

Mitsubishi Motors' Environmental Activities

As a tool for transporting ourselves, automobiles are an indispensable element of our rich and varied modern lifestyles. However, they also have a significant impact on the environment throughout all stages of their life cycles.

I believe that minimizing the overall impact of automobiles on the environment is one of the major social responsibilities of Mitsubishi Motors (MMC). This means minimizing the environmental impact of the product itself as well as the business processes involved, such as production, logistics, and sales.

To enable us to pass on a bountiful environment to future generations and to build a sustainable society, we have formulated a new Environment Initiative Program 2010 to guide us through to the fiscal year ending March 31, 2011. This plan carries on from the Environmental Sustainability Plan that we have pursued in the past.

Our action plan not only calls for preserving the environmentally friendly functions of our cars, it also calls for a reduction in the impact of all our business activities on the environment. To steadily achieve these goals, the plan categorizes all our business activities into environmental management, the prevention of global warming, the prevention of environmental pollution, and recycling and resource conservation. Our action plan then sets targets which will be achieved through the repetition of a plan-do-check-act (PDCA) cycle.

As a company dedicated to the craft of manufacturing, MMC sets ambitious goals for itself, particularly in the development of new proprietary technologies. Continually challenging ourselves to attain these goals, we seek to contribute to the preservation of the global environment and to the realization of a sustainable automobile-oriented society.



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Environmental Policy (formulated August 1999)

MMC formulated a specific Environmental Policy in 1999 to clarify the aims of environmental protection activities. This policy affirms environmental protection as one of the most important issues for management and declares MMC's commitment to undertake environmental protection activities on a continuous basis while adopting a proactive stance on environmental management and performance issues.

Basic Policy

Mitsubishi Motors recognizes that protection of the global environment is a priority for humanity and as such makes the following pledges:

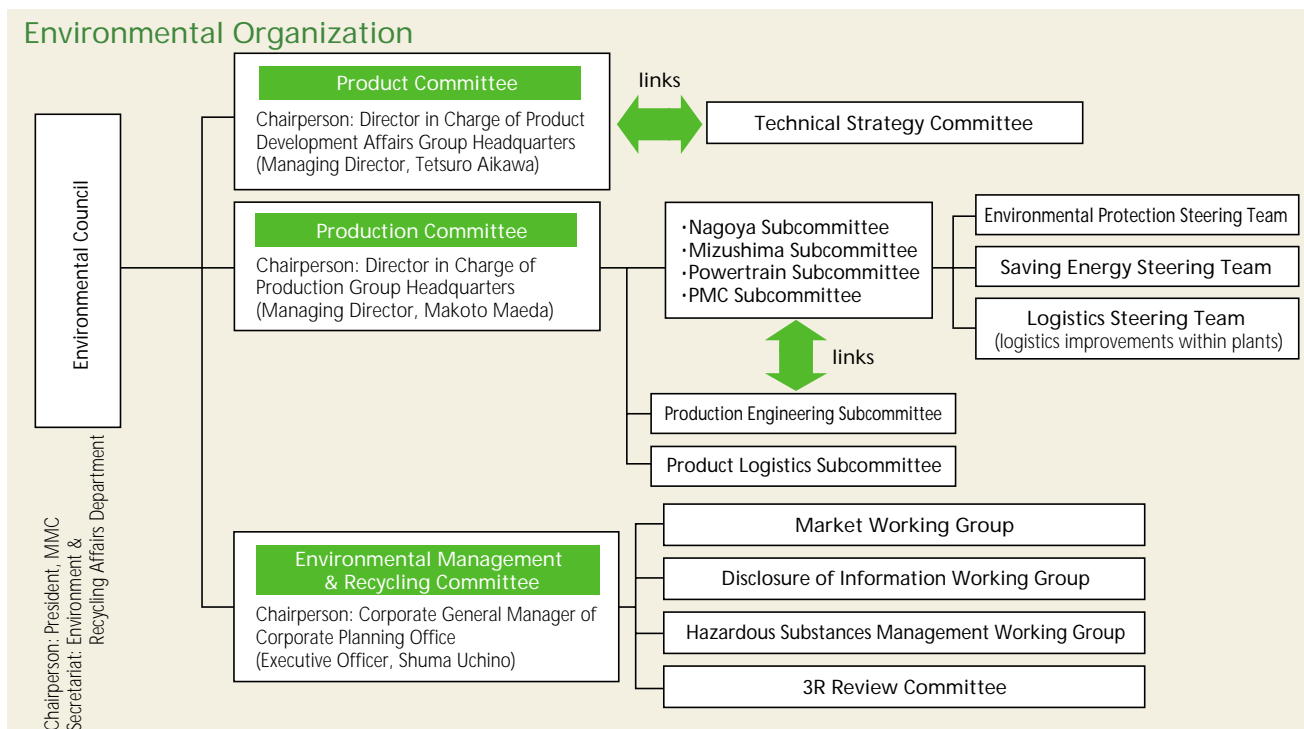
1. Taking a global perspective, we are committed to harnessing all our resources to achieve continuous reductions in the environmental impact of all our corporate activities, spanning development, procurement, production, sales, and aftersales servicing of vehicles.
2. As a good corporate citizen, we are committed to take actions that protect the environment at the level of local communities and society as a whole.

Behavioral Standards

1. We will endeavor to protect the environment by forecasting and assessing the environmental impact of our products at all stages in their life cycle. Priority is given to the following areas:
 - Prevention of global warming by reducing emissions of greenhouse gases
 - Prevention of pollution by restricting emissions of substances harmful to the environment
 - Reduction of waste and maximizing efficient use of resources by promoting conservation of resources and recycling
2. We will endeavor to improve our environment management practices as part of ongoing efforts to ameliorate the impact on the environment.
3. We will comply with environmental regulations and agreements, and will work to protect the environment by establishing voluntary management targets.
4. We will encourage our affiliates and suppliers, both in Japan and overseas, to cooperate in working to protect the environment.
5. We will actively disclose environment-related information and will seek the understanding of local communities and of society at large.

Environmental Organization

MMC pursues environmental protection activities throughout its operations under the guidance of the Environmental Council, our core environmental management body that was formed in 1993 and is chaired by the President. The council meets once a year to determine basic corporate policies on measures to protect the environment and to consider and decide on proposals made by the committees under it. Environmental goals decided through this process are reviewed on a quarterly basis and steps taken to manage progress toward achieving those goals. In a meeting held in May 2006, the council considered and decided on the Environment Initiative Program 2010, the new medium-term environmental plan covering MMC's environmental activities up to fiscal 2010. P.25,26



Environment Initiative Program 2010

MMC has created an Environment Initiative Program covering its environmental activities up to fiscal 2010. This new plan picks up where the previous Environmental Sustainability Plan left off. Taking into account past results and issues, the new plan aims for MMC to co-exist with the environment while also achieving revitalization and growth in its operations, thereby contributing to the building of a sustainable society.

Results of Environmental Sustainability Plan (Five-year plan started in fiscal 2002)

Environmental Management

Category	Midterm Target	Results up to Fiscal 2005	Assessment	Related Pages
Environmental Management System	<ul style="list-style-type: none"> Expansion of scope of ISO 14001 certification. Pursue the environmental plan by holding regularly scheduled liaison meetings with domestic production-related companies, and publication of information magazines. Strengthen exchange with major overseas plants on environmental activities and grasp of trends in regulations. 	Development Division and affiliates newly certified.	☺	P.30,31
		Regularly scheduled liaison meetings of MMC Group, regular publication of information magazines.	☺	P.31
		Good grasp of environmental activities of major overseas plants.	☺	P.32
Collaboration with sales companies	<ul style="list-style-type: none"> Build and implement environmental management system for all sales companies. 	Thorough production of environmental reports, improved instructions for disposal of industrial waste. Management system construction delayed.	☹	P.33
Collaboration with suppliers (Green procurement)	<ul style="list-style-type: none"> Promoting environmental certification by all suppliers, including new ones. 	388 of 409 companies have acquired certification (95%)	☺	P.33
Application of design for environment (DfE*1)	<ul style="list-style-type: none"> Complete DfE system, apply to product development. 	Introduced adjustment of assessment process, LCA*2 assessment of production cars. Application of system to product development insufficient.	☹	P.34
Expanding and improving training/increasing awareness, information disclosure, social contribution activities.	<ul style="list-style-type: none"> Continuous publication of Environmental Report, expansion and improvement of ongoing distribution of environmental information. 	Continuous publication of social and environmental reports.	☺	P.35
		Introduction of lecture program at elementary schools.	☺	P.17

Prevention of Global Warming

Category	Midterm Target	Results up to Fiscal 2005	Assessment	Related Pages
Improving automobile fuel economy	<ul style="list-style-type: none"> Early attainment of Japan's 2010 fuel economy standard (By end of fiscal 2007). Start drive to reach voluntary 2009 European fuel economy targets. 	Achieved 2010 standard for 4 of 7 classes of gasoline-fueled vehicles.	☺	P.38,39
Air conditioner refrigerant reduction measures	<ul style="list-style-type: none"> Expand use of low-refrigerant air conditioners (20% or greater reduction in refrigerant than 1995) in new models. Promote development of air conditioners that do not use chlorofluorocarbon substitutes. 	Progressing with efforts to reach voluntary fuel economy standard.	☺	P.38,39
		Attained greater than industry average in reduction of refrigerant volume.	☺	P.39
Reduction in CO ₂ emissions from production and logistics	<ul style="list-style-type: none"> At least 20% reduction in CO₂ emissions compared with 1990 through energy conservation in factories (By fiscal 2010). At least 6% reduction in CO₂ emissions compared with 2000 through greater distribution efficiency for finished vehicles. 	Developing low-heat multiple-refrigerant air conditioner.	☺	P.39
		29% reduction in total CO ₂ emissions compared with 1990.	☺	P.41
		7% reduction in CO ₂ emissions per unit shipped compared with 2000.	☺	P.42

Prevention of Environmental Pollution

Category	Midterm Target	Results up to Fiscal 2005	Assessment	Related Pages
Development of next-generation electric vehicles	<ul style="list-style-type: none"> R&D of various automotive technologies using in-wheel motors (EV, HEV, FCV). Fuel cell R&D. 	Started R&D of next-generation electric vehicle based on minicar platform.	☺	P.44,46
		Participated in practical tests of hydrogen and fuel cell-based batteries.	☺	P.44,46
Promoting boost of low emission vehicles	<ul style="list-style-type: none"> Increase proportion of vehicles eligible for the new preferential vehicle tax in automobile sales (At least 75% of registered vehicles, 55% if minicars). Low-emission vehicles to account for at least 85% of domestically registered vehicle unit sales. 	Registered vehicles: 69% /Minicars: 54% (Fiscal 2005).	☹	P.45
		Low emission vehicle proportion of domestically registered vehicle unit sales: 71% (Fiscal 2005).	☹	P.45
Improvement of cabin environment	<ul style="list-style-type: none"> Reduction in VOC*3 in cabins. 	Starting with the <i>i</i> model launched in January 2006, have exceeded JAMA targets.	☺	P.47
Reduced use of substances with an adverse environmental impact.	<ul style="list-style-type: none"> Comply with domestic and EU restrictions on substances with an adverse environmental impact: lead, mercury, hexavalent chromium, cadmium. 	Eliminated use of mercury in 2003 (excluding commissioned components).	☺	P.48
		Also have exceeded JAMA targets for lead use. Started efforts to eliminate use of all substances with an adverse environmental impact within EU deadline.	☺	P.48
Reduction of environmentally-impacting substances in production	<ul style="list-style-type: none"> VOC emissions: Reduction of VOC use on passenger car paint lines to 35g/m² or less, and to an average 42g/m² or less for overall production (By fiscal 2010). 	Pursuing target through introduction of water-based paints, etc.	☺	P.49,50

Recycling and Resource Conservation

Category	Midterm Target	Results up to Fiscal 2005	Assessment	Related Pages
Recycling of ELVs	<ul style="list-style-type: none"> Japan: Comply with Japan's automobile recycling law and support smooth recycling process. EU: Promote activities aimed at achieving 95% recycling efficiency, build network capable of meeting obligation to collect ELVs, provide information, etc. 	Legal 2010 ASR*4 resource recovery ratio standards surpassed.	☺	P.52,55-57
		Still determining whether midterm recycling efficiency ratio (Fiscal 2005) reached. Proceeding with efforts to meet ELV collection obligation and steadily provide information, etc.	☺	P.52,55-57
Production process recycling	<ul style="list-style-type: none"> Maintain zero emissions of landfill waste at all manufacturing sites. Achieve a waste recycling rate of at least 98%. Reduce emissions of such by products as metal scrap and waste casting sand (reduction of emissions to net sale ratio by 1.7% compared with fiscal 2001, by fiscal 2006). Reduction of water use through efficient recycling (5% reduction compared with fiscal 2000). 	Maintained zero landfill waste since fiscal 2002.	☺	P.53
		Attained since fiscal 2001 (Parent company 99.8%)	☺	P.53
		1.8% reduction compared with fiscal 2001 (Fiscal 2005)	☺	P.53
		Achieved since fiscal 2001.	☺	P.54

Environment Initiative Program 2010 (New plan covering period to fiscal 2010)

Environmental Management

Category	Activities and Goals	Related Pages
Build up global environmental management framework	• Expand environmental management system to cover non-production subsidiaries and affiliates, including overseas companies.	P.31-33
	• Promote acquisition of EA21*5 environmental management certification for domestic sales companies.	P.33
Collaboration with suppliers	• Promote acquisition of ISO 14001 and other environmental management certification by suppliers.	P.33
Establish DfE promotional organization	• Establish LCA data collection system at domestic production bases.	P.34
	• Establish system to collect LCA data from suppliers.	P.34
Expanding and improving training/increasing awareness and information disclosure.	• Expand environmental training programs including consolidated companies	P.35
	• Continuously expand and improve information disclosure through social and environmental reports, website, etc.	P.35
Expanding and improving social contribution activities and environmental activities	• Expansion of lecture program at elementary schools.	P.17

Prevention of Global Warming

Category	Activities and Goals	Related Pages
Improve automobile fuel economy	• Progressively enhance fuel economy by incorporating low-fuel consumption technology into new vehicles	P.38,39
	Japan: Achieve domestic fuel economy standard targets for 2010 in all vehicle categories ahead of schedule by 2007	
Development of next generation of low-fuel consumption core technologies	• Develop and commercialize next-generation clean diesel engines.	P.40
	• Develop and commercialize next-generation high-efficiency transmissions.	
Compatibility with diverse energy sources	• Develop and launch bio-fuel compatible vehicles.	P.40
Development and practical application of plant-based resin	• Develop and practically apply "green plastic" derived from proprietary vegetable-oil based resin .	P.39
Development of air conditioners using refrigerants with low global-warming factors	• Develop and practically apply air conditioners using substitute refrigerants instead of HFC-134a.	P.41
Reduction in CO ₂ emissions from production and logistics	• Total CO ₂ emissions from production: At least 20% lower than fiscal 1990.	P.42
	• CO ₂ emissions per unit shipped from logistics: Annual reduction of at least 1%.	P.42

Prevention of Environmental Pollution

Category	Activities and Goals	Related Pages
Development of next-generation electric vehicles	• Target R&D with a view to launching a next-generation electric vehicle based on the minicar platform by 2010.	P.44,46
Promoting propagation of low emission vehicles	• Raise most registered passenger automobiles to the "4-star" level by 2010.	P.44,45
Reduction of VOCs in cabins	• Achieve JAMA standards (April 2007) early by successively introducing higher standards in new vehicles being sold starting in 2006.	P.47
Strengthen management and reduce use of substances with an adverse impact on the environment used in products	• Improve management of information on adverse-impact substances used in components and materials.	P.48
	• Achieve early elimination of use of restricted adverse-impact substances, such as hexavalent chromium.	P.48
	• Convert to lead-free solder.	P.48
Reduce use of environmentally-impacting substances in production.(VOCs, PRTR*6)	• Reduction of VOC emission unit use by at least 30% compared with fiscal 2000	P.49
	• Substantial reduction in emissions and transfers of PRTR-listed substances.	P.50
	• Promote proper disposal of waste containing PCBs.	P.50
	• Prevention of asbestos-caused damage to people's health.	P.50

Recycling and Resource Conservation

Category	Activities and Goals	Related Pages
Automobile recycling	• Japan: Early achievement of fiscal 2015 statutory minimum SR recycling rate of 70%. Promote total recycling (End of fiscal 2009: total recycling rate of at least 20%)	P.55-58
	• Europe: Build ELV recovery system. Respond to recyclability directives.	P.55-57
Development and increased application of 3R technology	• Increase ease of removing wire harness types of motors.	P.52,58
	• Use more parts made from recycled materials.	P.52,57
3R in context of production process.	• Landfill disposal: Continue to work towards a zero landfill disposal rate at all manufacturing plants.	P.53
	• In-process recycling: Maintain recycling rate in excess of 98%	P.53
	• Waste reduction: Continue to reduce quantities of spent waste casting sand and metal scrap requiring disposal.	P.53
	• Water resources: Continue to reduce water use by more than 5% over 2000 levels.	P.54

*1. DfE : Design for Environment.

*2. LCA : Lifecycle Assessment. The method of evaluating impact on environment from raw materials extraction to vehicle scrapping and recycling.

*3. VOC : Volatile Organic Compound





*4. ASR : Automobile Shredder Residue. The waste residue remaining after the vehicle has been broken down by the shredder, and metals and other useable materials have been separated out.

*5. EA21 : EcoAction21 (Environmental Management System established by the Ministry of Environment).

*6. PRTR : Pollutant Release and Transfer Register, a reporting system for use and transfer of specified chemical substances.

Environmental Activity Map

Automobiles impact on the environment in various forms as they go through their lifecycle of production, use, and recycling. This environmental activity map horizontally follows the lifecycle while vertically showing the different environmental categories, helping to give an overall view of MMC's environmental activities.

	Planning & Development	Procurement	Production
Environmental Management	<p>Design for Environment P.34 By sharing the concept of design for environment (DfE), we are improving the environmental aspects of products.</p> <p>ISO Certification Efforts P.32 We upgraded our ISO 14001 certification to the 2004 version. Also, we expanded the scope of certification to our development divisions.</p> <p>Employee Training P.35 We conduct employee training/awareness activities, such as new employee training and engineer training programs, publication of email magazines, and environmental activity explanation meetings. Environment Month activities are held on a companywide basis.</p> <p>Communications P.37 We are building an organization to produce social and environmental reports, provide information disclosure on our website, and communicate with local communities.</p>	<p>Green Procurement P.33 We require suppliers to acquire ISO 14001 and other certification. In fiscal 2005, another 9 companies acquired ISO 14001 certification, bringing the overall certification percentage to 94.9%.</p>	<p>MMC Group Meetings P.31 We hold various types of meetings with major associated companies.</p> <p>ISO Certification Efforts P.31,32 All major production-related companies in Japan and overseas have acquired ISO 14001 certification.</p>
Prevention of Global Warming	<p>Improving Fuel Economy P.38 In Japan, we are aiming for an early achievement of the 2010 fuel economy standard. Our efforts to improve fuel economy include developing high-efficiency engines, greater use of CVTs, and making lighter vehicles.</p> <p>Air Conditioner Refrigerant P.39 Since 1997, we have been using refrigerant conservation-type air conditioners in our new models.</p> <p>Developing Low-Emission Vehicles P.44,45,46 In fiscal 2005, 71% of the gasoline-fueled passenger automobiles sold by MMC were certified as low-emissions vehicles. We are developing an electric vehicle that emits no carbon dioxide when running with the goal of quickly producing a practical application.</p>	<p>Idling Stop We ask our employees and our suppliers not to idle their vehicle engines.</p> <p>Milk Run In Japan, we have commenced tests to enable MMC to switch its parts procurement system from a direct delivery system used by parts manufacturers to a milk run system for automobile manufacturers, in which parts for multiple companies are transported together.</p>	<p>Energy Conservation P.41 We conduct target-based activities to reduce use of electricity, fuel, and other types of energy.</p> 
Prevention of Environmental Pollution	<p>Improving Cabin Environment P.47 We are taking steps to make the cabins of vehicles comfortable and safe by reducing the VOC emissions and by using Bio-clear Filters.</p>	<p>Management of Hazardous Substances P.33 We require suppliers to follow our management of hazardous substances guidelines and to disclose data on their use.</p>	<p>Management of Substances with Environmental Impact P.49,50 In addition to complying with laws related to air, water, noise, and vibration, we are working on meeting the new regulations on reducing VOCs and properly disposing of materials containing PCBs.</p>
Recycling and Resource Conservation	<p>3R Design P.52 We promote reuse and recycling by using easily recycled materials.</p>  		<p>3R Promotion P.53 While endeavoring to maintain a zero-volume final disposal record, we are also reducing the volume of waste generated and converting from thermal recycling to material recycling.</p>

Logistics

Sales

Use

Recycling

ISO Certification P.31

Logistics subsidiary Mitsubishi Motors Logistics acquired ISO 14001 certification in November 2003.



EcoAction21 Certification P.33

In the past, sales companies renewed environmental activities based on their own management system. However, starting in 2005, two sales companies commenced programs aimed at receiving EcoAction21 certification.



Environmental Audit

We periodically audit approved ASR facilities and complete resource recovery operators.



Improving Transport Efficiency P.42

We seek to increase the transport efficiency of the logistics systems for built-up vehicles by promoting modal shifts, higher loading efficiency on car trailers, and other measures.

Idling Stop

We target greater vehicle operational efficiency using digital tachography and thorough adherence to no idling requirements.



Greater Awareness of Eco Driving

We run an awareness activity that aims to increase awareness by printing such comments as "Slow down. Go easy on the environment through Eco Driving" on catalogs and other publications sent to customers.



Information Disclosure of Environmental Features

We disclose information about environmental features of our products by including environmental information in our catalogs and on our website, etc.



Collecting Chlorofluorocarbons P.56

In fiscal 2005, we collected and disposed of through degradation 63 tons of chlorofluorocarbons, the equivalent of 200 thousand air conditioner units.



Returnable Packaging P.54

We proactively promote the return of packaging by designing racks and boxes used to ship maintenance and repair parts so that they can be compressed from one-third to one-tenth their size after delivery. We are also actively converting to steel containers for shipment of KD parts to reduce the use of wood materials in containers.

Collection of Bumpers P.57

Since 1997, our sales companies have collected used polypropylene bumpers that are being replaced because of accidents, etc. In fiscal 2005, we collected 66,998 bumpers.

Separation of Waste

We promote the recycling of the large amount of waste generated during maintenance and repairs by finely separating and storing it, and actively selling metal scrap and other useful materials, etc.

ASR Recycling P.55,56

Starting with fiscal 2010, laws in Japan will require that at least 50% of vehicles be recycled—a figure we have already achieved. Now we are preparing for an increase in this figure to at least 70% in fiscal 2015.

Air Bag Collection P.56

Our resource recycling goal is 85%, but we achieved 93.5% in fiscal 2005.