

Environmental Activities

Environmental Management

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Environmental Activities - Environmental Management

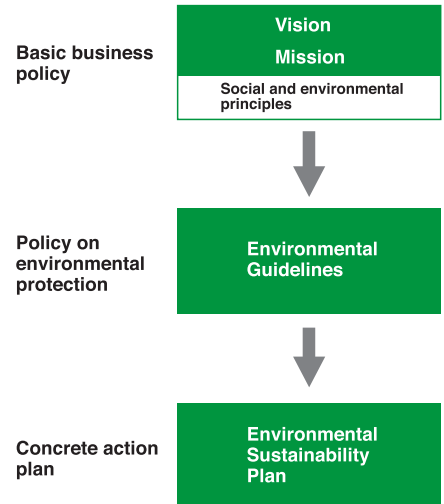
Environmental Guidelines

In order to clarify group policy on environmental protection, MMC replaced its "Basic Philosophy on the Environment" in August 1999 with the "Environmental Guidelines".

The basic policy affirms environmental protection as a priority and commits us to doing everything in its power to protecting the environment, while the behavioral standards lay down concrete measures for doing so.

Our new "Vision" and "Mission" formulated in 2003 (see P.4) incorporate as basic guiding principles the protection and improvement of the environment and symbiosis with society. In order to embody these principles in all the products and services, MMC has clarified the environmental policy as "Environmental Guidelines", and promoted concrete activities with "Environmental Sustainability Plan" (see P.14).

MFTBC will also be taking action to protect the environment following these same guidelines.



MMC/MFTBC ENVIRONMENTAL GUIDELINES

Basic Policy

MMC /MFTBC recognize that protection of the global environment is a priority for humankind and as such makes the following undertakings:

- (1) From a global viewpoint, we are committed to continual reduction of negative environmental impact of our corporate activities with all our strength, these including development, procurement, production, sales, and after-sale servicing activities related to automobiles.
- (2) As a good corporate citizen, we are committed to action to 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 environment.
- (3) We will comply with environment 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.

Organizational Structure

■ Environmental Council

MMC has been committed to environmental protection through every aspect of its activities since establishing the Environmental Council chaired by the president in 1993.

The Environmental Council meets as a rule once a year to determine basic corporate policy on measures to protect the environment and to consider and determine matters proposed by its various committees.

With the spin-off of the truck and bus division in January 2003, the Environmental Council was reorganized as shown below. Environmental Councils were set up at both MMC and MFTBC, and a Product Committee, Production Committee and Environmental Management/Recycling Committee established under each.

The Automobile Recycling Law Task Force set up in August 2001 to coordinate MMC's response to Automobile Recycling Law in Japan has functioned as a cross-company entity following MFTBC's spin-off.

In 2002, two additional organizations were established under the Environmental Management/Recycling Committee, these being the DfE Promotion Working Group (see P.23) and the Hazardous Substances Control Working Group.

Regarding activities in fiscal 2002, measures were pursued in accordance with the company-wide Environmental Sustainability Plan drawn up last year based on traditional arrangements, and periodical follow-up surveys made of the state of progress by the Environmental & Technical Affairs Department, which comprises the secretariat.

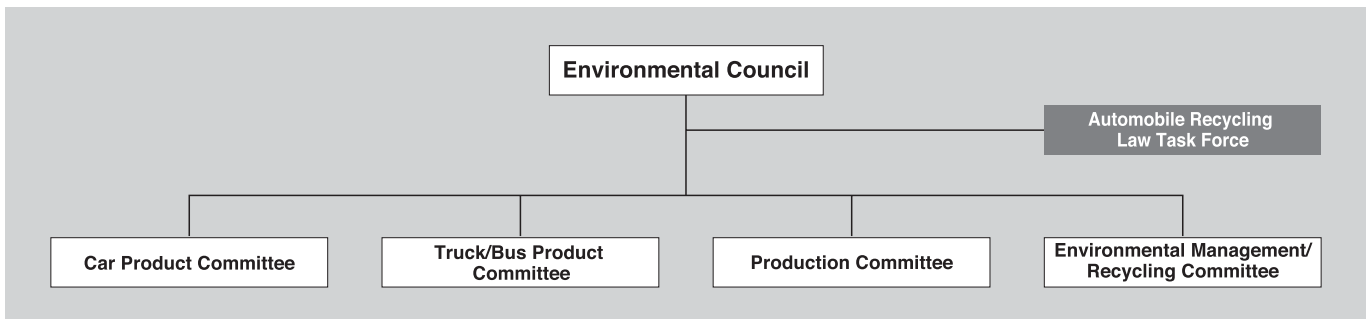
■ Dedicated Environmental Organization

Environmental Affairs Department was established in May 1999 to take overall responsibility for environmental activities throughout the company. (In April 2000, the department's staffing was boosted and it was renamed Environmental & Technical Affairs Department.) The department's main functions are to plan the strategy of MMC's environmental activities and to act as a secretariat for the Environmental Council.

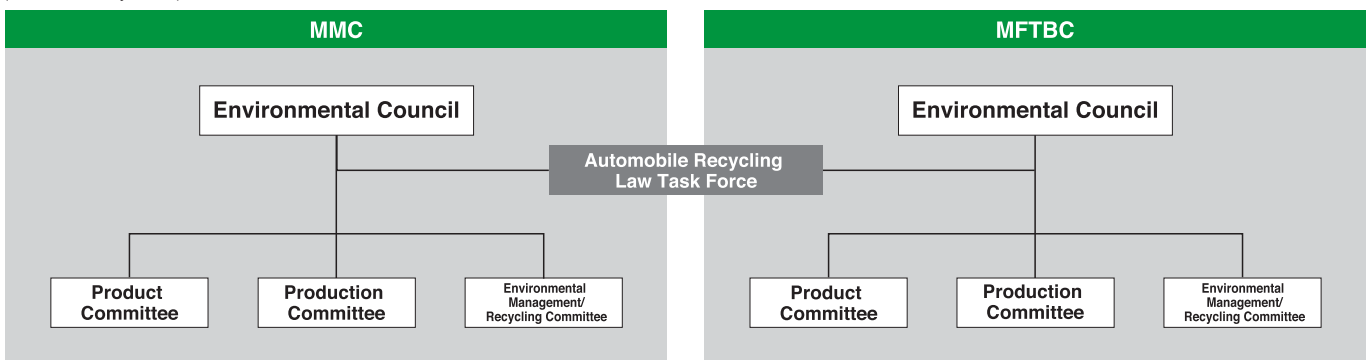
In November 2001, the post of Environmental Officer was made a full-time position, and activities stepped up. In order to speed up action on recycling legislation in Japan and overseas, a Recycling Promotion Office was in addition established in March 2002.

In MFTBC, Technical Administration Department acts as a secretariat for the Environmental Council.

(By the end of 2002)



(Since January 2003)



Main activities of each committee

Product Committee : improvement of fuel efficiency, reduction of exhaust emissions, development of clean energy vehicles, improvement of traffic flow, etc.

Production Committee : reduction of waste and resource conservation at the production stage, prevention of global warming at the production and distribution stages, reduction of use and emission of hazardous substances at the production stage, etc.

Environmental Management/Recycling Committee : design for environment (DfE), collaboration with suppliers and dealers, promotion of vehicle recycling, etc.

Environmental Activities - Environmental Management

Environmental Sustainability Plan

MMC and MFTBC are pursuing environmental protection in accordance with a five-year medium-term environmental action plan beginning in fiscal 2002 called the Environmental Sustainability Plan.

The plan sets concrete targets in four fields – environmental management, recycling, prevention of global warming, and prevention of environmental pollution– and specifies as far as possible the means and timescale for their attainment.

At Environmental Council in March 2003, this plan was partially revised taking into account activity outcomes and changes in social trends, and split into MMC's and MFTBC's.

The main revisions are as follows:

- Completion of "Establishment of arrangements for DfE" and adoption of "Application of DfE".
- Regarding "Promotion of R&D on fuel cell vehicles (FCVs)", adoption of "Participation in Japan Hydrogen & Fuel Cell demonstration Project (JHFC) subsidized by Ministry of Economy, Trade and Industry (METI)"
- Regarding "High fuel efficiency/ultra low emission vehicles (approved for government use)", "at least 85% of registered vehicles and 70% of mini-cars" was adopted as new target for fiscal 2005.

- Regarding "Use of lead-free paint for electrodeposition coating", completion of switch to use of lead-free electrodeposition paint on all passenger car paint lines and adoption of "Use of lead-free paint on domestic truck electrodeposition paint lines".
- Regarding "Reduction of VOC emissions", adoption of "Reduction of VOC use on truck paint lines to 20g/m² or less by changing paints (by end 2005)"
- Regarding "Reduction of dioxin emissions", attainment of target of reducing dioxin emissions to one tenth of emission limit and maintenance at this level.

(1) Environmental management

Category	Item	Target	
DfE (Design for Environment)	Application of DfE	● Pursuit of implementation of DfE process	MMC
Cooperation with suppliers (green procurement)	Promotion of acquisition of ISO14001 certification	● Promotion of acquisition of ISO14001 certification by all suppliers (by end FY 2004)	MMC MFTBC
Cooperation with dealers	Support for introduction of environmental management systems by dealers	● Establishment and operation of environmental management systems by all dealers	MMC MFTBC
Collaboration with domestic and overseas production affiliates	Promotion of acquisition of ISO14001 certification	● Expansion of the acquisition of ISO 14001 certification at domestic and overseas plants, and promotion of the environmental activities as well as MMC and MFTBC, which had acquired it at all plants in Japan	MMC MFTBC
	Cooperation with domestic production affiliates	● Enhancement of "Environmental Sustainability Plan" and promotion of the certain action by MMC/MFTBC Group Plant Environment Liason Council (twice a year)	MMC MFTBC
	Cooperation with overseas production affiliates	● Regular monitoring of state of compliance with official regulations and regulatory trends (twice per year) ● Action to protect the environment in accordance with the demands of societies in host countries ● Strengthening of collaboration on environmental and recycling issue at International Production Conference with major affiliates	MMC MFTBC
Disclosure	Disclosure of environmental information	● Regular publication and improvement of environmental reports ● Improved disclosure of information via the Internet	MMC MFTBC

(2) Recycling

Category	Item	Target	
Promotion of vehicle recycling	Compliance with Japanese and EU legislation on vehicle recycling/improvement of recyclability/reduction of use of hazardous substances	● Activities for achieving 95% recycling rate 1) Active involvement in development of recycling systems through collaboration with central and local governments and other related entities Development of network for collection of End-of-life vehicle (ELV)s through collaboration with related companies such as DaimlerChrysler in the EU 2) Promotion of easily recyclable products (Development of recyclable materials, design of easily recyclable constructions, expansion of use of recycled materials) 3) Reduced use of hazardous substances (lead, mercury, hexavalent chromium, cadmium, etc.)	MMC MFTBC
Reduction of waste emissions and improved resource conservation at production stage	Zero emissions of landfill waste	● Maintenance of zero emissions of landfill waste at all plants (achieved in FY 2001)	MMC MFTBC
	Promotion of recycling	● At least 98% recycling of waste (by end FY 2005)	MMC MFTBC
	Reduction of emissions of byproducts	● Reduction of metal scrap and waste casting sand	MMC MFTBC
	Effective use of water resources	● Reduction of water use through greater recycling, etc.	MMC MFTBC

(3) Prevention of global warming

Category	Item	Target	
Improvement of vehicle fuel efficiency	Compliance with new domestic fuel efficiency standards	● Early attainment of new domestic fuel efficiency standards for 2010 (by FY2005)	MMC
	Attainment of self-targets for EU fuel efficiency	● Steady action to achieve self-targets for EU fuel efficiency in 2009	MMC
	Improvement of truck and bus fuel efficiency	● Further improvements in fuel efficiency	MFTBC
Reduction of use of air conditioner refrigerant	Reduction of use of HFC134a	● Expansion of use of air conditioning systems using less refrigerant	MMC MFTBC
	Promotion of development of HFC134a-free air conditioners	● Promotion of development of CO ₂ refrigerant (jointly with airconditioning equipment manufacturers)	MMC MFTBC
Production and logistics	Reduction of emissions of CO ₂ (energy conservation at plants)	● Reduction of CO ₂ emissions by at least 20% compared with FY1990 (by end FY2010)	MMC MFTBC
	Reduction of CO ₂ emissions at logistics stage	● Reduction of CO ₂ emissions per unit shipped by at least 10% compared with FY2000 by improving transportation efficiency (by end FY2005)	MMC MFTBC
	Reduction of packaging and packing materials	● Reduction by at least 15% compared with FY2000 in use of wooden cases per knockdown unit sold (by end FY2005)	MMC MFTBC
Improvement of traffic flow	Improvement of transport environment through use of ITS technology	● Promotion of R&D and diffusion of ITS in-car equipment	MMC

(4) Prevention of environmental pollution

Category	Item	Target	
Development and propagation of low emission vehicles, etc.	Promotion of R&D on fuel cell vehicles (FCVs)	● Continuation of research and application of technologies with DaimlerChrysler ● Participation in Japan Hydrogen & Fuel Cell demonstration Project (JHFC) subsidized by Ministry of Economy, Trade and Industry (METI)	MMC
	Market launch of clean energy vehicles	● Development and launch of compressed natural gas vehicles (CNGVs) and hybrid electric vehicles (HEVs)	MMC
		● Launch of Large bus HEV	MFTBC
	Expansion of high fuel efficiency low emission vehicles (LEVs)	● At least 85% of domestically registered vehicle sales from FY2005 to be LEVs approved for government use (high fuel efficiency + U-LEVs) ● At least 80% of domestically registered vehicle sales from FY2003 to be Green Purchasing Law compliant ● At least 70% of domestically registered mini-car sales from FY2005 to be LEVs approved for government use (high fuel efficiency + U-LEVs)	MMC
Compliance with Japanese and overseas exhaust emission regulations		● Timely release of vehicles compliant with exhaust emission regulations	MMC MFTBC
		● Development of low emission gasoline trucks	MFTBC
Reduction of use of hazardous substances at production stage	Use of lead-free paint for electrodeposition coating	● Elimination of use of lead paints on domestic truck electrodeposition paint lines (by end FY 2004)	MFTBC
	Reduction of VOC emissions	● Reduction of VOC use on passenger car paint lines to 35g/m ² or less through adoption of waterborne paints (by end 2007)	MMC
		● Reduction of VOC use on truck paint lines to 20g/m ² or less by changing paints (by end 2005)	MFTBC
Reduction of dioxin emissions		● Maintenance of dioxin emissions from waste incinerators at the level of 10% or less of allowed limit	MMC

Targets and Performance in Fiscal 2002
(1) Environmental management

○: Achieved △: Partially achieved ×: Not achieved

Category	Item	Targets in FY 2002	Performance in FY 2002	Assessment	Related page
DfE (Design for Environment)	Establishment of arrangements for DfE	● Establishment of development process to effectively reduce the environmental impact throughout the lifecycle of products	● Completed	○	P.23
Cooperation with suppliers (green procurement)	Promotion of acquisition of ISO14001 certification	● Promotion of acquisition of ISO14001 certification by all suppliers	● 59% acquisition rate achieved (304 of 512 suppliers)	○	P.24
Cooperation with dealers	Support for introduction of environmental management systems by dealers	● Establishment and operation of environmental management systems by dealers	● MMC: revised the promotion plan, and incorporated the construction of environmental management systems with "Dealer Standards" ● MFTBC: promoting establishment of environmental management systems	△	P.34
Collaboration with domestic and overseas production affiliates	Promotion of acquisition of ISO14001 certification	● Expansion of ISO14001 certified operations	● Acquired by Mitsubishi Automotive Techno-Metal in March 2003 ● Acquired by MMAL in March 2003	○	P.17
	Cooperation with domestic production affiliates	● Enhancement of "Environmental Sustainability Plan" and promotion of the certain action	● Publicizing and implementation through "Group Plant Environmental Liaison Council" (twice a year) and "Plant Environment Topics"	○	P.17
	Cooperation with overseas production affiliates	● Strengthening of collaboration with main overseas plants	● Strengthening of collaboration through follow-up surveys of state of measures, etc.	○	P.17
Disclosure	Disclosure of environmental information	● Regular publication and improvement of environmental reports ● Improved disclosure of information via the Internet	● Simultaneous release in English and Japanese in October 2002 ● Public announcement of "Environmental Sustainability Plan"	○	P.19

Environmental Activities - Environmental Management

(2) Recycling

○:Achieved △:Partially achieved ×: Not achieved

Category	Item	Targets in FY 2002	Performance in FY 2002	Assessment	Related page
Promotion of vehicle recycling	Compliance with Japanese and EU legislation on vehicle recycling/improvement of recyclability/reduction of use of hazardous substances	● Promotion of collaboration with DaimlerChrysler for development of network for collection of End-of-life vehicle (ELV)s in the EU	● Entered into contract in December 2002	○	P.43 - 49
		● Achievement of the target of recyclability rates (achieve at least 90% since FY 2000)	● Achieved by new models (Colt, Lancer Cargo, Canter)	○	
		● Prior assessment of recyclability	● Prior assessment of recyclability of models developed in FY2002 in accordance with recycling design guidelines	○	
		● Promotion of recycling waste materials produced in other industries	● Use of recycled materials for Air-cleaner case made from recycled PP and waste paper etc.	○	
		● Increase in collection number of replaced bumpers for recycling	● A total of 73,520 replaced bumpers collected from dealers around the country (130 bumpers per a month increase from FY2001)	○	
Reduction of waste emissions and improved resource conservation at production stage	Zero emissions of landfill waste	● Maintenance of zero emissions of landfill waste at all plants (achieved in FY 2001)	● Maintenance of zero landfill waste emissions	○	P.27
	Promotion of recycling	● Improvement of waste resource recovery rate (achieve 98% or more by end of FY2005)	● 99.4% waste resource recovery rate	○	P.28
	Reduction of emissions of byproducts	● Reduction of metal scrap and waste casting sand	● 7.5% volume per sales amount reduction from FY2001	○	P.28
	Effective use of water resources	● Reduction of water use through greater recycling, etc.	● 14% water use reduction from FY2001	○	P.28

(3) Prevention of global warming

Category	Item	Targets in FY 2002	Performance in FY 2002	Assessment	Related page
Improvement of vehicle fuel efficiency	Compliance with new domestic fuel efficiency standards	● Pursuit of measures to enable early achievement of 2010 standard by 2005	● Increase of achieved vehicles by new models (Colt, Lancer Cargo)	○	P.35 - 36
	Attainment of self-targets for EU fuel efficiency	● Steady action to achieve self-targets for EU fuel efficiency in 2009	● Development of high fuel efficiency technologies (improvement of engines and drive systems, reduction of weight, etc.)	○	P.35 - 36
	Truck and bus measures	● Development of high fuel efficiency components	● Development of aluminum frames ● Promotion of expansion of lineup of vehicles fitted with idling prevention systems as standard and INOMAT vehicles	○	P.36 - 37
Reduction of use of air conditioner refrigerant	Reduction of use of HFC134a	● Use of air conditioners using less refrigerant in new models	● Use in new models (Colt, Lancer Cargo, Canter)	○	P.37
	Promotion of development HFC 134a-free air conditioners	● Promotion of development of CO ₂ refrigerant air conditioners	● Under joint development with airconditioning equipment manufacturers	○	P.37
Production and logistics	Reduction of emissions of CO ₂ (energy conservation at plants)	● CO ₂ emissions: 543,000t-CO ₂	● 506,000t-CO ₂	○	P.26
	Reduction of CO ₂ emissions at logistics stage	● Reduction of CO ₂ emissions per unit shipped by improving transportation efficiency (at least 10% compared with FY2000 by end of FY2005)	● Passenger Cars: 1.4% reduction from previous fiscal year (44.4kg-CO ₂ /vehicle) ● Trucks: 3.0% reduction from previous fiscal year (45.3kg-CO ₂ /vehicle)	○	P.32 - 33
	Reduction of packaging and packing materials	● Reduction in use of wooden cases per knockdown unit sold (at least 15% compared with FY2000 by end of FY2005)	● Introduction of returnable racks/boxes for replacement parts on U.K., Swiss and Austrian routes	○	P.33
Improvement of traffic flow	Improvement of transport environment through use of ITS technology	● Promotion of R&D and diffusion of ITS in-car equipment	● Increase in vehicles with ETC and car navigation systems and development of commercial ITS additional functions	○	P.42

(4) Prevention of environmental pollution

Category	Item	Targets in FY 2002	Performance in FY 2002	Assessment	Related page
Development and propagation of low emission vehicles, etc.	Promotion of R&D on fuel cell vehicles (FCVs)	● Continuation of research with DaimlerChrysler	● Establishment of cooperation system with Daimler-Chrysler and promotion of research	○	P.40
	Market launch of clean energy vehicles	● Promotion of development of EVs, hybrid vehicles and CNG vehicles, etc.	● Continuation of development of EV component technologies and entry of EV in Shikoku EV Week 2002 ● Development of small HEV truck and exhibition at Tokyo Motor Show ● Entry into market for medium truck and small bus CNG vehicles	○	P.40 - 42
	Expansion of use of high fuel efficiency low emission vehicles (LEVs)	● Increase in proportion of registered vehicles sold domestically approved as LEVs for government use (high fuel efficiency + U-LEVs)	● 33.5% proportion of LEVs approved for government use	○	P.41
		● Increase in proportion of registered vehicles sold domestically covered by Green Purchasing Law	● 53% proportion of vehicles covered by Green Purchasing Law	○	
	Compliance with Japanese and overseas exhaust emission regulations	● Increase in proportion of U-LEVs in registered vehicle sales of domestic gasoline passenger cars	● 33.5% proportion of U-LEVs	○	P.38 - 39
● Timely introduction of vehicles compliant with standards		● Market launch of vehicles with Canter small engines and Aero Star large engines complied with the 8LG LEV ● Introduction of small, medium and large trucks for Australian market	○		
Reduction of use of hazardous substances at production stage	Use of lead-free paint for electrodeposition coating	● Elimination of lead use on domestic passenger car electrodeposition paint lines	● Implemented on all passenger car lines	○	P.31
	Reduction of VOC emissions	● Preparation of introduce water-based paints	● Promoting of construction of new paint factory using water-based paints at Mizushima Plant	○	P.29
	Reduction of dioxin emissions	● No more than dioxin emission concentration target of 1ng-TEQ/m ³ N (10% of limit)	● Target attained through appropriate management of incinerators(0.4ng-TEQ/m ³ N)	○	P.29

Measures by Affiliates

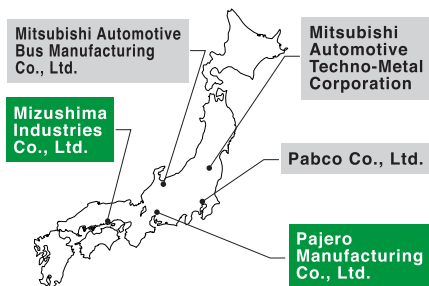
■ Collaboration with Domestic Affiliates

The Mitsubishi Motors Group Plant Environment Liaison Council meets twice a year, bringing together MMC/MFTBC's five main production affiliates to promote environmental measures on a par with those taken by MMC/MFTBC and to actively share information.

In fiscal 2002, mid-term environmental action plans were drawn up for each company.

The newsletter entitled "Plant Environment Topics" is published twice a year for distribution to 100 suppliers to keep them abreast of legislative developments and other trends.

■ Passenger cars ■ Trucks and buses



Main Domestic Affiliated Plants



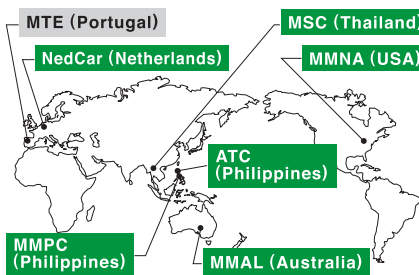
Plant Environment Topics

■ Collaboration with Overseas Plants

The Production Committee of the Environmental Council (see P.14) conducts regular (twice yearly) follow-up surveys of the state of environmental protection at the main plants overseas. In the future, environmental activities will be promoted from a more global perspective by, among other things, holding meetings of environmental managers from these plants.

Information on overseas plants surveyed

- Energy use
- Environmental standards and emissions
- Establishment of specific facilities
- Waste disposal
- Logistics-related matters
- Laws and regulations
- State of ISO14001 compliance



Main Plants Overseas

■ Environmental Reports of Affiliates

Affiliates such as Mitsubishi Automobile Engineering, Pajero Manufacturing and NedCar (Netherlands) produce their own environmental reports to actively provide information on their environmental measures.



NedCar's environmental report

ISO 14001 Compliance

In order to ensure the transparency and reliability of their environmental activities, all MMC/MFTBC's domestic plants have acquired ISO14001 certification, which is the international standard for environmental management systems, as shown below.

In December 2002, MFTBC acquired an ISO14001 certification for environmental management systems in R&D processes, when an ISO14001 renewal audit was made of the production operations in Kawasaki Plant.

MMC/MFTBC's main affiliates in Japan and overseas are also pushing ahead with acquiring the certification, and those still without certification aim to acquire certification during fiscal 2003.

State of ISO14001 compliance

MMC/MFTBC	<ul style="list-style-type: none"> ● Nagoya Plant Nov. 1998 ● Kyoto Plant (now Powertrain Plant) Nov. 1998 ● Mizushima Plant Dec. 1998 ● Tokyo Plant (now MFTBC Kawasaki Plant) Dec. 1999 ● Truck & Bus R&D Office (now MFTBC R&D Office) Dec. 2002
Domestic affiliates	<ul style="list-style-type: none"> ● Pajero Manufacturing Co., Ltd. July 1999 ● Mitsubishi Automotive Engineering Co., Ltd. Feb. 2000 ● Pabco Co., Ltd. June 2000 ● Mizushima Industries Co., Ltd. Oct. 2001 ● Mitsubishi Automotive Techno-Metal Corporation Mar. 2003
Overseas affiliates	<ul style="list-style-type: none"> ● NedCar (Netherlands) Sep. 1999 ● ATC (Philippines) Oct. 2000 ● MMMA (USA, now MMNA) Mar. 2001 ● MSC (Thailand) June 2001 ● MMPC (Philippines) July 2001 ● MTE (Portugal) Feb. 2002 ● MMAL (Australia) Mar. 2003

Environmental Auditing

In order to confirm that environmental management systems are functioning effectively and so maintain and improve their operation, each of MMC/MFTBC's plants is audited internally by themselves at least once a year and also examined once a year by an outside third party.

The internal audit consists of a check sheet of 600-700 items, which are checked by qualified internal auditors who have undergone internal and external training under the internal auditor license scheme. Non-conformances are checked and reviewed by the senior officer, and appropriate corrective action is taken.

Arrangements are also in place for adoption by other divisions when measures being taken by a particular division are found to be especially effective.

External auditing of each of the plants in fiscal 2002 resulted in no major non-conformance, one minor non-conformance and 11 observations. Overall, environmental management systems were found to be being operated and maintained properly.

Regarding minor non-conformances, systems will be immediately rectified and efforts continued to ensure that systems are operated at a higher level.

Emergency Measures and Environmental Incidents, etc.

Emergency Measures

MMC/MFTBC constantly strive to maintain the safety and stability of production operations at its plants in line with appropriate operational and work standards to ensure safety and reduce the impact of its activities on the environment. In order to cope in the best possible way with natural disasters such as earthquakes and emergency situations that may foreseeably arise during everyday operations, the company has established guidelines to be followed in an emergency, and in addition conducts regular training exercises.

Incidents

In fiscal 2002, there were no environmental incidents.

Complaints

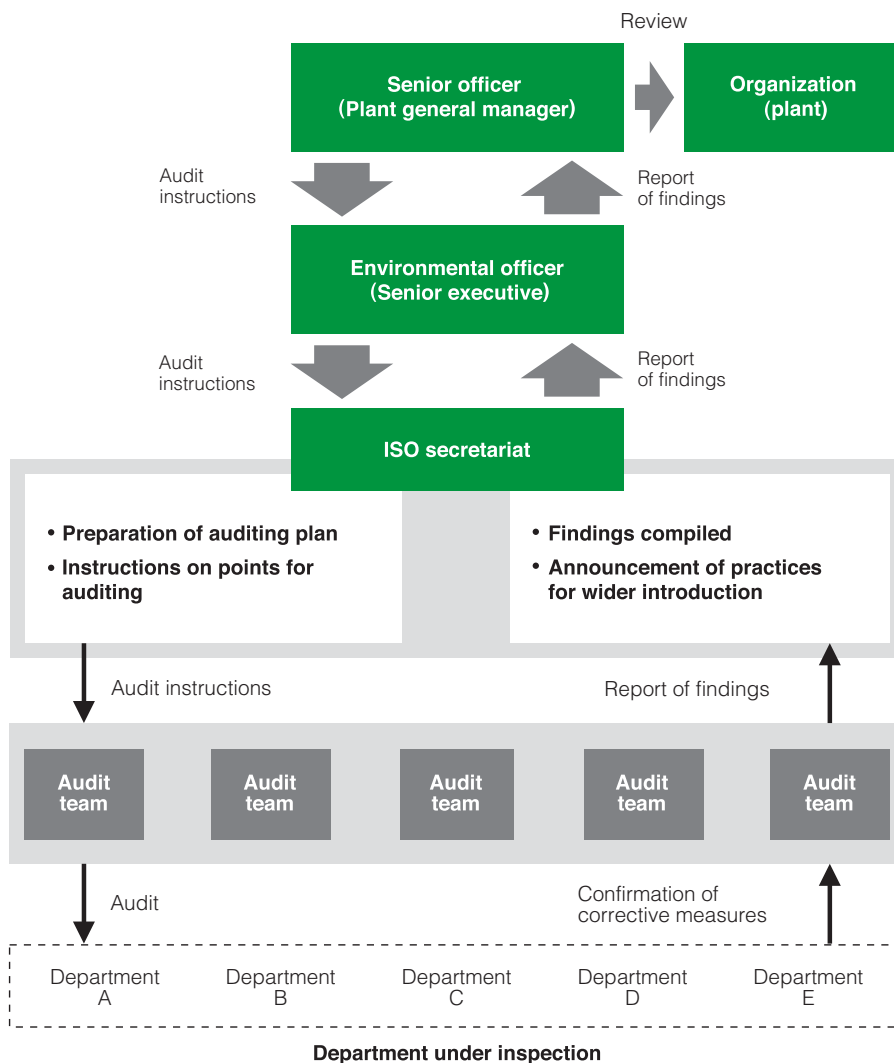
There were 14 complaints by residents in fiscal 2002. Most of them were concerned, for example, noises and smells. In such cases, we strive to identify the cause so as to take appropriate countermeasures. In some cases, however, causal relationships need to be investigated, and monitoring is continued through, among other things, regular patrols of plant environments.

Legal Action

A lower court ruling was made on October 29, 2002 regarding the Tokyo Air Pollution Case, an environmental lawsuit concerning automobile exhaust emissions, but it was appealed and the case continues.

Environment-related Recalls

Three of the recalls reported to the Ministry of Land, Infrastructure and Transport in fiscal 2002 were environment related. These consisted of the malfunctioning of exhaust gas emission controller oxygen sensors in Lancers produced between January 7, 1998 and April 3, 2002 (32,000 vehicles), malfunctioning of the fuel gas injection volume control device of Canter refuse trucks vehicles produced between June 16, 1999 and February 26, 2002 (88 vehicles), and malfunctioning of the motor supercharger of Super Greats and Aero Stars produced between January 29, 2000 and November 21, 2002 (6,611 vehicles). All were dealt with by replacing the affected parts.



Communication

MMC/MFTBC are striving to enhance their environmental communication, primarily by publishing environmental reports and publishing information on their websites.

■ Publication of Environmental Reports

MMC/MFTBC's environmental reports are published in two languages—Japanese and English—both as pamphlets and as online publications accessible internally and externally via the company's intranet and internet website. Since first published in September 1999, they have been published annually, and this year's report is the fifth. (The next report is scheduled to be published around the summer of 2004.)

1st issue (1999)	September 1999
2nd issue (2000)	August 2000
3rd issue (2001)	September 2001
4th issue (2002)	October 2002
5th issue (2003)	July 2003

Publication of past environmental reports

Our environmental reports include questionnaires, the responses to which are used to improve the content of future issues.

Since the 2002 edition, it is also now possible to order copies (Japanese version) via our website.

■ Provision of Environmental Information on Individual Models

In order to promote green purchasing*¹ within and outside the company, MMC/MFTBC participate in the Green Purchasing Network (GPN)*². Among the activities targeted outside the company, we provide environmental information on main models (regarding, for example, fuel efficiency, exhaust emissions and recycling) by means of the GPN's publications and homepage and on MMC/MFTBC's own homepage in order to assist prospective car buyers make green purchasing decisions. (For details of green purchasing within the company, see P.49)

■ Provision of Information via the Internet

In order to widely publicize our environmental activities both within and outside the company, we have established a website called "MMC's Environmental Activities". This brings together a variety of environment-related information, including all past editions of environmental reports and the above environmental information on individual vehicle models.

In June 2002, the site was redesigned to make it more accessible, and an "Environmental Sustainability Plan" (see P.14) page was added.



Environmental homepage
(<http://www.mitsubishi-motors.co.jp/ECO-E/>)

MFTBC has a similar website which it uses to explain in accessible language the regulations and systems for trucks and buses.



Outline and effects of truck and bus environmental regulations
(<http://www.mitsubishi-fuso.com/jp/kisei/>)

Up-to-the-minute environmental information that cannot be covered in this report is reported whenever necessary through press releases for the media and via our website.

■ Cooperation in External Events

In order to publicize and encourage the spread of low pollution vehicles, MMC/MFTBC exhibits low emission vehicles of various kinds at exhibitions and fairs throughout Japan. In fiscal 2002, MMC/MFTBC participated in the following events.

Main events attended in fiscal 2002	Organizers	Date	Region
Eco-Car World 2002	Ministry of the Environment, etc.	6/1~2	Tokyo
Automotive Engineering Exposition "People and Auto Technology Fair 2002"	Society of Automotive Engineers of Japan (JSAE)	7/23~25	Yokohama
Shikoku EV Week 2002 (Shikoku EV "Ekiden")	Shikoku EV Challenge 2000 Committee	8/22~23	Tokyo-Ehime
LEV Fair Nagoya 2002	Nagoya City, etc.	9/21~22	Aichi
15th LEV Fair in Osaka	Osaka City, etc.	10/16~19	Osaka
2002 Asahi Solar Car Rally in Kobe	Asahi Shimbun, etc.	10/12~13	Hyogo
Eco-Car Festa in Hachioji	Tokyo Hachioji Takao Lions Club	10/20	Tokyo
LEV Test Drive Event (Odawara)	Odawara City, etc.	10/20	Kanagawa
8th Japan EV Festival	Japan EV Club	11/4	Ibaraki
Natural Gas Vehicle Show 2002	Japan Gas Association, etc.	11/13~15	Tokyo
Osaka LEV Fair 2002	Osaka Prefecture	11/22~23	Osaka
Nagoya International Conference on Environmentally Sustainable Transport (EST Nagoya Conference)	OECD, etc.	3/23~25	Aichi



EST Nagoya Conference

Our cooperation in external events also includes the provision of panelists and speakers for forums and symposiums organized by various organizations.

Notes

★1: Green purchasing

Preferential purchasing of environmentally friendlier products and services by businesses to reduce the impact on the environment, taking into full consideration purchasing needs and environmental factors as well as price and quality.

★2: Green Purchasing Network

An organization formed in 1996 by a number of companies, government agencies and private-sector bodies to promote green purchasing. Among its activities are the production of guidebooks providing information and guidelines on green purchasing.

Environmental Activities - Environmental Management

Internal Education and Personal Improvement

In order to make each and every employee fully understand trends in environmental issues and to raise awareness of environmental protection, a variety of educational and personal improvement activities are undertaken.

Education of Employees of All Levels

Educational activities are organized for employees of all levels. At the center of such activity are environmental departments, such as ISO Secretariats (see P.18). Education also continues to be provided for mid-level sales and service employees at dealers by staff of Environmental & Technical Affairs Dept. (see P.13)



Environment education for new employees

Promotion of Acquisition of Internal and External Environment-Related Qualifications

MMC/MFTBC encourages employees to gain official environmental-related qualifications. The table below shows how many employees currently hold such qualifications.

Category		Total (no. of employees)
Pollution control manager	Chief	6
	Air	35
	Dioxins	6
	Water quality	46
	Noise and vibration	32
Energy manager	Heat	23
	Electricity	23

MMC has also introduced its own qualification systems at some of its operations. At the Nagoya Plant, for example, the “Waste Paper Recycling Qualification System” has been launched as part of efforts to eliminate landfill waste emissions (see P.27)

Internal environmental inspectors (see P.18) receive education and training inside and outside the company, and are qualified as environmental auditors.

“Environment Month” Activities

Every June, designated “Environment Month” by the Japanese Ministry of the Environment, a variety of awareness raising activities is undertaken, and during this time MMC/MFTBC organize the following activities to raise environmental awareness within the company.

Type of activity	Details
Personal development	<ol style="list-style-type: none"> 1. Internal PR regarding Environment Month activities(Publication in the company newsletter and on the intranet of related articles, posting of posters and signboards) 2. Organization of briefings on environmental guidelines by environmental officers and the Environmental Council Secretariat (from fiscal 2002) 3. Participation in Environment Month symposiums 4. Environment Month poster competition 5. Slogans invited
Practical activities	<ol style="list-style-type: none"> 1. Inspection patrols at environmental facilities and environmental testing 2. Inspection of state of management of waste disposal and treatment contractors 3. Voluntary community cleanup activities (participation in local cleanup activities, etc.) 4. Campaign to eliminate littering
Other activities	<ol style="list-style-type: none"> 1. Inspection of greenery at sites and planting of commemorative trees 2. Participation in events organized by various organizations 3. Donation to nearby elementary schools of colored carp raised in factory effluent



Briefing on environmental guidelines by environmental officer (for managers)

Promotion of Idling Prevention Activities

We instruct employees to prevent idling of vehicles when not in motion, and request to suppliers and customers.

Environmental Accounting

When undertaking activities to protect the environment, in order to analyze and assess these activities, it is important to determine that appropriate spending is allocated to each activity and what effects are obtained. By introducing environmental accounting, MMC/MFTBC aim to further improve the sophistication and efficiency of their environmental protection activities.

Approach to Environmental Accounting

As for environmental accounting, there do not exist any common standards regarding the scope and calculation of effects as in the case of financial accounting. For this reason, individual companies and organizations are developing their own methods of accounting by a process of trial and error.

Since publication of the 1999 Environmental Report (first version), MMC has published environmental accounting data. The data is compiled and published based on the Ministry of the Environment (MOE) Environmental Accounting Guidelines ^{*1}. The data are calculated for MMC and MFTBC, and cover the period from April 2002 to March 2003.

Notes

★1: MOE Environmental Accounting Guidelines

The terms and table classifications used in this chapter are based on 2002 version of the guidelines.

■ Environmental Accounting in FY2002

(1) Environmental protection cost

Costs relating to activities serving to curb and reduce the impact on the environment were calculated focusing principally on the cost of waste disposal and energy conservation measures at plants and the cost of R&D in the R&D division. The environment-related portion of combined costs—i.e. spending on activities designed to meet other objectives as well as protection of the environment—was calculated by differential costing (i.e. the deduction of costs not relating to environmental protection from the total). Where this was not possible, costs were calculated by estimating the proportion

contributing to environmental protection.

As an automaker, we place a strong priority on reducing the environmental impact of products themselves and on taking steps to protect the environment at the production stage, and the cost of these and related activities comprise the majority of the cost of environmental protection (R&D costs account for approximately 87% and business area costs for approximately 10). Total costs are equivalent to 2.2% of sales.

(2) Environmental protection effects*2

The principal quantitative data used as indices of environmental protection effects are shown in the table. For data not shown in the table, please refer to the relevant pages in this report.

(3) Economic benefits accompanying environmental protection measures*3

The economic benefits accompanying environmental protection measures are shown in the table. From this it can be seen that a reduction in various costs was achieved in comparison with the previous fiscal year.

The above comprise only a tiny portion of the economic benefits, and effects are likely to be found in a wide range of other fields. Like last year, however, we wish to keep this report as objective as possible, and so have not included data on economic benefits that are based on conjecture. For example, environmental measures may also yield benefits in the form of reduced environmental risks, but it is not possible at this stage to put an exact figure on these benefits.

Category*1	Value (¥million)			YOY % change	
	Passenger car	Truck & bus	Total		
(1) Business area costs	3,421	1,059	4,479	104.0%	
Break down	① Pollution prevention	(1,503)	(437)	(1,940)	(91.7%)
	② Protection of the global environment	(58)	(37)	(95)	(79.2%)
	③ Resource recycling	(1,860)	(585)	(2,444)	(118.1%)
(2) Upstream/downstream costs*	—	—	103	73.6%	
(3) Management activity costs*	—	—	1,165	104.7%	
(4) R&D costs	27,887	11,359	39,247	100.0%	
(5) Social activity costs*	—	—	132	84.3%	
(6) Environmental damage costs*	—	—	37	76.1%	
Total	32,532	12,631	45,164	100.4%	

*: Only total value is entered because most of costs are common between passenger car and truck / bus.

Environmental protection effects

Category	Item	FY2002	YOY% change	Related page
① Effects relating to inputs into business activities	- Energy consumption in production process (total CO ₂ emission)	506,000t-CO ₂	98.3%	P.26
	- Water use	6,004,000m ³	86.4%	P.28
② Effects relating to environmental impact and waste resulting from business activities	- Quantity of waste for final disposal	100t	9.1%	P.27-28
③ Effects relating to goods and services produced by business activities	- Average fuel efficiency by vehicle weight category (gasoline passenger cars and commercial vehicles)	—	—	P.35
	- Number of old bumpers collected	73,500	102.2%	P.48
④ Effects relating to transportation, etc.	- CO ₂ emissions during domestic transportation of BU vehicles (passenger cars)	15,200t-CO ₂	83.3%	P.32
	(trucks)	3,000t-CO ₂	103.2%	

Environmental protection effects

Notes

★1: Main categories of environmental protection costs

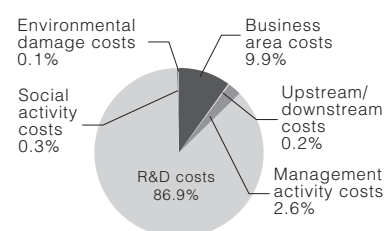
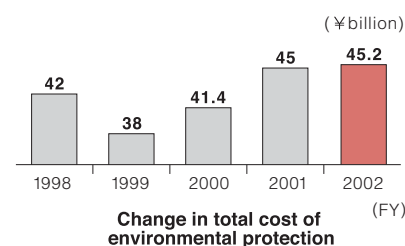
(1) Costs on energy conservation, saving resources, and waste disposal, etc. at each plant. (2) Costs on collection of used parts, etc. (3) Costs on ISO14001 certification and employee education concerning the environment, etc. (4) Costs on R&D related to improving fuel efficiency, reducing exhaust emissions, development of clean energy vehicles, and recycling, etc. (5) Costs on donations and membership fees paid to external environmental organizations, etc. (6) Costs on taxes and other charges paid to national and local governments, etc.

★2: Environmental protection effects

Defined by MOE guidelines as “the quantitative impact on the environment of an organization’s operating activities and the increase or decrease therein”.

★3: Economic benefits accompanying environmental protection measures

Defined by MOE guidelines as “the returns and the reduction and avoidance of costs to an organization arising from its environmental protection activities”.



Breakdown of environmental protection costs

Item	Value (¥million)
● Reduction of energy costs	1,544
● Reduction of waste disposal costs	5
● Reduction of the cost of purchase of water	63

Economic benefits accompanying environmental protection measures