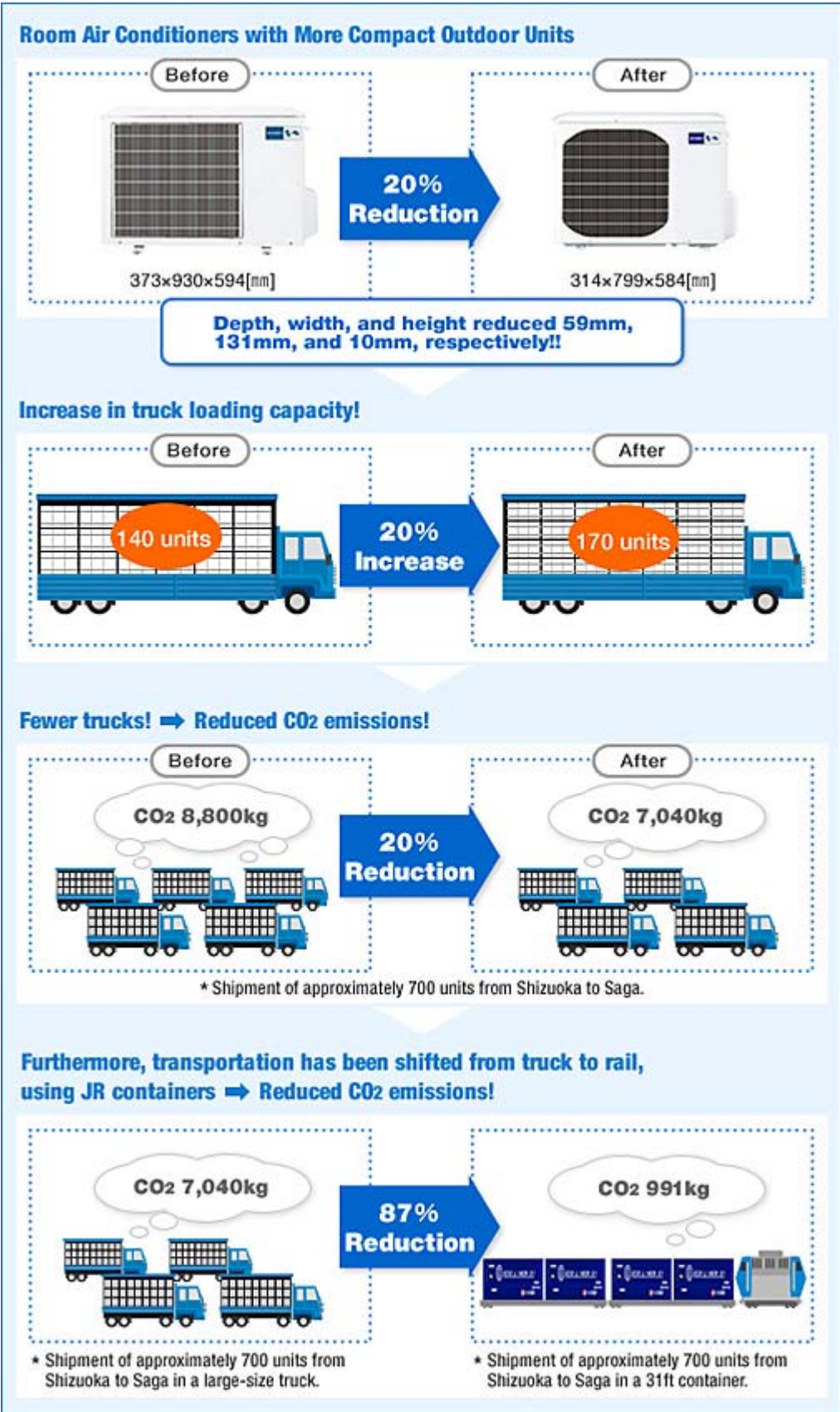
* Data compiled for Mitsubishi Electric and affiliates in Japan with environmental plans.



TOPICS: CO2 Emissions Reduction Example 1

Increasing Truck Loading Efficiency through More Compact Products

The smaller and lighter products are, the greater the number that can be loaded onto a truck. Mitsubishi Electric's efforts to increase loading efficiency begin at the product development stage. Its success in reducing the size of the outdoor units of air conditioners by 30%, for example, allowed it to increase the number of units that can be loaded onto a 10-ton truck from 140 to 170. That equals a 20% increase in loading efficiency. Therefore, it now takes only four trucks to move 700 units, instead of the previous five. The increase in loading efficiency also means that transporting air-conditioning units from the production site in the City of Shizuoka to the distribution center in Tosu City, Saga Prefecture emits 20% less CO₂. Moreover, switching the mode of transportation to rail reduces CO₂ emissions by 87%.



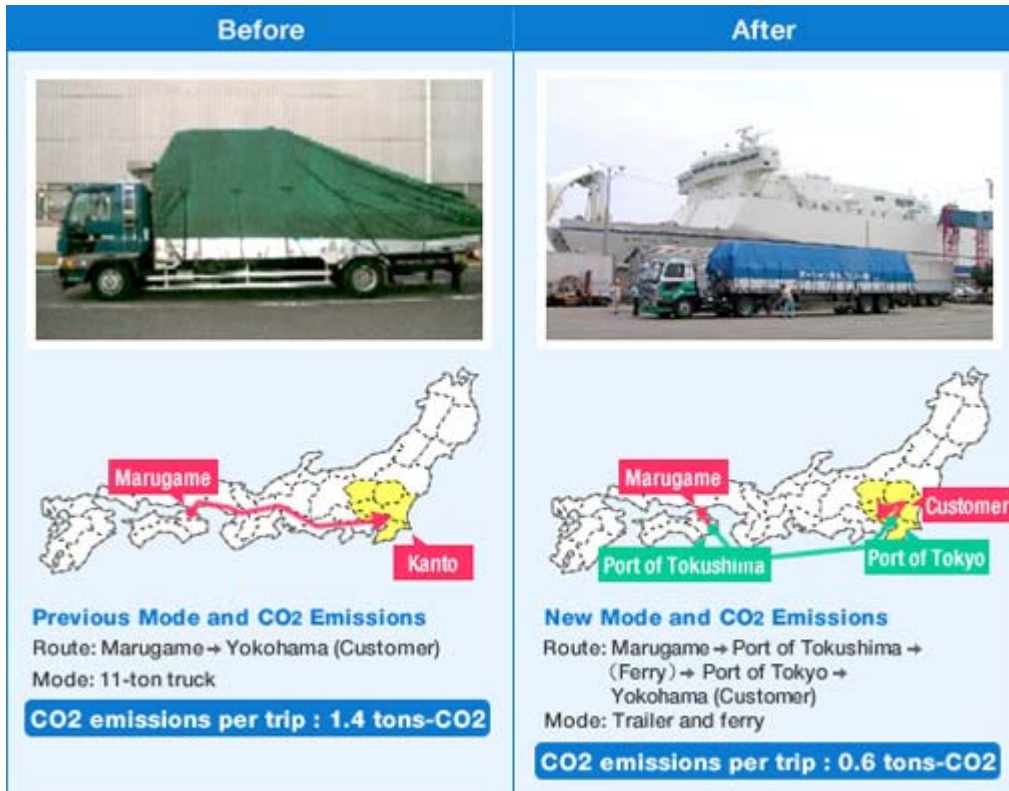
TOPICS: CO2 Emissions Reduction Example 2

Modal Shift — Shift from truck transportation to oceangoing ferry

In the past, product shipments consisted of sending an 11-ton truck from the Power

Distribution Systems Works in Marugame City, Kagawa Prefecture over the Seto-Ohashi Bridge and long stretches of Honshu highways to Tokyo. In examining ways to reduce logistics-related CO2 emissions, it was determined that the height of power distribution equipment made transportation by rail impossible. After further examination, however, it was decided that oceangoing ferries would be tried and that method is now being employed in a route that runs through the ports of Kitakyushu, Tokushima, and Tokyo.

More specifically, products are loaded onto truck trailers at the Marugame production site and taken to the Port of Tokushima, where the trailers are loaded onto ferries. From there, the ferries take the trailers to the Port of Tokyo, where they are offloaded and driven to the customer's warehouse. This improved transportation approach reduces CO2 emissions by 0.8 tons per trip and serves as an inspiring example of a logistics improvement that reduces environmental impact.



Eco-Logistics

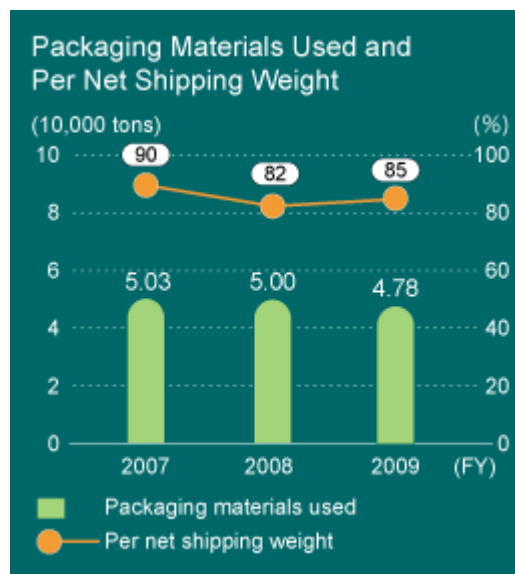
Saving on Distribution Materials

Reduction in Packaging Material Usage

Mitsubishi Electric's basic policy regarding packaging material is to use the least amount necessary to protect products and deliver them safely to customers. Recent regulatory updates regarding packaging materials, both inside and outside Japan, require that packaging material be reduced, reused, and recycled (3Rs). In response, the Company set the goal of reducing its amount of disposable packaging per unit of shipping weight by 10% (vs. fiscal 2005) in its 5th Environmental Plan. Continuous efforts to meet that goal resulted in success in fiscal 2007, and further reductions have been achieved since.

The Mitsubishi Electric Group reduced the amount of packaging it used per unit of shipping weight by 15% in fiscal 2009 (total used: 48,000t), meeting its goal under the 5th Environmental Plan. In addition, working to increase the scope of overseas affiliates for which data is gathered, the Group increased the number of companies covered from 20 in fiscal 2008 to 23 in fiscal 2009.

Under the 6th Environmental Plan, Mitsubishi Electric Corporation and its affiliates in Japan will strive to simplify packaging (reduce), expand their use of returnable containers and optimized packaging (reuse), and recycle used packaging material (recycle) to achieve the goal of reducing the amount of packaging per unit of shipping weight by 10% compared to fiscal 2009. For overseas affiliates, the Group aims to achieve progress in determining packaging material usage and product shipment volumes, and set activity objectives.



TOPICS: Packaging Material Reduction Example

Improvements in Packaging Aurora Vision Exports

Aurora Vision (called "Diamond Vision" outside Japan) is the name of giant video display products installed in places like the Tokyo Race Course, a horse racing facility in the City of Fuchu, Tokyo, and Yankee Stadium in the United States. Aurora Vision displays consist of LED (light-emitting diode) modules that are manufactured at the Nagasaki Works. These modules are shipped from Nagasaki and assembled on-site. Traditionally, each module was packed in double-walled, reinforced cardboard in a way that permitted handling by forklifts and other machinery. Disposing of this cardboard was a problem that followed each installation.



Switching to steel containers for packaging now makes it possible to dispose of packing material as a saleable material. To efficiently promote packing improvements, Mitsubishi Electric Corporation is holding practical improvement meetings for key packaging personnel at each of its manufacturing sites. These meetings are being held one by one and focus on each site's products. At the same time, the Company is holding mutual production floor inspection and information exchange meetings to promote logistical improvements. The idea of changing packaging materials, mentioned above, came out of an inspection of the Marugame (Kagawa Prefecture) production site's packaging facility, which was held in connection with a meeting of key packaging personnel. Steel container specifications were noted at the Marugame production site and taken back to Nagasaki, where they were used to improve that site's packaging.

Before



After



TOPICS: Award Recognition

Received for Dust-Preventing Pulp Mold Packaging

Mitsubishi Electric Corporation, together with its logistics subsidiary, Mitsubishi Electric Logistics Corporation, has adopted the use of pulp-mold packaging for electronic devices, which are sensitive to dust. As recognition of the benefits of this move, the two companies received the Good Packaging Award at the Japan Packaging Institute's Japan Packaging Contest in fiscal 2009.

In the past, pulp mold packaging was avoided for electronic products because of concerns that it could give off dust as a result of shaking during transport. Mitsubishi Electric Corporation, however, developed a pulp mold manufacturing process that prevents the formation of paper dust from shaking, and now employs the new pulp mold in packaging for electronic products (power modules). This new process has also made it possible to use less layered-cardboard packaging, reduce storage space, and simplify packaging work. Furthermore, the ability to collect and reuse pulp mold trays in a closed-loop recycling scheme has also made it possible to provide environmentally compatible packaging.



Environmental Communication

UK: Promoting the "Green Gateway Initiative," a Response to Reducing CO2 Emissions

In November 2007, the UK put into effect the world's first climate change law. The law establishes the goals of reducing CO2 emissions 26% by 2020 and 60% by 2050. Since that law took effect, various needs for reducing energy consumption and holding down CO2 emissions have emerged.

Mitsubishi Electric Europe, B.V. (MEU)'s response to this challenge to reduce CO2 emissions is called the "Green Gateway Initiative." In the UK, buildings account for approximately 40% of all energy consumption, so MEU have put forth specific plans based on ideas and approaches for reducing CO2 produced by heating, air conditioning, and ventilation equipment.

The contributions of the Green Gateway Initiative activities have drawn positive responses, and MEU is now the only air conditioning equipment manufacturer certified as a partner of the European Commission's Sustainable Energy Europe Campaign, which aims to promote and develop markets for energy technologies for sustainable development.



MEU promotion of the Green Gateway Initiative advocates 10 initiatives, including the "replacement of old facilities" and the "utilization of heat pumps for heating".



Green Gateway Initiative official Website 



MEU is recognized as a partner of the EC's Sustainable Energy Europe Campaign

Philippines: Eco-Products International Fair 2009

The 2009 edition of the Eco-Products International Fair, the largest exhibition for environmental goods in the Asia-Pacific region, was held March 19-22 in the Philippine capital of Manila. The Mitsubishi Electric Group participated in the exhibition, displaying elevators, air conditioning, photovoltaic power generation, FA (factory automation), recycling technology, and other products, attracting many visitors, including President Arroyo.

With around 83,500 event visitors, heightened environmental awareness was clearly evident.



Mitsubishi Electric presentations consistently drew large crowds.



President Arroyo at the Mitsubishi Electric booth, listening intently to an explanation of environmental considerations incorporated into air conditioners.



An experiment in separately collecting different types of plastic drew strong interest.

Voice

The Philippines is blessed with abundant nature and is a favored destination of travelers in Asia. With the Earth continuing to warm, awareness of the need to protect our beautiful natural endowments is growing among our people. For the exhibition, I believe preparations carried out in cooperation with the Group and head office resulted in a booth that succeeded in attracting a wide range of visitors. The Mitsubishi Electric Group will continue making "Changes for the Better" and working for the benefit of both society and the environment.



Marjorie I. Eugenio
International Elevator &
Equipment, Inc. (IEE)

**America: Establishing a "Green Team" and Focusing on Eco-Activities.
ECO-FAIR 2009 on Earth Day**

The Cypress Office of Mitsubishi Electric USA established a Green Team in December 2007. Consisting of 11 members, the team is working to reduce waste, promote recycling, and create an ecologically compatible working environment.

The Green Team led preparations for ECO-FAIR 2009, which was held in the MEUS Cypress Office parking lot on April 22, 2009, Earth Day. Companies selling eco-products or pursuing environment-related activities in the local community were invited to participate in the event, which served as a venue for increasing the environmental consciousness of employees and promoting good relations with local residents. ECO-FAIR 2009 also drew coverage from the local newspaper.



Poster for ECO-FAIR 2009 held on Earth Day



Fifteen local companies, including photovoltaic power generation system integrators, recyclers, and organic restaurants, participated in ECO-FAIR 2009.



Over 100 types of plants were sold at the fair, with proceeds donated as a part of philanthropic activities.



Newsletter issued by the Green Team. The team is promoting energy conservation through measures like turning off lights, computers, and monitors.



Mugs and cups were distributed to all employees. Plates and other items were exchanged for 100% biodegradable substitutes.

China: Tree-Planting Activities in Shanghai

The Mitsubishi Electric Group participated in tree-planting activities held along the Suzhou River in Shanghai China on September 6, 2008. Participation in this event served not only as a way for the Group to meet its responsibilities as a corporate citizen, but also work together with local residents to contribute to the community and protect the environment.

Shanghai, the host city for Expo 2010, has been systematically working to improve the environment under a 10-year greenification and environmental construction plan it began to implement in 1998. The Group has established most of its local affiliates in Shanghai and will continue to actively participate in local tree-planting activities.



Volunteer tree-planting activities

International Climate Champions Tour at the Kyoto Works

On May 20, 2008, six International Climate Champions* from six different countries visited the Kyoto Works, where they were given tours of photovoltaic power generation system assembly and television recycling operations. International Climate Champions are young people (age 16-21) who are highly conscious of climate change and work to promote understanding of it. Three days after visiting the Kyoto Works, the International Climate Champions visited the G8 Environment Ministers' Meeting held in Kobe, and announced their determination to advance climate change measures. For its part, the Mitsubishi Electric Group intends to continue communicating information on its environmental technologies to younger generations.

* International Climate Champions are young people who are citizens of countries that have ratified the United Nations Framework Convention on Climate Change and promote understanding of climate change based on their own research.



International Climate Champions receiving an explanation of the television disassembly process at the HCS Kyoto branch factory recycling plant.



"Do residential photovoltaic power generation systems create enough electricity to meet all the residents' needs?" "To what extent have they taken hold in Japan?" . . . There were numerous questions.

Material Balance

Overall Environmental Impact

Mitsubishi Electric Group: 76 affiliates in Japan, and 24 affiliates overseas



IN

| Materials for Manufacturing | | | |
|--|--------------------------|-------------------------|--------------------------|
| | Mitsubishi Electric | Affiliates (Japan) | Overseas Affiliates |
| Materials ¹ | 600,000 tons | 90,000 tons | 510,000 tons |
| Manufacturing | | | |
| Electricity | 1,040 million kWh | 357 million kWh | 299 million kWh |
| Natural gas | 21,590,000m ³ | 3,320,000m ³ | 10,130,000m ³ |
| LPG | 2,142 tons | 4,838 tons | 1,633 tons |
| Oil (Crude oil equivalent) | 7,118kl | 8,106kl | 252kl |
| Water | | 7,300,000m ³ | 2,630,000m ³ |
| | Surface water | 1,350,000m ³ | 650,000m ³ |
| | Industrial water | 2,430,000m ³ | 390,000m ³ |
| | Groundwater | 3,520,000m ³ | 1590,000m ³ |
| | Others | 0 m ³ | 0m ³ |
| Reuse of water | 3,560,000m ³ | 1,740,000m ³ | 80,000m ³ |
| Controlled chemical substances (amounts handled) | 5,811.8 tons | 2,037.7 tons | 4,763.6 tons |
| Ozone depleting substances (amounts handled) | 9.9 tons | 310.8 tons | 648.9 tons |
| Greenhouse gases (amounts handled) | 3,303.8 tons | 66.4 tons | 936.9 tons |
| Volatile organic compounds (amounts handled) | 1,578.5 tons | 951 tons | 246.0 tons |

1: Materials: Total of shipping weight of Eco-Products + product packaging + waste disposal



OUT

| Emissions (From Manufacturing) | | | | |
|-----------------------------------|---|------------------------------|------------------------------|------------------------------|
| | | Mitsubishi Electric | Affiliates (Japan) | Affiliates (Overseas) |
| Emissions in water | Water | 6,770,000m ³ | 1,660,000m ³ | 1,100,000m ³ |
| | Controlled chemical substances | 13.4 tons | 1.5 tons | 59.9 tons |
| | BOD (biological oxygen demand) | 112.1 tons | 7.8 tons | 15.5 tons |
| | COD (chemical oxygen demand) | 32.5 tons | 5.2 tons | 37.2 tons |
| | Nitrogen | 96.7 tons | 13.0 tons | 0.4 tons |
| | Phosphorus | 6.8 tons | 0.2 tons | 0.0 tons |
| | Suspended solids | 80.0 tons | 4.4 tons | 25.7 tons |
| | n-hexane extracts (mineral) | 1.2 tons | 0.4 tons | 1.0 tons |
| | n-hexane extracts (active) | 2.0 tons | 0.2 tons | 0.5 tons |
| | Total emissions of zinc | 0.2 tons | 0.1 tons | 0.0 tons |
| Releases to the atmosphere | Carbon dioxide | 514,000 tons-CO ₂ | 189,000 tons-CO ₂ | 245,000 tons-CO ₂ |
| | Controlled chemical substances (excluding amounts contained in other waste) | 701.5 tons | 82.2 tons | 153.1 tons |
| | Volatile organic compounds (toluene, xylene, styrene) | 667.9 tons | 80.3 tons | 124.1 tons |
| | Greenhouse gases | 255,000 tons-CO ₂ | 126,000 tons-CO ₂ | 55,000 tons-CO ₂ |
| | Ozone depleting substances | 0.01ODPt | 0.00ODPt | 0.40ODPt |
| | Sulfur oxide (SO _x) | 1.2 tons | 4.7 tons | 4.8 tons |
| | Nitrogen oxide (NO _x) | 13.2 tons | 11.3 tons | 32.1 tons |
| | Dust | 1.0 tons | 2.2 tons | 8.5 tons |
| | Amount of CFCs recovered | 31.4 tons | 421.4 tons | - |
| Waste | | | | |
| Total waste emissions | | 81,801 tons | 45,397 tons | 43,498 tons |
| Volume recycled | | 69,851 tons | 73,832 tons | 41,154 tons |
| Waste treatment subcontracted out | | 22,459 tons | 39,844 tons | 7,318 tons |
| Final disposal | | 121 tons | 451 tons | 2,368 tons |
| Weight reduction in-house | | 2,036 tons | 0 tons | 0 tons |
| Product ² | | | | |
| Weight of all Eco-Products sold | | 477,000 tons | 37,000 tons | 401,000 tons |
| Weight of packaging materials | | 41,000 tons | 8,000 tons | 63,000 tons |

2: Products: Amount related to products targeted for design for the environment.



IN

| Selling and distribution ³ | | | |
|--|---------------------|--------------------|-----------------------|
| | Mitsubishi Electric | Affiliates (Japan) | Affiliates (Overseas) |
| Fuel for trucks (gasoline) | 45kl | 2,700kl | 110kl |
| Fuel for trucks (diesel) | 23,900kl | 5,300kl | 24,750kl |
| Fuel for rail (electricity) | 1,520Mwh | 280Mwh | 0Mwh |
| Fuel for marine transport (bunker oil) | 410kl | 60kl | 53,000kl |
| Oil (crude oil equivalent) | 400kl | 90kl | 5,000kl |

3: Selling and Distribution: Includes 11 sales companies in Japan. Also includes amounts for international transport for overseas affiliates.



OUT

| Emissions ⁴ | | | |
|---|-----------------------------|-----------------------------|------------------------------|
| | Mitsubishi Electric | Affiliates (Japan) | Affiliates (Overseas) |
| Carbon dioxide (CO ₂) emissions | 63,000 tons-CO ₂ | 29,000 tons-CO ₂ | 225,000 tons-CO ₂ |

4: Emissions: Includes 11 sales companies in Japan. Also includes amounts for international transport for overseas affiliates.

IN

| Energy Consumption ⁵ | | | |
|--|---------------------|--------------------|-----------------------|
| | Mitsubishi Electric | Affiliates (Japan) | Affiliates (Overseas) |
| Annual power consumption from use of "Design for the Environment" products | 7,860 million kWh | 840 million kWh | 12,060 million kWh |

5: Energy Consumption: Amount related to products targeted for design for the environment.



OUT

| Emissions ⁶ | | | |
|--|--------------------------------|------------------------------|-----------------------|
| | Mitsubishi Electric | Affiliates (Japan) | Affiliates (Overseas) |
| Annual CO ₂ emissions from use of "Design for the Environment" products (corresponding value) | 3,316,000 tons-CO ₂ | 355,000 tons-CO ₂ | - |

6: Emissions: Amount related to products targeted for design for the environment



IN

| Products at End of Life ⁷ | |
|--------------------------------------|---------------------|
| | Mitsubishi Electric |
| Air conditioners | 11,193 tons |
| Televisions | 10,407 tons |
| Refrigerators | 18,424 tons |
| Washing machines | 6,085 tons |
| Personal computers | 56 tons |

7: Products at End of Life: 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 | 24,815 tons |
| Glass | 5,999 tons |
| CFCs | 259 tons |
| Others | 9,568 tons |

8: Resources Recovered: Weight of products taken back and weight of recovered resources of four types of appliances subject to Japan's Home Appliance Recycling Law, plus personal computers

Environmental Accounting

Scope and Period of Data Compilation and Basis of Calculation

Scope and Period of Data Compilation

- Period: April 1, 2008-March 31, 2009
- Scope of Data Compilation: Mitsubishi Electric Corporation and 100 of its affiliates and subsidiaries in Japan and overseas (76 in Japan, 24 overseas)

*The scope of data completion is the same as the scope covered in this Environmental Report. The number of companies within the scope declined by two from the previous year.

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.

Environmental Conservation Costs

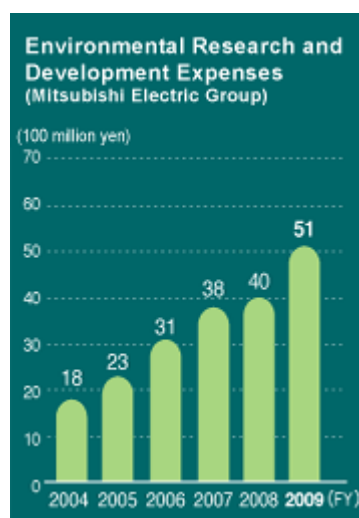
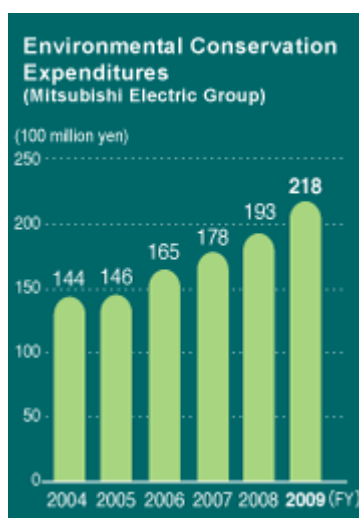
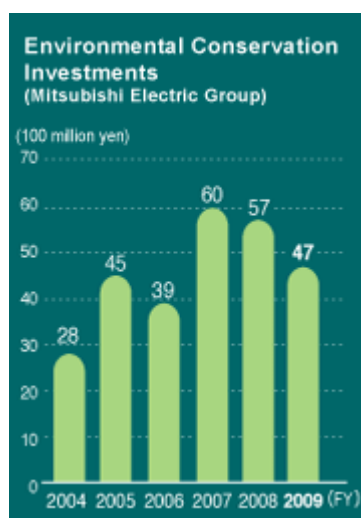
Fiscal 2009 capital investments came in slightly below the prior year's level, but costs increased markedly.

■ Capital Investment

Fiscal 2009 capital investment totaled 4.7 billion yen (1.0 billion yen decrease versus the previous year) for the Group, and 2.9 billion yen (0.9 billion yen decrease versus the previous year) for Mitsubishi Electric. In keeping with the Energy Conservation Action Plan, which took effect in fiscal 2005, we continued with efforts begun the previous year to actively invest in high-efficiency equipment, energy-saving support equipment, and photovoltaic power generation adoption to help counter global warming (for details, see the pages on the "Energy Conservation Action Plan" in Preventing Global Warming). In addition, we maintained a solid level of investment in pollution-prevention measures. Examples include expenditures on upgrades and maintenance of facilities for treating atmospheric emissions and wastewater, and investments in replacement vehicles to meet regulatory requirements.

■ Costs

For Mitsubishi Electric, costs increased by a significant 2.5 billion yen, to 16.7 billion yen for the year. The total for the Group came to 21.8 billion yen. Funds were spent primarily on the development of heat pumps using hydrocarbon as a natural refrigeration medium, technology for creating high-efficiency photovoltaic cells, high-purity plastic recycling technology, and other areas of environmental R&D. In addition, money was spent to conduct groundwater and soil surveys in connection with building upgrades and yard construction, and on responses to results.



Environmental Conservation Benefits (Environmental Performance)

For the third consecutive year, previous fiscal year totals for greenhouse gas emissions, transfers and releases of chemical substances into the atmosphere, water, and soil, and final processing of waste showed a year-on-year decline. Water resource inputs, total wastewater discharges, and total waste disposal, on the other hand, increased. By unit of net sales, increases were noted in nearly all areas because of lower sales compared to the prior year. Water resource inputs and total wastewater discharges increased because of the acquisition of a semiconductor factory. The Mitsubishi Electric Group will continue its efforts to conserve water through reduced usage and recycling/reuse.

Economic Benefits from Environmental Conservation Activities (Real Benefits)

Earnings and savings both declined slightly for Mitsubishi Electric, but increased for the Group.

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

Successes were achieved in producing environmental improvements and lowering electricity costs associated with customer usage of products like Lossnay commercial ventilator/air cleaner products, photovoltaic power generation systems, hydroelectric generation plants, and energy-saving refrigerators and air conditioners.

■ Environmental Conservation Costs

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

| Item | Capital Investment | Costs* | Year-on-Year Change | Main Costs |
|--|--------------------|-------------|---------------------|---|
| Business Area Activities | 45.4 | 104.2 | 3.1 | - |
| | 28.2 | 64.4 | (0.7) | |
| Pollution prevention | 7.4 | 43.4 | 4.9 | Replacement, operation and maintenance of ventilation and wastewater treatment facilities, investment for replacement of vehicles, PCB content investigation, etc. |
| | 4.9 | 25 | 1.7 | |
| Global environmental protection | 33.3 | 32.4 | 4.5 | Investment for conversion to high-efficiency equipment (e.g., air conditioners and refrigerators), implementation of PV cells, investment in rooftop greening, etc. |
| | 22.5 | 22.3 | 2.7 | |
| Resource recycling | 4.7 | 28.4 | (6.3) | Waste processing, reduced use of wood packing materials, product scrap recycling, etc. |
| | 0.8 | 17.1 | (5.1) | |
| Green purchasing/procurement and product-related activities at upstream/downstream of production | 0.6 | 13.3 | (0.2) | Investigation of products compliant with the European RoHS-directive, recycling of disposed of products, etc. |
| | 0.2 | 11 | 0 | |
| Management activities | 0.1 | 38 | 3.2 | Environmental training, environmental management system activities, environmental exhibitions, greening of premises, etc. |
| | 0 | 30.9 | 6.4 | |
| Negative environmental impact reduction and R&D activities | 0.5 | 51.3 | 11.4 | Development of natural refrigerant-based HC heat pumps, technological development to enhance the efficiency of photovoltaic cells, development of new structured power modules, development of water quality control technology, etc. |
| | 0.5 | 49.5 | 11.9 | |
| Community activities | 0 | 1.2 | 0 | Offsite cleanup activities and local woodland preservation activities in communities |
| | 0 | 1 | (0.1) | |
| Environmental damage | 0.3 | 9.7 | 7 | Surveys on the contamination and purification of soil or groundwater |
| | 0.3 | 9.7 | 7 | |
| Total | 46.9 | 217.7 | 24.5 | - |
| | 29.2 | 166.5 | 24.5 | |
| Year-on-year change | (10.1) | 24.5 | | |
| | (9.0) | 24.5 | | |

* Includes depreciation of capital investment over the past five years.

■ Environmental Conservation Benefits (Environmental Performance) *

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

| Item | Unit | Fiscal 2009 | Year-on-Year Change | Year-on-Year Per Net Sales |
|---|---------------------------------|----------------|------------------------|-------------------------------|
| Total energy used | 10,000 GJ | 1,558 | 32 | 113% |
| | | 1,141 | 81 | 118% |
| Total water used | 10,000 m ³ | 993 | 140 | 129% |
| | | 730 | 101 | 128% |
| Total greenhouse gas emissions | 10,000 tons- CO ₂ | 108 | (0.3) | 110% |
| | | 77 | 6 | 120% |
| Total atmospheric emissions of chemical substances | tons | 783 | (39) | 105% |
| | | 701 | (18) | 107% |
| Total water discharged | 10,000m ³ | 841 | 184 | 141% |
| | | 677 | 183 | 151% |
| Total discharge of chemical substances in the water and soil | tons | 15 | (0.3) | 108% |
| | | 13 | 0.2 | 112% |
| Total waste discharged | tons | 127,198 | (16,802) | 98% |
| | | 81,801 | (4,399) | 104% |
| Final disposal | tons | 572 | (393) | 65% |
| | | 121 | (14) | 99% |

* Excluding overseas affiliates

■ Economic Benefits from Environmental Conservation Activities (Real Benefits)

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

| | Amount | Year-on-Year Change | Main Benefits |
|----------|--------|---------------------|--|
| Earnings | 43.5 | 2.8 | Profit on the sale of saleable resources such as the recycling of metal scrap |
| | 24.4 | (0.8) | |
| Savings | 40 | 2.1 | Reduced electricity bills by introducing high-efficiency equipment, lower water bills via the reuse of water, a reduction in the use of wood packaging materials by using returnable packaging materials |
| | 18.9 | 0.2 | |
| Total | 83.5 | 4.9 | |
| | 43.3 | (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)

| | Amount | Main Products |
|-----------------------------------|--------|---|
| Customer Economic Benefits | 789.7 | Improvement in the power generation efficiency of turbine generators, total heat exchange ventilators (Lossnay), energy-efficient refrigerators, air conditioners and electrical discharge machines, elevators with inverters, etc. |
| | 765.4 | |
| Environmental Improvement Effects | 26.3 | |
| | 26.1 | |

* Excluding overseas affiliates

Fiscal 2009 Achievements

Awards

Japan

| Award | Sponsor | Description / Product | Company / Business Office |
|---|---|--|--|
| Fiscal 2009 Excellent Energy Conservation Manager Awards Minister of Economy, Trade and Industry Award | Ministry of Economy, Trade and Industry | Built a system that provides real-time information on electric power volume, production volume, and per unit data, and identified and addressed problem points, to realize energy savings in excess of 20% over the fiscal 2005-2008 period. | Power Distribution Systems Center |
| 2008 Excellent Energy Management Factory Awards Director—General of the Agency of Natural Resources and Energy Prize | Ministry of Economy, Trade and Industry | <ul style="list-style-type: none"> · Continuous per-unit reductions at all production sites · Fuel conversion, centralized air-conditioning control, and other energy-saving activities | Fukuyama Works |
| Fiscal 2009 Energy Conservation Center Chairman's Prize | Energy Conservation Center, Japan | MELSNOW warm-water heat-pump unit for melting snow | Mitsubishi Electric Hokkaido Electric Power Co. Ltd. |
| Fiscal 2009 Energy Conservation Awards Energy Conservation Center Chairman's Prize | Energy Conservation Center, Japan | "Mr. SLIM ER Clean Plus Series" packaged air conditioner for shops and offices | Mitsubishi Electric |
| Fiscal 2009 Energy Conservation Awards Energy Conservation Center Chairman's Prize | Energy Conservation Center, Japan | VEH-403HCA-K and VEH-406HPU3 "eco nucool pico" heating units for electric heat pump hot water heating systems | Nakatsugawa Works |
| 19th Energy Conservation Awards Energy Conservation Center Chairman's Prize | Energy Conservation Center, Japan | Compact Cube | Nagasaki Works |
| Outstanding Energy-Saving Devices Awards Japan Machinery Federation Director-General's Prize | The Japan Machinery Federation | Ventilators equipped with total heat exchangers (Commercial Lossnay recessed ceiling-mounted microcomputer-controlled model) | Mitsubishi Electric |
| Outstanding Energy-Saving Devices Awards Japan Machinery Federation Director-General's Prize | The Japan Machinery Federation | Gradationally controlled voltage power electronics device (UPS, PV inverter) | Mitsubishi Electric |
| Good Design Award | Japan Industrial Design Promotion | JT-PC105A Jet Towel Puchi hand dryer | Mitsubishi Electric |

| | Organization | | |
|---|---|---|--|
| 22nd Chunichi Industrial Technology Awards Newspaper Company Prize | Chunichi Shimbun | AXIEZ machine-room-less elevator | Mitsubishi Electric |
| Innovative PV Prize | Japan Society for the Promotion of Science | High-efficiency polycrystalline silicon photovoltaic cell | Advanced Technology R&D Center |
| The Promotion Foundation for Electrical Science and Engineering Prize | The Promotion Foundation for Electrical Science and Engineering | Energy-saving technology for room air conditioners employing sensors to monitor occupancy and space | Advanced Technology R&D Center |
| Green IT Award | Green IT Promotion Council | SIC power device technology | Mitsubishi Electric |
| 10th Electric Load Leveling System Awards Ministry of Economy, Trade and Industry, Agency for Natural Resources and Energy Director-General's Prize | Heat Pump and Thermal Storage Technology Center of Japan | Commercial "Eco cute" Sunny Pack Q EC | Cold Energy System Works |
| 57th Electrical Manufacturers Awards Excellence Prize | Japan Electrical Manufacturers' Association | Development of a room air conditioner that uses a infrared image sensor to reduce electricity consumption during usage | Shizuoka Works |
| 57th Electrical Manufacturers Awards Excellence Prize | Japan Electrical Manufacturers' Association | Development of a refrigerator/freezer equipped with a quick freezing function for preserving food quality and saving energy | Shizuoka Works |
| Fiscal 2008 Japan Society of Tribologists Technology Prize | Japan Society of Tribologists | Wearless single-stage rotary compressor capable of using CO ₂ as a natural refrigeration medium | Mitsubishi Electric |
| Fiscal 2008 Japan Society of Refrigerating and Air Conditioning Engineers Technology Prize | Japan Society of Refrigerating and Air Conditioning Engineers | Single-stage rotary compressor capable of using CO ₂ as a natural refrigeration medium | Mitsubishi Electric Mitsubishi Electric Engineering |
| Fiscal 2009 Kanto Invention Awards Sub-Group Manager's Prize | Japan Institute of Invention and Innovation | Frame-compliant structure for scroll compressors | Shizuoka Works |
| Fiscal 2009 Kanto Invention Awards Commendation for Invention | Japan Institute of Invention and Innovation | Automatic ice maker and ice-making method for home refrigerators | Shizuoka Works |
| Fiscal 2009 Kanto Invention Awards Commendation for Invention | Japan Institute of Invention and Innovation | Decorative panel structure for ceiling cassette indoor air-conditioning unit | Shizuoka Works |
| 56th Japan Electrical | Japan Electrical | Energy-saving technology for | Shizuoka |

| | | | |
|--|--|---|---|
| Manufacturers' Awards | Manufacturers' Association | room air conditioners using a thermal sensor to monitor occupancy and space | Works |
| Fiscal 2010 Outstanding Electrical Business Employee Awards Most Outstanding Award | Japan Electric Association Kanto Electric Association | Room air conditioner that uses sensing technology to promote, and provide visual feedback for, energy savings | Shizuoka Works |
| 3R Promotion Awards | 3R Promotion Association | Activities promoting cooperative recycling by Kansai production sites | Kobe Works |
| Kanto Federation of High-Pressure Gas Safety Organizations Chairman's Prize | Kanto Federation of High-Pressure Gas Safety Organizations | Outstanding High Pressure Gas Production Award | Mitsubishi Osram Kakegawa Production Site |
| Fukuyama Environmental Prize | Fukuyama City Environmental Education Section | Actively promoted protection and creation of natural environments | Fukuyama Works |
| Distinguished Service Awards | Sagamihara Waste Countermeasures Conference | Sagamihara Waste Countermeasures Conference Distinguished Service Awards | Sagamihara Works |

Overseas

| Award | Sponsor | Description / Product | Company / Business Office |
|--|------------------------------|--|--|
| Environmental good governance | Ministry of Industry | Management in environmental & safety compliance with the law | Mitsubishi Electric Thai Auto-Parts CO.,LTD. |
| Recognition Award for Promoting Environmental Protection | Sta Rosa Science High School | Providing Environmental Equipment (Trash Can) | Laguna Autoparts Manufacturing Corporation |



▶ Energy & Electric Systems

- Ozone Generator
- Super Energy Efficient Transformers
- Elevator Systems
- Escalator

▶ Industrial Automation Systems

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

▶ Information & Communication Systems

- Optical Network Unit
- Mitsubishi Logistics Information System: Dr. Logis
- Integrated Environmental Information System

▶ Electronic Devices

- DIP-IPM Module
- IGBT Module

▶ Home Appliances

- Jet Towel Hand Dryer
- Hot Water Floor Heating System
- Air Purifier with a Humidification Function
- Compact Cube for Commercial Use
- Room Air Conditioner **NEW**
- Refrigerator **NEW**
- Photovoltaic Modules
- Photovoltaic Inverter
- Color TV
- Package Air Conditioner
- Heat Pump Water Heater
- Ventilator
- Energy Recovery Ventilator for Commercial Use

Energy & Electric Systems

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



▣ Ozone Generator



▣ Super Energy Efficient Transformers



▣ Elevator Systems



▣ Escalator

Energy & Electric Systems

Ozone Generator

Super Energy Efficient Transformers

Elevator Systems

Escalator

Ozone Generator OS

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

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



M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Note

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

1. 21st Century Invention Prize at the 2006 National Invention Awards
"Technology for producing high-concentration ozone efficiently"
2. Japan Machinery Federation Chairman's Prize at the 2006 Outstanding Energy Efficient Device Awards
"Tubular type ozone generator with small discharge gap"
3. Prime Minister's Award at the 2007 Japan Industrial Technology Awards
"High-concentration generator with very small discharge gap"

Energy & Electric Systems

Ozone Generator
Escalator

Super Energy Efficient Transformers

Elevator Systems

Transformers: Super Energy Efficient Transformers (EX Series)

Hyper Eco-Product

Factor 1.183: Performance Factor 1.00:
Environmental Load Factor 1.183

Transformers use electromagnetic induction to step-down the high-voltage electricity (e.g. 6600v) supplied by electric utilities to voltage levels used in buildings and factories. Super Energy Efficient Transformers contribute to energy efficiency by lowering operating losses, and reduce CO₂ emissions. These transformers also employ a design that reduces operating noise.



Reasons for Hyper Eco-Product Certification

- Products certified to carry Mitsubishi Electric's environmental mark

Detailed equipment data

- ▶ RA-TS

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

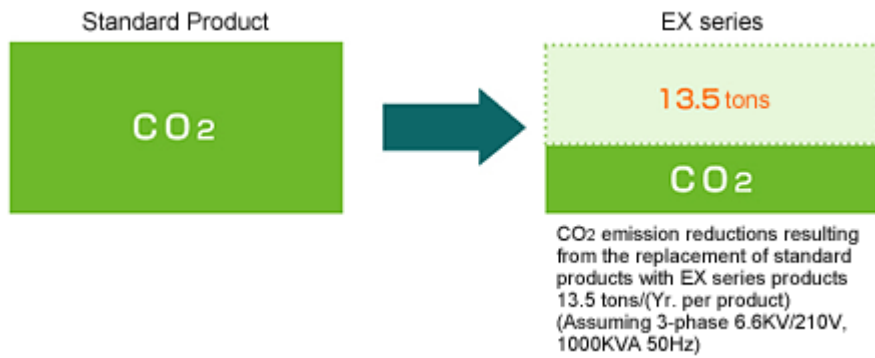
- By creating no-burden and lower-burden products, we lowered our electric power consumption by approximately 57%.

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

- Eliminate the use of hexavalent chrome.

Note

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



To illustrate, if all of the transformer shipments for a year were replaced with Super Energy Efficient Transformers, CO₂ emissions would be reduced by 90,000 tons. Super Energy Efficient Transformers, therefore, not only reduce energy consumption; they also help to lower environmental burden.

Energy & Electric Systems

Ozone Generator
Escalator

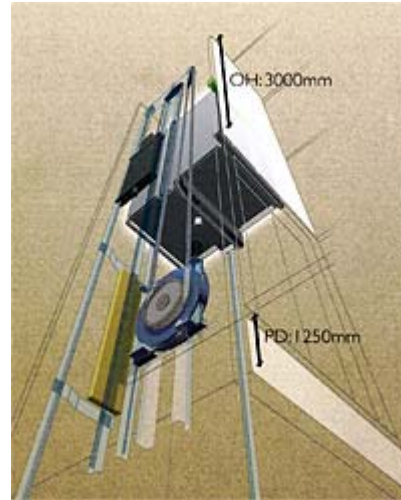
Super Energy Efficient Transformers

Elevator Systems

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

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

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



Detailed equipment data

- ▶ P9-CO-60, 6stop

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Energy & Electric Systems

Ozone Generator

Super Energy Efficient Transformers

Elevator Systems

Escalator

Elevator Systems: Escalator ZJ-S

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



M Materials: Effective use of resources

- The ZJ-S design is characterized by its relatively small number of parts and light weight. Employing ZJ escalators for floor heights of 6.5m - 7.0m results in the use of less material than required by other escalator equipment.
- To minimize the amount of material used in trusses, we scaled down the sizes of truss chords and took other steps that resulted in overall reductions.
- We also incorporated as standard parts recyclable thermoplastic polyurethane handrails and rollers.

E Energy: Efficient use of energy

- We employ an automatic operation function, which makes escalators more energy efficient. We have created a line of VVVF inverter-based post and postless products that stop or slow down when not in use, and are working to expand the adoption of automatic operation functions in combination with variable speed functions.

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

- RoHS-compliant parts and materials are used. (Switched to lead-free boards, and plating free of hexavalent chrome.)
- Reduced usage of toluene, xylene, and other atmospheric and the soil contaminants.

Industrial Automation Systems

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



▶ **Electronic Hybrid Functional Control Panel**



▶ **Computerized Numerical Controller**



▶ **Wire Electric Discharge Machine**



▶ **Automatic Power Factor Controller**



▶ **Electronic Measuring Instrument**



▶ **Electronic Multi-Measuring Instrument**



▶ **Energy Measuring Unit**



▶ **Laser Processing Machine**



▶ **EPS Motor**

Industrial Automation Systems

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

Electronic Hybrid Functional Control Panel MACTUS 30LCB

Integration simplifies and enhances the performance of water treatment plants

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



M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

Industrial Automation Systems

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

Computerized Numerical Controller M700VS Series



Factor 2.72: Performance Factor 1.12:
Environmental Load Factor 2.429

Best controller for top level manufacturing

The Computerized Numerical Controller is a computer that accurately controls the amount of movement and speed of machine tool implements.

With fewer long-life parts, such as HDDs and the cooling fans, part replacement maintenance and machine tool waste is also reduced.



Reasons for Hyper Eco-Product Certification

- Factor X is more than or equal to 2

Detailed equipment data

- ▶ M700VS Series

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Industrial Automation Systems

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

Wire Electric Discharge Machine NA series



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

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

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



NA1200



NA2400

Reasons for Hyper Eco-Product Certification

- Factor rating of 3 or more

Detailed equipment data

- ▶ NA1200
- ▶ NA2400

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Note

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

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

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

Industrial Automation Systems

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

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

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

Features automatic condenser capacity recognition and a large LCD display

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



VAR-6A



VAR-12A

Reasons for Eco-Product Certification

- Factor rating of 1.2 or more

Detailed equipment data

- ▶ VAR-6A / VAR-12A

M Materials: Effective use of resources

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

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

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

Industrial Automation Systems

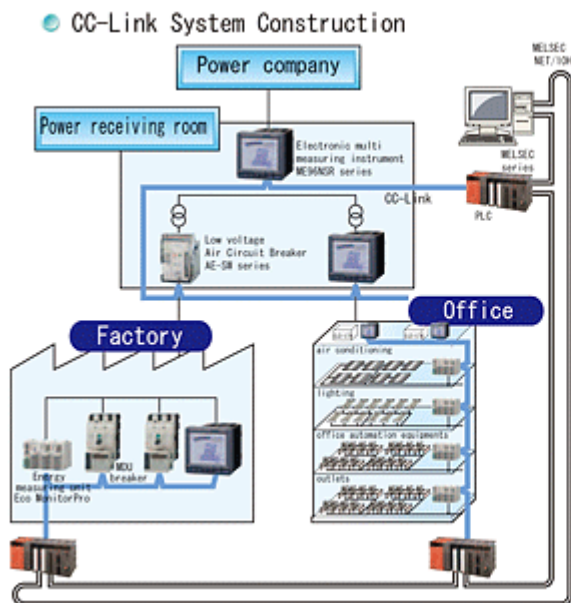
| | |
|--|---------------------------------------|
| Electronic Hybrid Functional Control Panel | Computerized Numerical Controller |
| Wire Electric Discharge Machine | Automatic Power Factor Controller |
| Electronic Measuring Instrument | Electronic Multi-Measuring Instrument |
| Energy Measuring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

Electronic Measuring Instrument ME96NSR-MB / ME96NSR

Factor 1.67: Performance Factor 1.2:
Environmental Load Factor 1.39

Small and flexible instrument compatible with DIN 96 × 96 size

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



Reasons for Eco-Product Certification

- Factor rating of 1.2 or more

Detailed equipment data

- ▶ ME96NSR-MB / ME96NSR

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Industrial Automation Systems

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

Electronic Multi-Measuring Instrument

**ME110NSR / ME110NSR-4A2P / ME110NSR-4APH / ME110NSR-C
ME110NSR-MB**

Factor 1.70: Performance Factor 1.20:
Environmental Load Factor 1.41

High functionality and ease of use

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



ME110NSR

Reasons for Eco-Product Certification

- Factor rating of 1.2 or more

Detailed equipment data

- ▶ ME110NSR

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Industrial Automation Systems

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

Energy Measuring Unit (EcoMonitorPro)



Factor 3.96: Performance Factor 2.50:
Environmental Load Factor 1.582

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



Reasons for Hyper Eco-Product Certification

- Factor rating of 2 or more

Detailed equipment data

- ▶ EMU2-HM1-B

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Industrial Automation Systems

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

Laser Processing Machine LVP-40CF



Factor 3.108: Performance Factor 3.50:
Environmental Load Factor 0.888



Laser processing machines fall into the "Special Processing Machinery" JIS classification. Laser processing machines heat, weld, and ablate by using the characteristics and high energy of a laser beam. The LVP-40CF creates a $\phi 10$ hole in the SPCcT1.0 sample part 3.5 times faster than existing machines.

Reasons for Hyper Eco-Product Certification

- An environmental load factor of 2 or higher

Detailed equipment data

- ▶ LVP-40CF

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Note

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

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

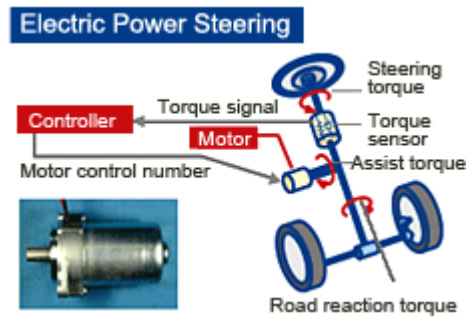
Industrial Automation Systems

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

EPS Motor (30A Class)

Factor 1.451: Performance Factor 1.085:
Environmental Load Factor 1.337

The EPS Motor is used in power steering systems, which provide assistance in turning automobile steering wheels. Because the electric power steering system (EPS) engages the motor only when the steering wheel is being turned, it consumes less energy than the traditional hydraulic power steering system (HPS), which is driven by a hydraulic pump that is constantly in operation when an engine is on. This can result in a fuel efficiency improvement of about 3%-5%. Replacing HPSs with EPSs, therefore, would increase fuel economy and significantly reduce CO₂ emissions.



M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Note

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

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

Information & Communication Systems

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



■ Optical Network Unit



■ Mitsubishi Logistics Information System: Dr. Logis



■ Integrated Environmental Information System

Information & Communication Systems

Optical Network Unit | Mitsubishi Logistics Information System: Dr. Logis
Integrated Environmental Information System

Optical Network Unit GE-PON ONU

Factor 24.11: Performance Factor 6.67:
Environmental Load Factor 3.62

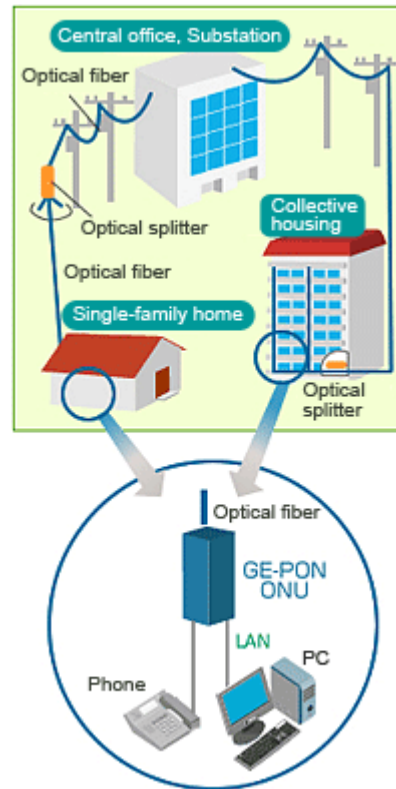
Provides high-speed broadband over optical fiber

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

Reasons for Hyper Eco-Product Certification

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

Hyper Eco-Product



Detailed equipment data

- ▶ GE-PON ONU

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

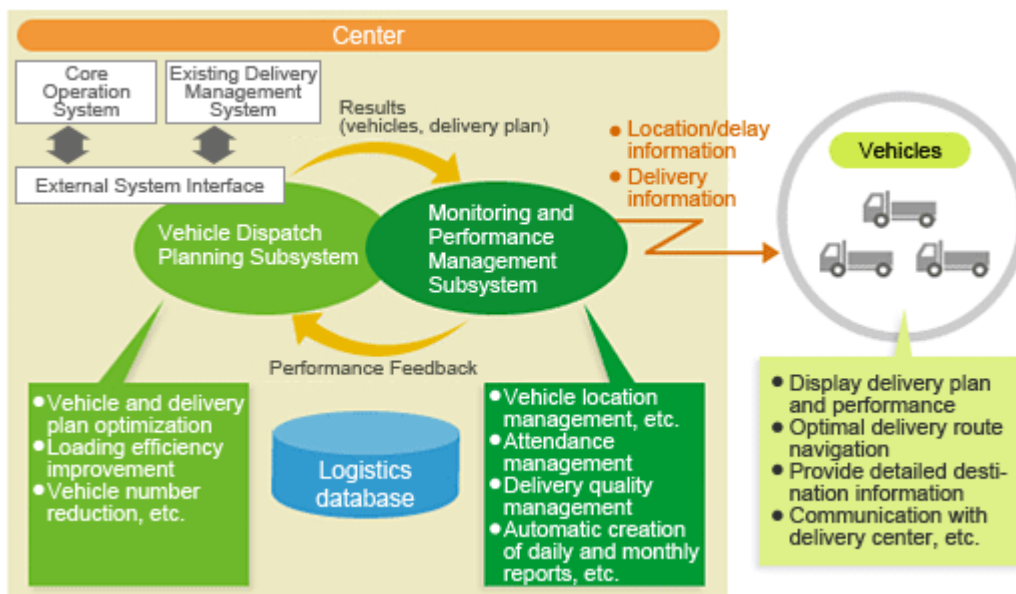
Information & Communication Systems

Optical Network Unit | Mitsubishi Logistics Information System: Dr. Logis
Integrated Environmental Information System

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

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

Trucks burning diesel, gasoline, or other fossil fuels are used in delivery work. Reducing distance and time traveled by minimizing the number of vehicles used and optimizing distribution routes for cases in which the same quantities are being delivered reduces fuel usage and, ultimately, NOx and CO₂ emissions.

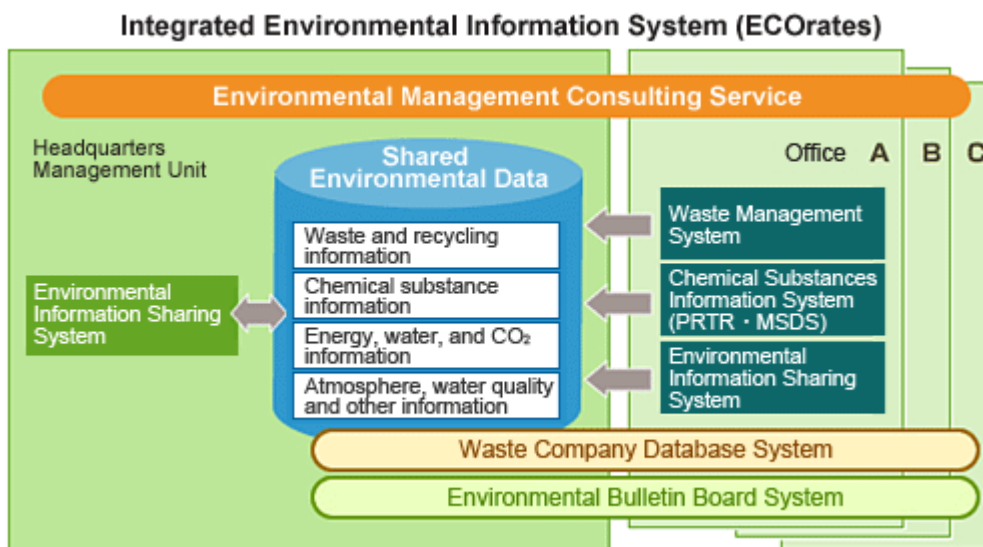


Information & Communication Systems

Optical Network Unit | Mitsubishi Logistics Information System: Dr. Logis
Integrated Environmental Information System

Information & Communication: Integrated Environmental Information System (EORates)

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



M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

- The Environmental Information Sharing System makes it possible to gather environmental performance data on energy, paper, water, and other resource usage for group companies, including affiliates and overseas group members. Efficiency enhancement and usage reduction are aided by CO₂, fuel, and basic unit data conversions. This system also simplifies preparation of data for inclusion in environmental and CSR reports.

Product Information

Electronic Devices

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



▶ DIP-IPM Module



▶ IGBT Module

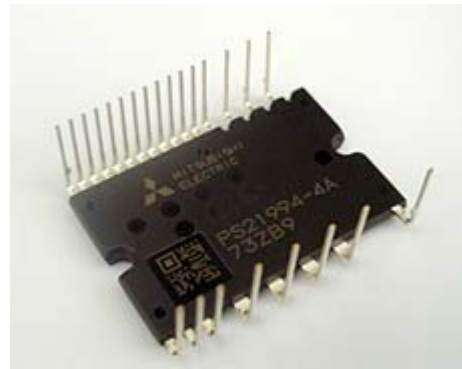
Electronic Devices

DIP-IPM Module | IGBT Module

Power Module DIP-IPM PS21994

Factor 2.466: Performance Factor 1.50:
Environmental Load Factor 1.644

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



Detailed equipment data

► PS21994

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Note

Awarded the 52nd Okochi Prize (Production award)

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



Electronic Devices

DIP-IPM Module

IGBT Module

Power Module IGBT Module

Hyper Eco-Product

Factor 2.146: Performance Factor 1.228:
Environmental Load Factor 1.747

The NX series of modules allows the configuration of various circuits and packages through the mixing and matching of interchangeable package parts and various semiconductor chips. Interchangeable mother cases, pin terminals, and screw block terminals mean it is possible to create various power module configurations to match a wide range of capacities when developing new packages. This eliminates the need to create molds for each package configuration.



Reasons for Hyper Eco-Product Certification

- Industry-leading electric power conversion efficiency (97.5%)
- Factor rating of 2 or more

Detailed equipment data

- ▶ CM300DX-24A

M Materials: Effective use of resources

- Reduced package size contributes to a more compact final product (inverter).
- Cu base plate material thinned from 4mm, to 3.5mm.

E Energy: Efficient use of energy

- Power loss reduced by approximately 30% compared to H series (3rd generation) through use of 5th generation IGBT (CSTBT).

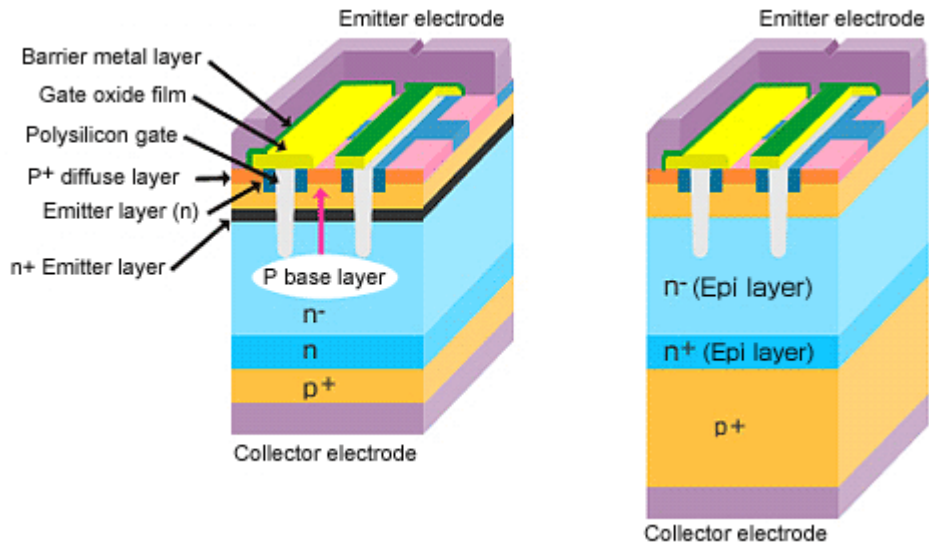
T Toxicity: Avoidance of substances that are potentially harmful to the environment

- Eliminated all use of substances subject to the EU's RoHS Directive or JIS's J-Moss.

Note

A major improvement in IGBT voltage characteristics through use of CSTBT

The NX series is equipped with a CSTBT that includes an N layer with relatively high impurity density between the P base layer and N layer of the traditional IGBT. The result is a significant improvement in on-state voltage characteristics, compared to a traditional trench IGBT.



Home Appliances

In home appliances, we're developing and introducing various products that are energy efficient and make life more comfortable.

NOTE: Many of the products shown on these pages are for the Japanese market only.



▶ Jet Towel Hand Dryer



▶ Hot Water Floor Heating System



▶ Air Purifier with Humidification Function



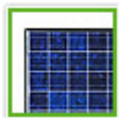
▶ Compact Cube for Commercial Use



▶ Room Air Conditioner



▶ Refrigerator



▶ Photovoltaic Modules



▶ Photovoltaic Inverter



▶ Color TV



▶ Package Air Conditioner



▶ Heat Pump Water Heater



▶ Ventilator



▶ Energy Recovery Ventilator for Commercial Use

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
Room Air Conditioner | Refrigerator | Photovoltaic Modules | Photovoltaic Inverter
Color TV | Package Air Conditioner | Heat Pump Water Heater | Ventilator
Energy Recovery Ventilator for Commercial Use

JET TOWEL HAND DRYER JT-SB116GN / JT-SB216GSN



Factor 7.36: Performance Factor 3.72:
Environmental Load Factor 1.98 (JT-
SB116GN)

Environmentally conscious product with long life and low power consumption

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

*JT-SB116GN is available only in Japan.



Reasons for Hyper Eco-Product Certification

- Factor rating of 2 or more

Detailed equipment data

- ▶ JT-SB116GN

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

- Approximately 15% lower power consumption compared to previous Mitsubishi Electric model.
(Based on an internal investigation as of February 1, 2007)
- Newly developed "hyper nozzle" improves drying efficiency.

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

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

Product Information

Home Appliances

Jet Towel Hand Dryer | **Hot Water Floor Heating System**
Air Purifier with Humidification Function | Compact Cube for Commercial Use
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"Econucool Pico" Hot Water Floor Heating System VEH-406HCA-κ / VEH-406HCA-M / VEH-406HPU₃

Hyper Eco-Product

Factor 1.680: Performance Factor 1.22:
Environmental Load Factor 1.478

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

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



Reasons for Hyper Eco-Product Certification

- Factor rating of 1.5 or more
- Fiscal 2008 Energy Savings Award
- Energy Conservation Center Chairman's Award (VEH-406HCA-κ, VEH-406HPU₃)

Detailed equipment data

- ▶ VEH-406HCA-κ

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

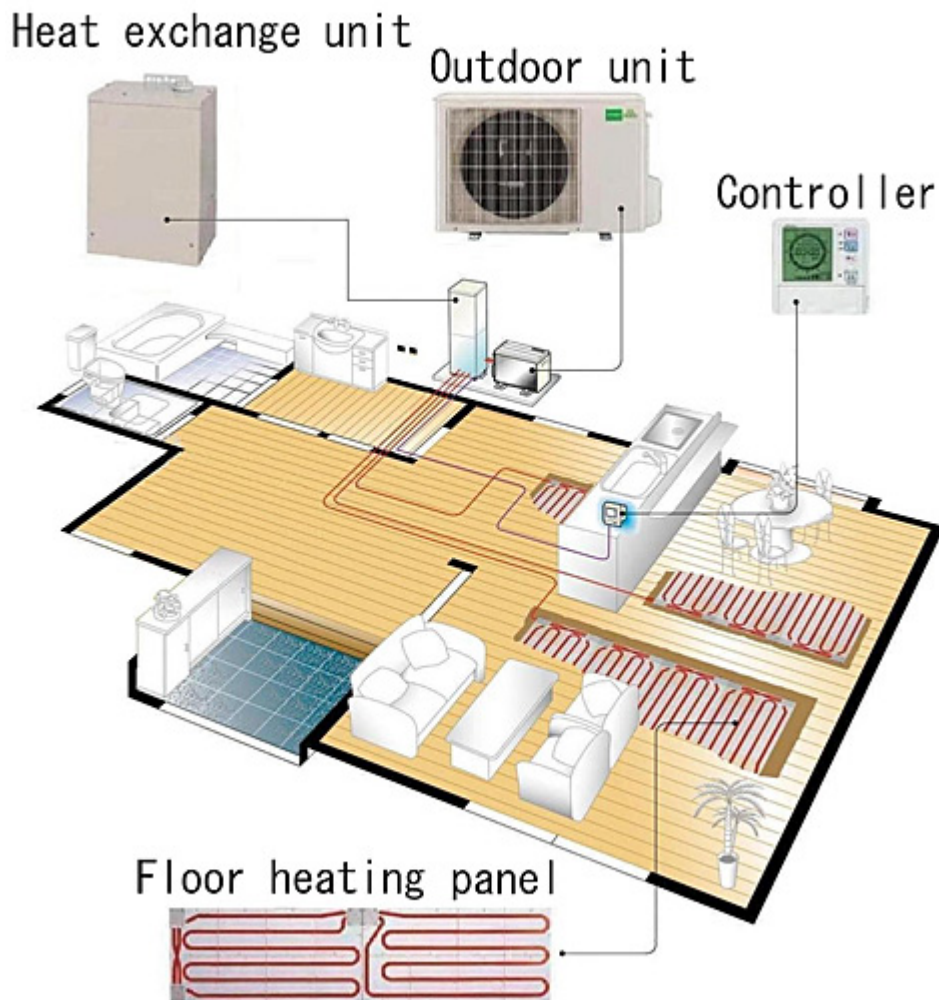
T Toxicity: Avoidance of substances that are potentially harmful to the environment

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

Note

Econucool Pico reduces energy consumption by some 70-80% compared to water heaters such as gas and oil boilers. The energy saving is the result of using an electric heat pump and a DC pump and automatically varying water temperature and volume. It produces 60°C hot water, which is near to that of a gas boiler. And it is usable at an outdoor temperature of -25°C.

Econucool Pico is being widely used all over Japan, not only in new houses but also as a replacement for old heaters in existing housing.



System of "Econucool Pico"

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
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Air Purifier with Humidification Function MA-518DK

Factor 1.65:
Performance Factor three decimal points:
Environmental Load Factor 1.65

Eco-Auto mode provides enhanced energy savings

This air purifier removes dust and odors suspended in the indoor air of homes while also providing humidity via an internal vapor filter. The unit includes an Eco-Auto mode, which delivers enhanced energy savings.



Detailed equipment data

► MA-518DK

M Materials: Effective use of resources

- Filters need not be replaced for 10 years, saving on resources.

E Energy: Efficient use of energy

- When the unit is in Eco-Auto mode, the revolutions of the DC motor used to drive the airflow fan are adjusted for efficiency (reduced for low power consumption per unit of air purification capacity or unit of humidification volume), which reduces power consumption while operating in this mode.

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | **Compact Cube for Commercial Use**
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Energy Recovery Ventilator for Commercial Use

Compact Cube MCHV-P1800AE for Commercial Use

Factor 1.771: Performance Factor 1.00:
Environmental Load Factor 1.771

Lightweight, compact and high part load performance

The Compact Cube is a heat pump chiller that produces cold and hot water used in the air conditioning systems of buildings and factories. The device is driven by electricity, so compared to absorption chillers powered by fuels like gas, the Compact Cube produces cold and hot water while emitting less carbon dioxide.



The Compact Cube features both high efficiency and compactness. It incorporates the following new technologies, which make it ideal not only for new air conditioning systems, but also for converting from existing absorption chillers.

1. New V-flow unit format (an industry first)
2. R410A refrigerant (an industry first for 40+ horsepower chillers)
3. Includes DC inverter-driven scroll compressor (an industry first for 40+ horsepower chillers)
4. New refrigeration cycle with two evaporating temperatures (an industry first)
5. Water dispersion system uses minimal water
6. Improved part load efficiency using COPMAX control (an industry first)

Reasons for Eco-Product Certification

- Factor rating of 1.38 or more

Detailed equipment data

- ▶ MCHV-P1800AE

M Materials: Effective use of resources

- Lighter unit weight, improved performance and fewer resources used thanks to new specifications for the compressor and heat exchanger and a new optimized layout for the unit panels. 24% lighter than the previous Mitsubishi Electric model (2,150 kg→1,640kg).
*Previous model: CAH-J 1800A (60 Hz) used for comparison

E Energy: Efficient use of energy

- Superior energy efficiency due to improved efficiency of devices that make up the unit, including the compressor, heat exchangers and airflow fans, and more sophisticated refrigeration cycle control.
- Cooling COP raised by 66% compared to the previous Mitsubishi Electric model (2.59→4.3).
- Heating COP raised by 17% compared to the previous Mitsubishi Electric model (3.29→3.85).
*Previous model: CAH-J1800A (60 Hz) used for comparison

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

- Product uses HFC refrigerant R410A, eliminating ozone-depleting substances (previous Mitsubishi Electric model uses HFC refrigerant R22).
- Eliminated the use of the six substances specified by the EU's RoHS directive.
*Previous model: CAH-J1800A (60 Hz) used for comparison

Note

The Compact Cube air-cooled heat pump chiller achieves a high rated cooling efficiency of COP 4.8 (40 horsepower model) as a result of optimized heat exchangers and its water dispersion method. Use of an inverter-driven scroll compressor provides energy efficiency throughout the year, not just during rated operating hours. Converting from an absorption chiller would reduce carbon dioxide emissions by 58% and power consumption by 48%.

Compact Cube's small size was achieved through high-density mounting of the heat exchangers. It is the lightest chiller in the industry in the 180 kilowatt class (cooling capacity).

The product's high energy-efficient performance was recognized and it was awarded the Energy Conservation Center Chairman's Award at the Fiscal 2008, 19th Energy Savings Awards.

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
Room Air Conditioner | Refrigerator | Photovoltaic Modules | Photovoltaic Inverter
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Energy Recovery Ventilator for Commercial Use

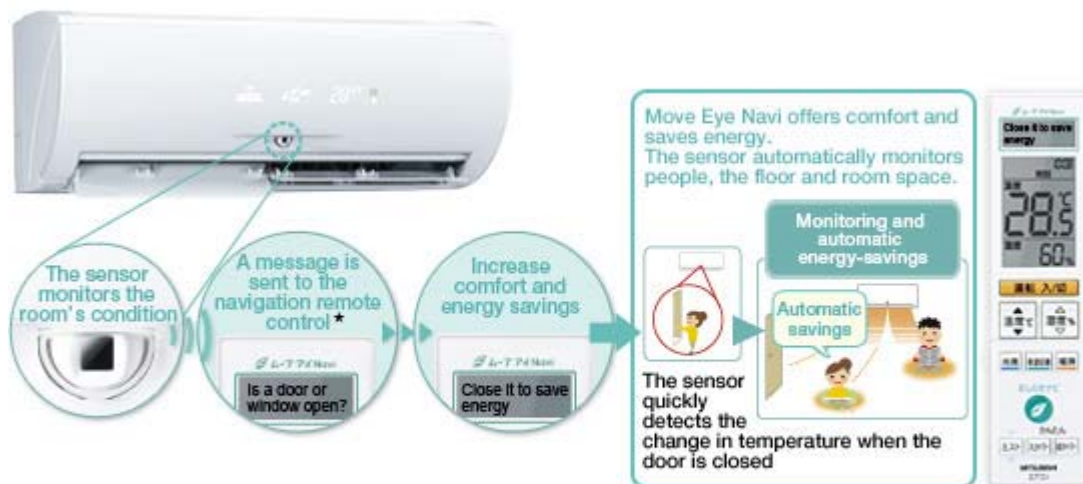
Room Air Conditioner ZW Series (MSZ-ZW400S)

Hyper Eco-Product

Factor 2.541
Performance Factor 1.145
Environmental Load Factor 2.219

"Notice Navi" Function to Encourage Energy-Saving Operation

Mitsubishi Electric's proprietary Move Eye, an eight-element infrared sensor, analyzes various room conditions, such as floor and wall temperatures and people's locations. The "Notice Navi" function provides the user with energy-saving advice, such as "Closing the curtains and doors would help save energy," providing appropriately timed conservation tips on easy-to-overlook points. The energy efficiency of the air conditioner itself, plus the effects of the energy-saving tips it provides users put this unit at the forefront of the ecologically conscious generation.



* Move Eye detects temperature differences on the floor, walls and from windows and doors. When temperature differences are minimal, or there is no impact in terms of saving energy, no messages are sent even when windows and doors are open.

Reasons for Hyper Eco-Product Certification

- Employs independent sensors, using "Notice Navi" function to provide energy-saving tips to users
- Employs Mitsubishi Electric's proprietary self-circulating recycling technology to maximize the use of recycled plastic
- Factor 2 or higher

Detailed equipment data

- ▶ MSZ-ZW400S

M Materials: Effective use of resources

- Our selection technology allows three major types of plastic to be separated, with a high degree of purity, from the mixed plastic that results from end-of-life home appliances. Self-circulating recycling technology is used for interior parts to maximize the use of recycled plastic.
- This unit employs a proprietary hydrophilic/hydrophobic coating on metal and plastic parts that are inside the room, effectively repelling hydrophilic contaminants, such as lint and dust, and hydrophobic contaminants, such as greasy smoke. This function reduces the adhesion of contamination to 1/10 the normal level. A automatic filter-cleaning function, combined with the energy savings and reduced deterioration that results from low internal contaminant levels contributes to the long life of the unit.
- Existing piping can be reused, substantially lowering emissions.

E Energy: Efficient use of energy

- Improved efficiency of key air conditioner devices, such as the condenser, heat exchange and fan motor, puts this unit at the top of its class industrywide in terms of energy conservation.
- The Move Eye senses floor and wall temperatures, as well as people's locations and movements, and automatically adjusts its direction and temperature according to individual body temperatures. In this manner, the unit maintains a high degree of comfort while achieving an energy savings of up to 65%.
- The "Notice Navi" function provides energy-saving advice during operation and encourages user awareness of energy savings through visual remote control displays showing the amount of electricity being used by the indoor unit, CO₂ emissions and electricity use during energy-saving operating mode.

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

- Emits no substances defined in the EU RoHS directive, Japanese Industrial Standards (JIS) or J-Moss.

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
Room Air Conditioner | **Refrigerator** | Photovoltaic Modules | Photovoltaic Inverter
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Energy Recovery Ventilator for Commercial Use

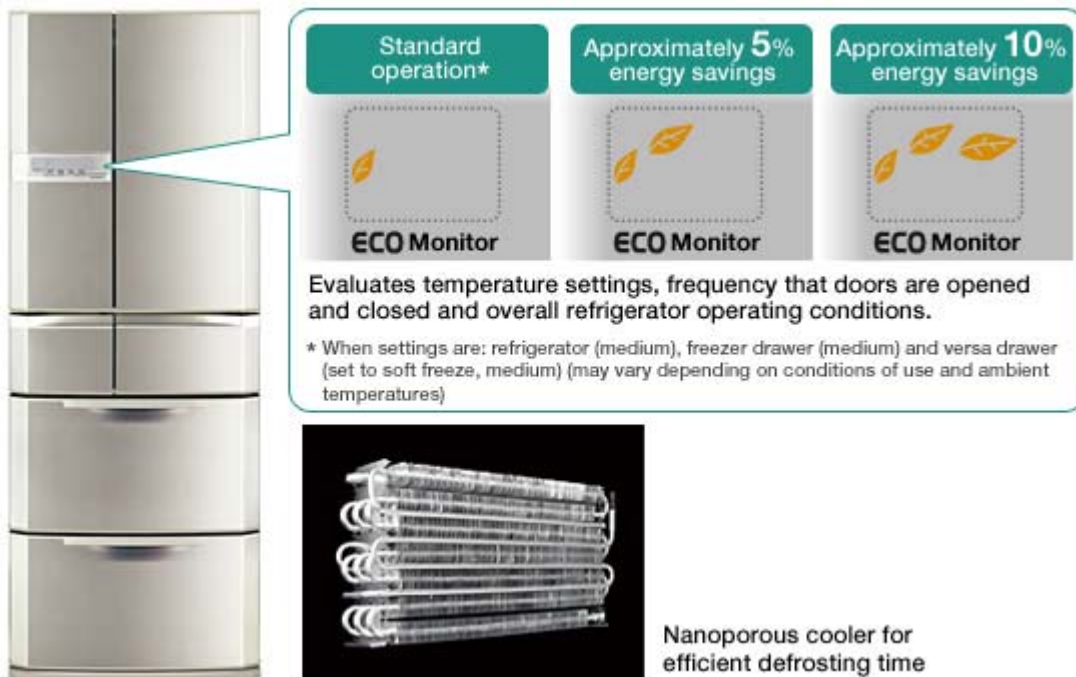
Refrigerator MR-E50R

Hyper Eco-Product




Factor 2.8

Using the Power of Light (LEDs) to Prevent Frost Formation and Discoloration during Frozen Storage

While continuing to offer the flash freezing that keeps food delicious in frozen storage, these products use the power of light to prevent frost formation and discoloration, as well as bacteria and smells. An Eco-Monitor indicates operating conditions by displaying a number of leaves (zero to three), encouraging an awareness of energy conservation.




The image shows a refrigerator with an ECO Monitor display on the door. A callout box provides details about the ECO Monitor's function and energy savings. The ECO Monitor displays a number of leaves (zero to three) to indicate operating conditions. The callout box also includes a note about the Nanoporous cooler for efficient defrosting time.

| Standard operation* | Approximately 5% energy savings | Approximately 10% energy savings |
|--|---|--|
|  |  |  |
| ECO Monitor | ECO Monitor | ECO Monitor |

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

* When settings are: refrigerator (medium), freezer drawer (medium) and versa drawer (set to soft freeze, medium) (may vary depending on conditions of use and ambient temperatures)

 Nanoporous cooler for efficient defrosting time

Reasons for Hyper Eco-Product Certification

- Factor rating of 2 or more
- Maximizes Use of Self-Circulated Recycled Plastics and Recycled Resources
- Industry Leader in Its Class for Energy Conservation and Quiet Operation

Detailed equipment data

- ▶ MR-E50R

M Materials: Effective use of resources

- Refrigerator parts are reused by promoting self-recirculated recycling of plastic (polypropylene, polystyrene) from end-of-life refrigerators at home appliance recycling plants.

E Energy: Efficient use of energy

- The unit employs a nanoporous condenser, which employs condenser fins that are porous to increase surface area, making frost formation more uniform. Condenser pipes employ heaters externally (radiant heater) and internally (aluminum pipe heater). This use of hybrid defrost heaters raises efficiency and conserves energy during defrosting.

* Radiant heater: Heater that uses nichromium wires as heat sources

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

- Does not use any substances governed by the EU's RoHS Directive or J-Moss substances regulated by Japan Industrial Standards.

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
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Energy Recovery Ventilator for Commercial Use

Photovoltaic Module PV-MX185H

Factor 1.52: Performance Factor 1.47:
Environmental Load Factor 1.035

PV-TD190MF5, these modules are installed mainly on residential roofs and commercial buildings.



Reasons for Eco-Product Certification

- Environmentally effective product
- Factor rating of 1.5 or more

Detailed equipment data

- ▶ PV-MX185H

M Materials: Effective use of resources

- Long-term reliability and long life.
- Reduced weight to output ratio by improving the product to a high output specification.

E Energy: Efficient use of energy

- Achieved high-output high-efficiency performance.

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

- Lead contents 0g in soldered parts. A new form of photovoltaic power generation with even less environmental impact.

Note

- Lead free solder-coatingless cell: For the silver electrodes formed on the solar cell surface, we have succeeded in developing a composition and manufacturing process that excels in environmental resistance. Our process has paved the way to an industry-first with the introduction of mass-production. This innovation excludes lead, which is harmful to the human body, while also expanding light reflection to improve cell efficiency.
- Tightest tolerance: Our production management system can provide the tightest module output power tolerance ($\pm 3\%$) in the industry. This innovation can be expected to boost output power in PV systems by reducing module string losses.
- Protection Bar: Mitsubishi Electric has developed a unique Protection Bar back side module. This bar can pass the static load test 5400Pa of IEC61215 2nd edition.
- Four-layer structure back film: The newly developed PET type back film offers four-layer construction. This design achieves a maximum system voltage 1000V, further improving the environmental characteristics of the module.

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
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Color TV | Package Air Conditioner | Heat Pump Water Heater | Ventilator
Energy Recovery Ventilator for Commercial Use

Photovoltaic (PV) Inverter PV-PNS04ATL-GER



Factor 2.33: Performance Factor 2.105:
Environmental Load Factor 1.107

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



Reasons for Hyper Eco-Product Certification

- Environmentally effective product
- Factor rating of 2 or more

Detailed equipment data

- ▶ PV-PNS04ATL-GER

E Energy: Efficient use of energy

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

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

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

Note

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

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



Cooling structure for long-term reliability and high efficiency.



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



Safety enclosure with dust-tight structure.

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
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Energy Recovery Ventilator for Commercial Use

Color TV LCD-H32MX75



Factor 13.324: Performance Factor 5.00:
Environmental Load Factor 2.665

Our LCD-H32MX75 color TV for the Japanese market is equipped with a "home viewing mode" that automatically optimizes picture quality for the age of the viewer and brightness of the room to offer image quality that is easy on the eyes. In addition, its slim, compact design means this 32-inch television requires relatively little space. Accommodating a larger screen than past televisions with the same exterior dimensions, the LCD-H32MX75 offers better viewing in delivering both energy efficiency and a higher-quality entertainment experience.



Reasons for Hyper Eco-Product Certification

- Industry-leading energy efficiency based on seven energy-efficiency designs
- Greater space efficiency through a slim, compact design
- Factor rating of 2 or more

Detailed equipment data

- ▶ LCD-H32MX75

M Materials: Effective use of resources

- Smaller mass/volume through product downsizing.
- Use of recycled material in stand.
- Use of labels with information on material, fire-resistance grade, and fire retardant use on plastic parts that weigh 25 grams or more and can be labeled, to promote recycling.

E Energy: Efficient use of energy

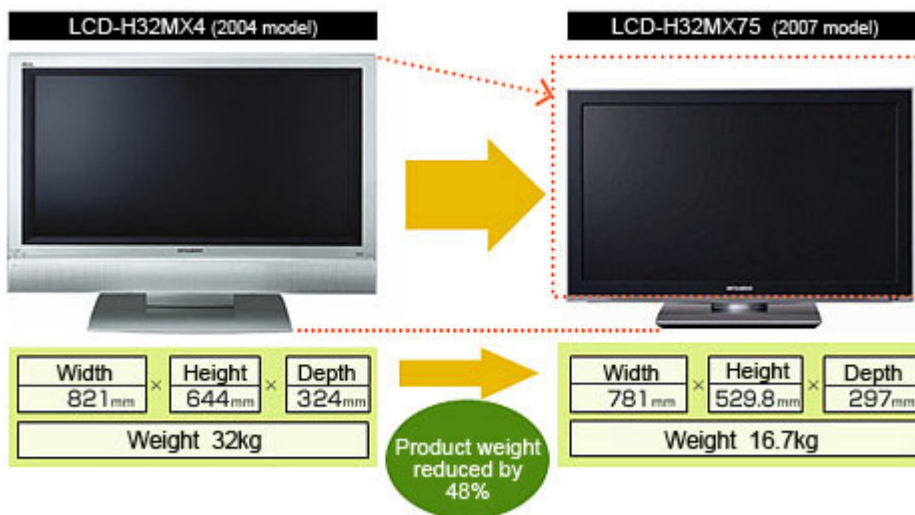
- Industry-leading energy efficiency based on seven energy-efficiency designs.
 - (1) "0W" electricity consumption when main power switch is off
 - (2) Lower power consumption through "home viewing mode" function
 - (3) Automatic power-off when no signal detected (after approx. 10 min.)
 - (4) Automatic power-off when no controls are executed (after approx. 3hrs.)
 - (5) Lower power consumption through use of power-saving mode
 - (6) "Brightness sensor" automatic power-off
 - (7) Lower power consumption through image-off mode

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

- Eliminated all use of substances subject to the EU's RoHS Directive or JIS's J-Moss.

Note

- Through use of the seven energy-efficiency designs, annual power consumption was reduced to 44% (243kwh/yr.→135kwh/yr.) compared to the LCD-H32MX4 television from fiscal 2005.
- Downsizing through slim, compact design made it possible to product weight 47.8% (32.0kg→16.7kg) compared to a similar television model from fiscal 2005.



Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
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Color TV | **Package Air Conditioner** | Heat Pump Water Heater | Ventilator
Energy Recovery Ventilator for Commercial Use

Package Air Conditioner Wide Place Inverter Air Conditioner MPLZ-WRP:B Series



Factor 2.567: Performance Factor 1.00:
Environmental Load Factor 2.567

Package air conditioners featuring the world's most compact outdoor unit, and energy efficiency among the highest in the industry.



Reasons for Hyper Eco-Product Certification

- Most compact outdoor unit among top commercial air conditioners (8-10 hp)
- APF of 4.6 among the highest in the industry (10 hp when combined with the 4-direction cassette-type indoor unit)
- Factor rating of 2 or more

Detailed equipment data

- ▶ MPLZ-WRP:B series

M Materials: Effective use of resources

- Converted previous top-flow 8hp and 10hp outdoor unit to side flow, reducing weight to 2/3, and bulk to 1/3, of previous model.
- Existing tubing and wiring can be used (reused) without cleaning. Significant reduction of waste.
- First in the industry to use a refrigerant level detector. Proper filling of refrigerant possible even when using existing tubing.

E Energy: Efficient use of energy

- Achieved an APF of 4.6, among the highest in the industry, through a heat exchanger equipped with densely packed fine turbine and inflex-to-fan, and a new high-efficiency scroll compressor.

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

- Uses a refrigerant (HFC410A) with an ozone damage coefficient of zero.
- Eliminated all use of substances subject to the EU's RoHS Directive or JIS's J-Moss.

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
Room Air Conditioner | Refrigerator | Photovoltaic Modules | Photovoltaic Inverter
Color TV | Package Air Conditioner | **Heat Pump Water Heater** | Ventilator
Energy Recovery Ventilator for Commercial Use

Heat Pump Water Heater SRT-HP46W3

Factor X Factor 2.486: Performance Factor 2:
Environmental Load Factor 1.243

SRT-HP46W3 heat pump water heaters are electric water heaters that stand out in terms of both install ability and energy efficiency. This is the result of efforts to create a smaller, lighter electric heat pump water heater and achieve an Annual Performance Factor (APF) of 3.2.



Detailed equipment data

► SRT-HP46W3

M Materials: Effective use of resources

- A smaller, lighter heat pump unit.
- A lighter hot water tank.
- Reduction of cardboard and polystyrene in packaging.

E Energy: Efficient use of energy

- Achieved an APF of 3.2 by increasing the heat-retention performance of the hot water tank.

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

- Eliminated all use of substances subject to the EU's RoHS Directive.

Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
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Color TV | Package Air Conditioner | Heat Pump Water Heater | **Ventilator**
Energy Recovery Ventilator for Commercial Use

Ventilator V-08PX₆, V-08PD₆ (for Japanese market only)



Factor 1.87: Performance Factor 1.21:
Environmental Load Factor 1.54

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



Reasons for Hyper Eco-Product Certification

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

Detailed equipment data

- ▶ V-08PD₆

M Materials: Effective use of resources

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

E Energy: Efficient use of energy

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

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

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

Note

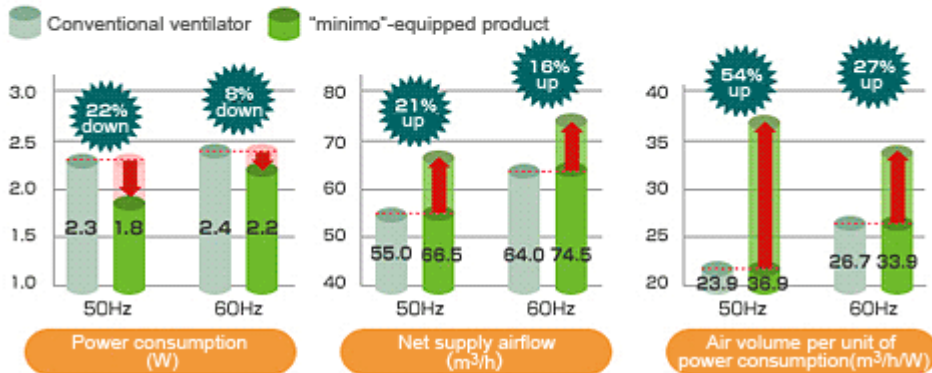
Received the Agency for Natural Resources and Energy Director General's Prize at the Energy Conservation Grand Prize

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



| Model Name | Frequency (Hz) | Power consumption (W) | Net supply airflow (m ³ /h)*1 | Air volume per unit of power consumption (m ³ /h/W) |
|--|----------------|-----------------------|--|--|
| "minimo"-equipped product V-08PX ₆ | 50 | 1.8 | 66.5 | 36.9 |
| | 60 | 2.2 | 74.5 | 33.9 |
| Conventional ventilator V-08PX ₅ | 50 | 2.3 | 55.0 | 23.9 |
| | 60 | 2.4 | 64.0 | 26.7 |

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



Product Information

Home Appliances

Jet Towel Hand Dryer | Hot Water Floor Heating System
Air Purifier with Humidification Function | Compact Cube for Commercial Use
Room Air Conditioner | Refrigerator | Photovoltaic Modules | Photovoltaic Inverter
Color TV | Package Air Conditioner | Heat Pump Water Heater | Ventilator
Energy Recovery Ventilator for Commercial Use

Energy Recovery Ventilator (LOSSNAY) LGH-50RS5 for Commercial Use (The model LGH-50RS5 is available only in Japan)



Factor 2.68: Performance Factor 2.18:
Environmental Load Factor 1.23

Equipped with the Hyper Eco Core, which delivers a total heat exchange efficiency of 66%, the LGH-50RS5 is an Energy Recovery Ventilator that is both environmentally conscious and energy efficient. Thanks to the new ventilation pattern function, this product's Microprocessor type offers more precise control of ventilation to reduce the air conditioning/heating load caused by ventilation.



Reasons for Hyper Eco-Product Certification

- Environmentally effective product
- Factor rating of 2 or more

Detailed equipment data

- ▶ LGH-50RS5

M Materials: Effective use of resources

- Fewer parts, fewer screws, thinner sheet metal.

E Energy: Efficient use of energy

- Total heat exchange efficiency of 66%.

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

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

Note

With the Hyper Eco Core, a new heat exchanger (Lossnay Core), this ventilator delivers total heat exchange efficiency of 66%, which is the leading position in the market. Keeping air conditioning/heating losses to a minimum, the 50RS5 can deliver up to ¥50,000 savings in annual air conditioning/heating expenses compared to a ventilator that simultaneously takes in and exhausts air. In addition, the Microprocessor type of this product offers more flexible operation for individual days through its weekly timer function, while the Extra Low Mode makes it possible to implement 24-hour energy conservation ventilation. These functions provide more precise control of air volume, yielding much better energy-saving ventilation. Moreover, during the summer season, the Night Purge function draws cooler outside air into the room to reduce the load when the air conditioning is started the next morning, thereby boosting energy efficiency.