ENVIRONMENTAL MANAGEMENT

FHI started its Environmental Action Project in 1990, named 1992 as the first year of the environment, and has since worked positively to protect the environment with the Corporate Environment Committee at the center of activities.

For environmental conservation, one of the important issues of this century, we released a new plan for conservation of the global environment, "FHI Environmental Conservation Program (Fiscal 2002-2006)" (New Voluntary Plan for the Environment) in May 2002. Under the program, we are taking environmental measures in all the processes in which we are involved. Developing these activities to our domestic and overseas affiliated companies, we are trying to reduce environmental impacts as the FHI group.

1 Corporate Philosophy and Environmental Policy

FHI believes that responding to the problems of the global environment is the most important responsibility as a corporate citizen. As a manufacturer of transportation devices, including automobiles, FHI has established an Environmental Policy, a basic policy for carrying out environmental conservation, based on its corporate philosophy. Under this policy, FHI has established guidelines for specific actions as the Operations Standard.

Corporate Philosophy

(Established in November 1994)

1. We will strive to create advanced technology on an ongoing basis and provide consumers with distinctive products with the highest level of quality and customer satisfaction.
2. We will aim to continuously promote harmony between people, society, and the environment while contributing to the prosperity of society.
3. We will look to the future with a global perspective and aim to foster a vibrant, progressive company.

Environmental Policy

(Established in April 1998)

FHI recognizes the integral relationship between the environment
and its business activities and strives to provide products
that are friendly to the earth, society, and people.
FHI is protecting the environment to ensure our future.

Operating Criteria for Environmental Conservation

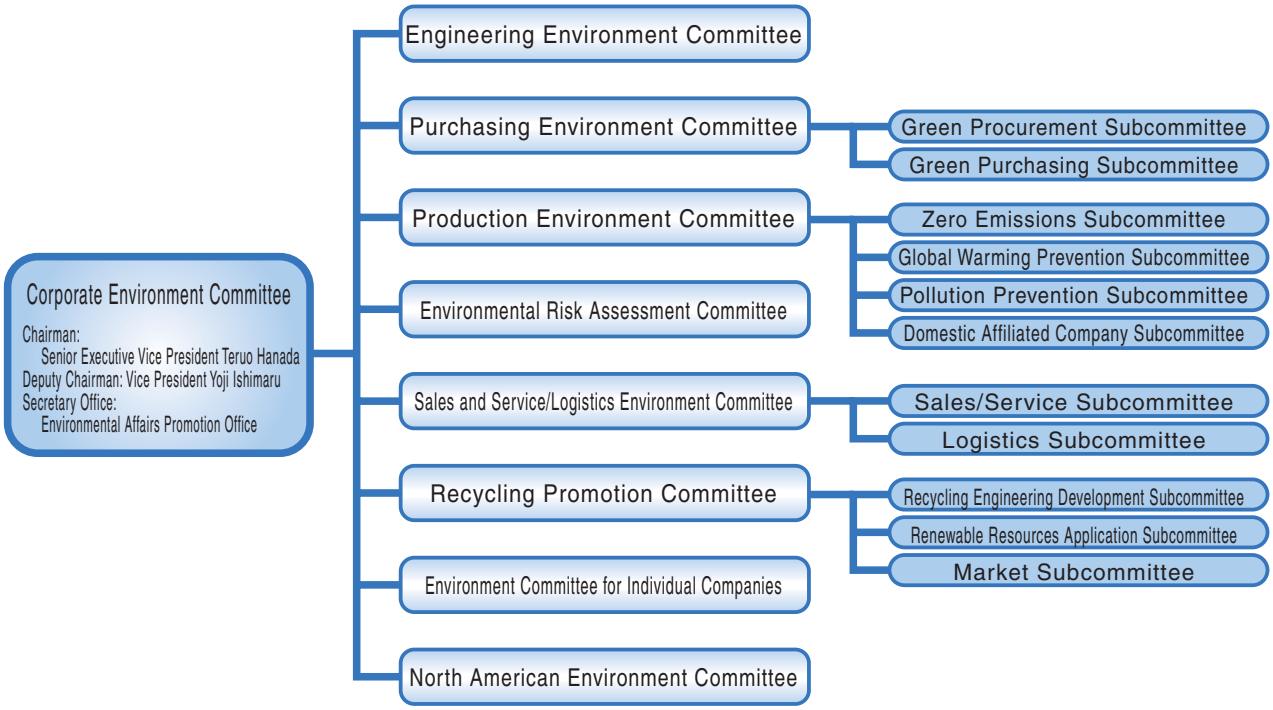
1) FHI is committed to environmental conservation and gives consideration to environmental impact at every step of product development, design, manufacture, sales, service, and disposal.
2) FHI observes the relevant laws, regulations, and agreements with communities and industries, while also promoting voluntary activities in accordance with its own environmental objectives and targets as determined by the Company.
3) FHI recognizes the importance of continual improvement and efforts to prevent pollution and encourages every employee to act with self-awareness and responsibility.
4) FHI endeavors to raise environmental consciousness by providing educational opportunities for its employees according to their job status and job description.
5) FHI regularly performs audits and inspections to improve its environmental conservation activates.
6) FHI is committed to interacting within the community and engaging in joint activities to further environmental preservation.

2 Organization

FHI sets the Corporate Environment Committee as the core of its environmental conservation activities, which determines policies and plans, ascertains results and achievements, and is actively involved in a variety of activities to reduce environmental impacts. In fiscal 2002, the Corporate Environmental Committee was reorganized for precise action under the New Voluntary Plan for the Environment, as well as for smooth operation of the Company System. The Corporate Environment Committee is composed of six specialized committees, the Environment Committee for individual Companies, and the North American Environment Committee as follows.

- Engineering Environment Committee: Reduction of environmental impact such as fuel economy and exhaust emissions of the products
- Purchasing Environment Committee: Environmental consideration for procurement of parts and materials
- Production Environment Committee: Reduction of environmental impacts in production activities
- Environmental Risk Assessment Committee: Identifying and reducing environmental risks in office facilities
- Sales and Service/Logistics Environment Committee: Promotion of environmental conservation activities at dealers and reduction of environmental impacts in the distribution of our products
- Recycling Promotion Committee: Development of recycling technologies and use of recycled resources

Specialized committees have necessary subcommittees for promotion of practical activities. Members of the Corporate Environment Committee are chairpersons of the above specialized committees and include representatives of all the offices including the Head Office. Subaru Automotive Business and respective Companies have working groups under specialized committees for efficient activities to attain their goals.



3 New Voluntary Plan for the Environment

Under the new voluntary plan for the environment, “FHI Environmental Conservation Program (Fiscal 2002-2006),” we consider living with society and realizing sustainable development, while improving the environment, as ideal. Our goals are to offer clean products from clean factories by clean logistics through clean dealers to our customers, to contribute to society with our products, and to make all the stages clean.

◆Goals and Achievements in Fiscal 2002

Items		Goals	Achievements	Page in this report
Clean factories	Green procurement activities	Request our suppliers to complete an environmental management system (automotive business) by March 2003.	△ Some of them are still setting it up.	p.30
Clean products	Clean exhaust gas	Produce excellent low emission vehicles or good low emission vehicles for all the models, except for a few, by autumn 2002	○	p.17
	Developing products using clean energy	Limited introduction of the Legacy B4 CNG to the market by autumn 2002	○	p.20
		Introduce multi-purpose engines compliant with CNG and LPG fuel during fiscal 2002	○	p.22

As for actions of reducing substances with environmental impact to produce clean products, we made more advanced changes in the usage of lead, hexavalent chromium, cadmium, and mercury for the automotive business.

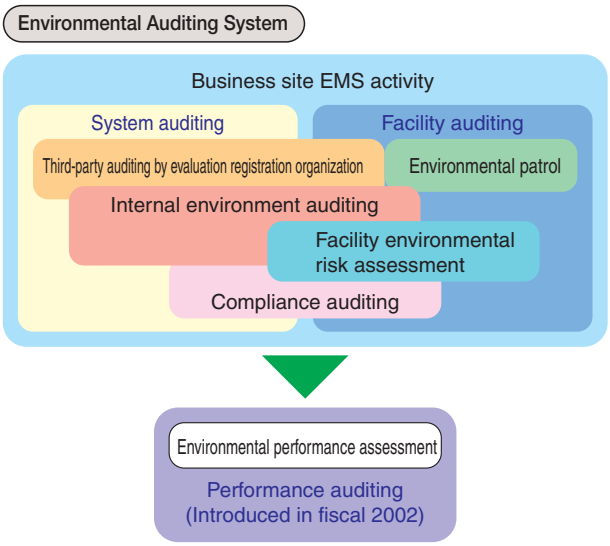
FHI Environmental Conservation Program (Fiscal 2002 through Fiscal 2006)

Items		Goals and actions
Clean factories	Promoting energy saving and curbing global warming	◇ Aim to reduce the energy consumption rate by 28% compared to fiscal 1990 by fiscal 2006 ◇ Aim to reduce CO_2 emissions by 6% from production plants compared to fiscal 1990 by fiscal 2006
	Control and reduction of environmental pollutants at production plants	◇ Establish stricter standards than current voluntary standards for newly established and remodeled environmental facilities in order to reduce the burden on the air and water ◇ Reduce emissions of chemical substances listed in the pollutant release and transfer register (PRTR) ◇ Reduce Volatile Organic Compound (VOC) emissions in car production lines to the level below 45 g/m^2 on average by fiscal 2006
	Reducing the waste materials produced at the production plants	◇ Aim at further advances in zero emissions and zero levels of landfill disposal both directly and indirectly ◇ Promote recycling of waste materials and using them as parts of products, as well as curbing the generation of waste materials
	Saving water resources	◇ Reduce the amount of water used in the production plants
	Green procurement activities	◇ Request a research report from suppliers on the environmental pollutant content and establishment of an environmental management system. The following are the target dates for establishing the environmental management system: ● Automobile division: by the end of March 2003 ● Industrial products division: by the end of March 2004 ◇ Promote green procurement activities in other divisions including the Aerospace division ◇ Develop green procurement activities with our overseas suppliers (Automobile division) ● Research starts in fiscal 2002 on the status of introducing the environmental management system and of the environmental pollutant content
Clean products	Improving fuel economy	[Automobiles] ◇ Continue to improve fuel economy for every full model change or annual model change ◇ Achieve fiscal 2010 fuel economy standards at all weight ranks by fiscal 2006 [Multi-purpose engines] ◇ Aim to improve the average fuel economy of multi-purpose engines by 15% (compared to 1995) by 2005
	Clean exhaust gas	[Automobiles] ◇ Produce excellent low emission vehicles (E-LEV) or good low emission vehicles (G-LEV) for all models except for a few by autumn 2002 ◇ Start to put ultra low emission vehicles (U-LEV) into the market in 2003 and produce ultra low emission vehicles (U-LEV) for more than 80% of passenger vehicles by 2005 [Multi-purpose engines] ◇ Aim to reduce the average emissions of HC and NOx from multi-purpose engines by 30% (compared to 1995) by 2005

Items		Goals and actions
Clean products	Developing products using clean energy	[Automobiles] ◇Limited introduction of the Legacy B4 CNG to the market by autumn 2002 ◇Introduce hybrid vehicles to the market by fiscal 2006 ◇Develop fuel cell powered vehicles for the next generation [Multi-purpose engines] ◇Introduce multi-purpose engines compliant with CNG and LPG fuel during fiscal 2002
	Improving recyclability	◇Improve recyclable design for new models and contribute to a recycling rate of 95% in 2015 • Improve dismountablity in the recycle market such as re-use • Use easy-to-recycle plastic materials more extensively
	Reducing substances with environmental impact	[Automobiles] ◇Promote development of technology, which substitutes substances with environmental impact, aiming at faster application to developing vehicles • Further reduce the amount of lead to less than 10% of that of 1996 after January 2006 • Stop using mercury after January 2005 except in the following parts: Liquid crystal displays, combination lamps, discharge head lamps, room fluorescent lighting • Stop using cadmium after January 2007 • Stop using hexavalent chromium after January 2007 [Multi-purpose engines] ◇Promote reducing the amount of environmental pollutants, such as lead and hexavalent chromium, for multi-purpose engines
	Reducing exterior noise	◇Promote developing technology to reduce noise that can realize both fuel economy improvement and exhaust emissions reduction
	Curbing global warmingregarding air conditioning refrigerants	◇Promote further reduction in the amount of refrigerant (HFC 134a) per vehicle
	Research on traffic environment	◇Work further on Intelligent Transport Systems (ITS) that realize a safe and comfortable motorized society
Clean logistics	Reducing environmental impact in logistics	◇Improve logistics efficiency and work on reducing the amount of packing materials
Clean dealers	Promoting environmental conservation activities at dealers	◇Support environmental conservation activities of dealers ◇Promote recycling and proper disposal during the distribution and disposal stage • Collect and destroy specified chlorofluorocarbon (CFC-12), collect CFC-12's substitute (HFC 134a), collect and dispose of air bags, and collect warning flares ◇Continue to collect used bumpers ◇Work to comply with automobile recycling laws
Management extension	Implementing social actions	◇Continue to participate in environmental events, communicate with local residents at plants, and deal with visitors to plants ◇Continue to participate in cleaning activities and forestation activities in the area around each plant ◇Offer cooperation to environmentalists
	Disclosing environment-related information	◇Publish environmental reports consistently and release environment-related information through publicity channels ◇Improve the content of environmental reports (e.g., compliance with guidelines, reports including group businesses)
	Implementing environmental education and educational campaigns	◇Implement environmental education built into company training. Implement educational campaigns through company magazines and various media ◇Continue to implement lectures and in-company presentations of improved cases
	Establishing an environmental management system	◇Establish an environmental management system at business sites presently with no such system, and continuously improve the environmental management system at ISO 14001-acquired offices ◇Implement in-company environmental audits and environmental facility risk assessments ◇Strengthen the liaison with related companies and establish consolidated environmental management systems
Others	Promoting environment-related projects	◇Promote environment-related businesses, such as wind power generation systems and environmental machines and equipment

4 Environmental Audit

We think that minimization of environmental risks is an obligation of FHI as a corporate citizen in fulfilling the social responsibilities of the company. FHI implements environmental audits from different aspects according to the purpose, including a third-party audit by the ISO 14001 evaluation registration organization. In fiscal 2001, we introduced an environmental risk assessment for facilities, and in fiscal 2002, the environmental performance assessment system for upgrading of our environmental performance. These are systems unique to FHI. We are minimizing environmental risks of hardware and software through auditing under these systems.



Audit by External ISO 14001 Evaluation Registration Organization

Division	Renewal evaluation	Evaluation date	Evaluation
Saitama Manufacturing Division	Renewal evaluation	April 23-25, 2002	The EMS was evaluated as effectively operated and maintained, satisfying ISO standard requirements; although, there was a nonconformity, which did not influence the effectiveness of the EMS.
Utsunomiya Manufacturing Division	Renewal evaluation	June 25-28, 2002	The EMS was evaluated as being operated and maintained satisfactorily according to ISO standard requirements with constant improvements; although, a minor nonconformity was identified.
Gunma Manufacturing Division	Regular evaluation	January 28-30, 2003	The EMS was evaluated as being operated and maintained according to ISO standard requirements with constant improvements; although, a minor nonconformity was identified.

Environmental Risk Assessment

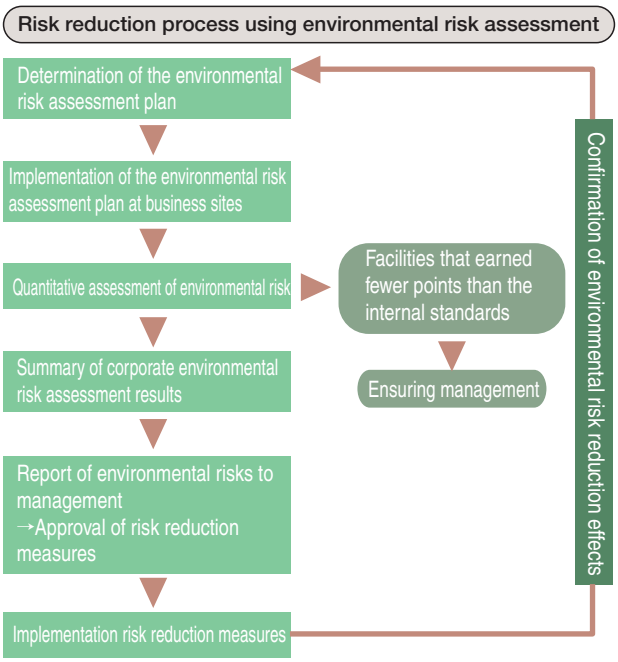
◆Purpose of Introduction

To minimize environmental risks and prevent pollution, we needed to systematically and quantitatively identify factors that cause environmental accidents based on the concepts that “facilities break down” and “humans do make operational errors” instead of our conventional management concepts.

◆Procedure

For minimization of facility risks, risks are assessed quantitatively to clarify the priority for countermeasures. Quantitative assessment is implemented systematically from aspects of facility factors and management factors. The assessment is also made under all possible situations of normal condition, facility failure, nearby fire, earthquake, and storm and flood for prevention of risks.

The facilities of which quantitative assessment results exceed the predetermined internal standards are designated as facilities for early implementation of risk reduction. The results are reported to management so as to implement risk reduction measures after obtaining their approval.



◆Implementation of Risk Reduction Measures

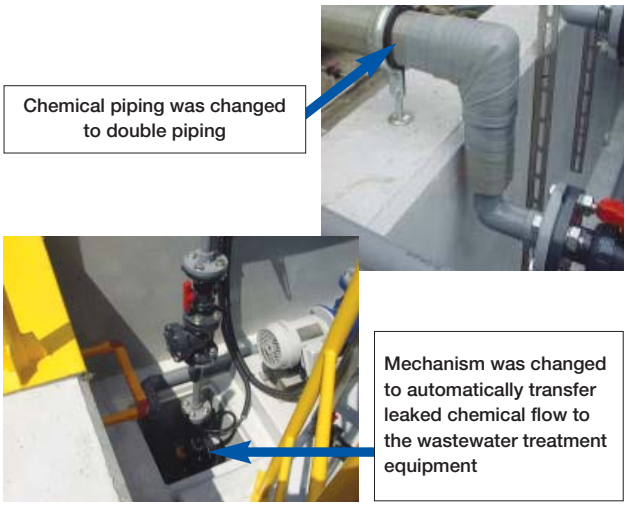
As a result of the fiscal 2001 assessment, 80 facilities were designated as facilities requiring early implementation of risk reduction. In fiscal 2002, measures were taken at 74 of the 80 facilities. (Measures will be taken for the remaining six facilities in fiscal 2003 as planned.)

The photos on the right show an example of spillover risk reduction measures implemented at the Isesaki Plant.

◆Arrangement and Utilization of Environmental Facility Standards

For reduction of facility environmental risks, it is essential to minimize risks when installing facilities. FHI has prepared 36 new corporate environmental facility standards based on the knowledge obtained through environmental risk assessments so as to reflect the new standards when installing new facilities. In fiscal 2002, we conducted environmental risk assessments based on the standards and found that the standard items should be incorporated in 54 processes in the existing facilities.

Risk reduction case at Isesaki Plant



Introduction of the Environmental Performance Assessment System

◆Purpose and Aim

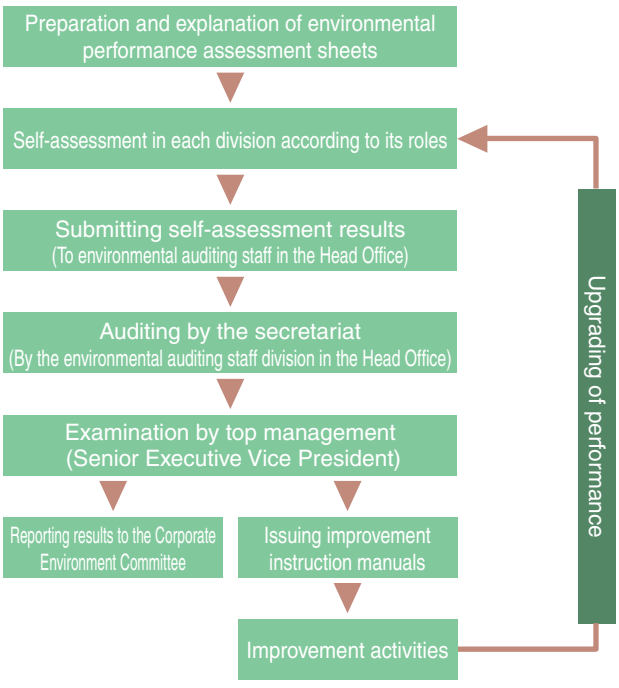
For continuous improvement of environmental conservation activities, it is necessary for all the divisions and employees to work together for attainment of goals. Under the environmental performance assessment system, we set targeted environmental performance indexes and promote voluntary improvement by assessing our activities based on these indexes.

◆Outline of the Environmental Performance Assessment System

1) The management, staff and lines assess performance levels (evaluated in 4 levels) of assessment items (about 110 items, including ongoing situation of the organization and EMS, compliance, and environmental impact reduction measures for each stage) that they predetermined from their perspectives. Divisions also evaluate their assessment items predetermined at their posts.
2) As for self-evaluation results by the management of each division, chairman of the Corporate Environment Committee (Senior Executive Vice President Teruo Hanada) visits each division to verify the results (with documents and on-the-spot) and provides improvement instructions.
3) The environmental auditing staff verifies the self-assessment results of each division.
4) Each division identifies the strong and weak points found through self-assessment and utilizes them as tools to correct the deficiencies.

Senior Executive Vice President Teruo Hanada (front left) confirming the self-assessment results by President Hiroyuki Nakatsubo of the Aerospace Company

Environmental Performance Assessment Process



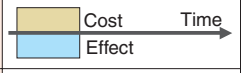
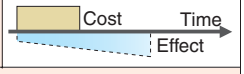
5 Environmental Accounting

The following pages show the total results in fiscal 2002 for FHI only. In fiscal 2001, FHI also started environmental accounting in FHI Group-related manufacturers and distributors, which are considered to have a large pollution load.

Concept and Calculation of Environmental Costs and Economic Effects

With reference to the guidelines of the Ministry of Environment (Year 2000 and 2002 Reports), FHI formulated its own guidelines according to its environmental conservation activity organization, based on which the environmental costs and economic effects are calculated. (Those for the affiliated companies are also calculated based on our guidelines.)

Definition and categorization of environmental costs

1) Costs for reducing the environmental impact	Costs for reducing the impact on the environment during the production process	
2) Investment costs	Cost for achieving environmental conservation effects which continue for several terms	
3) Other costs	Costs not belonging to the above categories	
Investments in environmental facilities	For reference (facilities are included in the depreciation cost (in the same manner as in the financial accounting))	

◆Cost Calculation Method

For related costs (depreciation costs, maintenance, and management costs, etc.) of the facilities that are used for environmental conservation, as well as other purposes, and for labor costs, either the aggregation of balances or apportionment aggregation is used. For example, the environmental cost of energy saving in a production facility is calculated as follows:

Environmental cost of a production facility = (Depreciation cost, maintenance & management costs and other costs of the facility) × "Coefficient of environmental impact"

where

"Coefficient of environmental impact"

$$= \frac{\{(\text{Total amount of investment} - \text{Cost of investment not for energy saving purpose})\}}{(\text{Total amount of investment})}$$

Results of Aggregation of Environmental Costs and Effects in Fiscal 2002 ◇Object of aggregation: FHI (parent company)◇Period of aggregation: April 2002 through March 2003

Environmental costs							Facilities investment
Cost category (Boxed text is a cost category in "Guidelines by Ministry of Environment")		Amount (¥ million) Fiscal 2002	Fiscal 2001	Fiscal 2000	Main activities in fiscal 2002	Related pages	(¥ million) Fiscal 2002
Costs for reducing environmental impacts (Production stage) Business area costs	Incineration, Waste treatment and recycling, Waste reduction — Resource circulation cost	936	893	722	Additional introduction of the paint sludge recycling plant	–	78
					Improvement of the wastewater treatment sludge dehydrator		
					Maintenance of the recycling center and sorted refuse collection sites		
					Introduction of the garbage treatment machine		
	Energy conservation, CO_2 emissions reduction — Global environmental conservation cost	295	249	163	Introduction of the natural gas cogeneration system	31	968
					Improvement in coolant piping resistance reduction	–	
					Introducing gas to the boiler		
	Pollution control such as wastewater and exhaust gas treatment — Pollution control cost	807	817	818	Partial renewal of wastewater treatment	–	552
					Reinforcement of the oil and water separation tank	30	
	Reduction of VOC discharge — Pollution control cost	83	73	59	Expansion of use in middle solid paint	29	0
	Reduction in CFC alternative discharge and others — Global environment conservation cost	20	25	24	Recovery of air conditioner refrigerants	29	2
	Total costs to reduce environmental impacts	2,142	2,056	1,787			1,599
Investment costs	Education, ISO 14001 related matters, investigation, and others — Management activity cost	465	486	682	Environmental education, training, and environmental improvement activities at worksites	12	–
					Sustenance of ISO 14001 certificates, others	8	
	Product research and development — Research and development cost	21,766	20,998	18,383	Improvement of fuel economy, cleaner emissions, and better recycling efficiency	16–25 32–34	2,594
					New energy related R & D (wind power generation)	25	
	Total investment costs	22,232	21,484	19,065			2,594
Other costs	Cost increment for material changes, Measures for end of life products, social contribution, environmental measures, and others — Upstream and downstream cost / Social activity cost / Environmental damage cost / Other costs	1,643	1,838	880	Change of raw materials for environmental conservation	–	323
					Collection of used market bumpers and recycling into inner trim parts	37	
					Preparation of environmental reports, cleaning around plants, and measures for environmental discrepancies, etc.	44	
Total cost		26,017	25,378	21,732			4,516

◆Economic Effects

Referring to the guidelines by the Ministry of Environment and partially incorporating original FHI concepts, FHI determines the calculation methods based on the effects of cost reduction and others available by reducing environmental loads.

Specifically, the effects are calculated for each cost category. For example, the effect of reduced waste treatment costs (waste treatment costs reduced by controlling the waste and changing the treatment methods) and the effect of reduced energy costs are calculated for each cost category. As for the economic effects of facilities (depreciable assets), the effects are calculated for the depreciation period. As for the environmental improvement measures without facilities, the effects are the difference from the costs in the previous year (the difference between cases where the improvement measure has been taken and cases where it has not been taken). For the time being, however, because of the difficulty in estimating clear-cut figures, the economic effects in those categories, such as contributions to value added products and the effect of risk aversion (evaded responsibilities for compensation), are excluded.

Study of Environmental Management Indexes

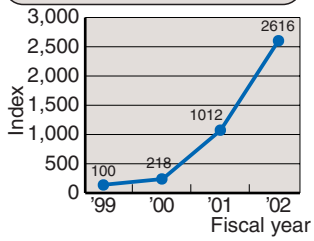
It is possible to indicate environmental efficiency of business activities in a value calculated with the following formula.

$$\text{Environmental efficiency} = \frac{\text{Sales}}{\text{Environmental loads}}$$

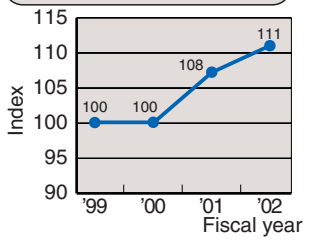
We have studied environmental loads such as waste and CO_2. Graphs 1 and 2 show sales per waste generation and sales per CO_2 discharge with indexes where the fiscal 1999 levels are regarded as benchmarks. As the two graphs show, environmental efficiency is improving steadily.

We will further study environmental management indexes appropriate to reviewing management and environmental activities.

Graph 1 Sales/ Waste generation



Graph 2 Sales/ CO_2 discharge



Future Issues

1) Studying the optimal indexes showing environmental efficiency and management
2) Improving calculation accuracy and efficiency

As for affiliated companies, see p.48.

Economic effects			
Details	Amount (¥ million)		
	Fiscal 2000	Fiscal 2000	Fiscal 2000
Reduced costs through waste control and treatment method changes Profit from the sales of valued materials obtained through recycling	672	497	765
Reduced energy costs	257	157	68
Reduced costs by replacing cleaning agents (chemical agents)	8	8	7
Reduced paint and solvent usage	264	273	289
Reduced purchasing cost by reusing recovered air conditioner refrigerants and others	5	5	3
Total savings from environmental impact reduction effects	1,205	939	1,133
(N/A)	–	–	–
Total investment effects (N/A)	0	0	0
Reduced costs by changing raw materials Raw material procurement costs reduced by using recycled materials	20	37	83
	1,226	976	1,215

Environmental performance (quantitative effects)					
Category	Unit	Fiscal 2002	Comparison with Fiscal 2001 - : reduction	Fiscal 2001	Fiscal 2000
Amount of matter generated	ton	82,325	–3,207	85,532	90,508
Amount of waste generated	ton	267	–430	697	3,238
Amount of waste carried out	ton	267	–256	523	924
Amount of landfill	ton	13	–29	42	294
Energy consumption per production	KL/¥ 100 million	15.18	−0.37	15.55	16.64
CO_2 discharge	1,000ton- CO_2	247	–9	256	277
Amount of PRTR chemicals handled*1	ton	3,849	–2	3,851	3,619
Amount of PRTR chemicals released and transferred	ton	1,411	–89	1,500	1,620
VOC discharge (automobiles only)	g/m^2	49.5	–2.2	51.7	57.7
Amount of CFCs substitutes	ton	0.2	0	0.2	1.0
(amount converted into CO_2 is in parentheses) *2	(ton-CO_2)	(274)	(–2)	(276)	(1,294)

Note: As figures are rounded off, some totals are not precise.

*1: Totaling the substances of Class I Designated chemicals, of which annual amounts handled are 5 tons or more (0.5 tons or more for Specified Class I Designated chemicals).
*2: Calculated by multiplying the discharge of HFCs by the global warming coefficient.

6 Environmental Education

The relationship between corporate activities and environmental conservation activities is becoming closer and closer. To promote understanding and development of its environment-related activities, FHI provides education and training for different levels of employees, ranging from new recruits to those receiving promotions, based on the Environmental Management System (EMS). In addition, we utilize all opportunities to carry out educational activities, including environmental campaign months and environmental lectures.

Emergency Drills based on EMS

At every worksite, we conduct a drill according to specific procedures so that we can take appropriate action to prevent or minimize the impact of an accident or emergency if it should happen. Related divisions offer necessary environmental education to contractors and suppliers who visit FHI.

Emergency Drill
Taking action on a spillover source with a spill kit during an accident drill at the hazardous material storehouse of the Recycling Center (Utsunomiya Manufacturing Division)

Education for contractors and suppliers who visit FHI (Gunma Manufacturing Division)

Educational Activities through Lectures and Presentations

In February 2003, FHI gave a lecture on environmental management to company executives, inviting Mr. Kamimoto, vice president of Ricoh Co., Ltd., as its lecturer. The Gunma Manufacturing Division invited Mr. Watanabe, general manager of Fuji Xerox Co., Ltd., to give a presentation on his company's resource recycling system in June, when an environmental campaign was implemented.

In February 2003, the Utsunomiya Manufacturing Division held an "Environmental Case Study Presentation" for the second time in fiscal 2002. Seven teams mainly from the departments that are not related directly to the environment gave presentations on the indirect influence on the environment. In March, the Gunma Manufacturing Division conducted the "Energy Conservation Case Study Presentation" for the eighth time, where eight teams representing departments presented their activity performance.

In cooperation with the suppliers of drink vending machines, we prepared cups with a design to promote environmental protection used during the environmental campaign month implemented in all manufacturing divisions, including the Head Office.

Mr. Kamimoto, vice president of Ricoh, presented a several-hour in-depth lecture

Environmental Lecture
(Gunma Manufacturing Division)

Mr. Watanabe, general manager of Fuji Xerox, giving a lecture

Environmental Case Study Presentation for the second time in fiscal 2002 (Utsunomiya Manufacturing Division)

Designed cup

7 Environmental Incidents

Environment-related Data

In fiscal 2002, FHI received four complaints about noise and vibration. The Gunma Manufacturing Division received a complaint on vibration and noise from piling work for the foundation of the oil-water separator tank. The work was continued after changing the machine to a low-noise and low-vibration type. The Utsunomiya Manufacturing Division received a complaint on vibration caused by sheet piling for dismantling of the old wastewater treatment facility and took measures immediately. In addition, noise was produced due to the water hammer phenomenon in the water piping for construction work, and air was discharged for settlement. Other complaints were also settled promptly by improving the facilities.

We received two complaints on offensive odors. The Gunma Manufacturing Division received a complaint on exhaust air odors from the paint drying facility and changed the temperature settings for the deodorizing furnace. Eco Technologies Company also took measures immediately for a complaint on paint odor.

In addition, the Gunma Manufacturing Division released black smoke from the boiler stack and received a report that the river turned muddy due to spring water from the foundation work for the oil-water separator tank. By reinforcing controls, the two cases were settled immediately.

For the data on exhaust and drainage of each plant, see p.52-55.

Product Recalls

In fiscal 2002, there were no environment-related product recalls.

Other

We transferred the functions of the Omiya Manufacturing Division now in Saitama City, the main plant for the Industrial Products Company, to the Saitama Plant in Kitamoto City. Subsequently, FHI has worked to develop the resulting vacant land in Omiya. As part of these efforts, we detected trichloroethylene, which is used to wash parts, primarily in the vicinity of washing facilities through a soil survey. Since 1997, FHI had been purifying contaminated soil and groundwater. As a result, environmental standards were satisfied for all points checked in March 2002. We continued monitoring for another year, and we confirmed that the measured values were stable under the environmental criteria. In March 2003, we reported it to the municipal government and obtained their consent to complete our purification work.

Since November 1998, the Utsunomiya Manufacturing Division (UMD) had been voluntarily checking contamination of soil and underground water on the premises of its plant. Contamination exceeding environmental criteria in part of the area is reported to Utsunomiya City. Under the direction of the municipality, we took measures wholeheartedly. In June 2002, the municipality, which conducted continuous investigations after the report, requested the residents to drink tap water through local self-governing bodies because hexavalent chromium (0.07 ppm) slightly exceeding the environmental criterion (0.05 ppm) was detected in the well water of a nearby house. The results of the investigation were also released to the media.

As soon as the municipality released the facts, UMD explained to local residents through their self-governing bodies the status of the contamination on the premises of the plant, ongoing countermeasures, and current purification measures taken for contaminated soil and underground water. UMD also explained the measures to the media and stakeholders. Regarding the matter seriously, UMD implemented the planned purification work earlier and completed it in March 2003. At present, UMD regularly and carefully monitors the wells to observe contamination and purification.

8 Communication

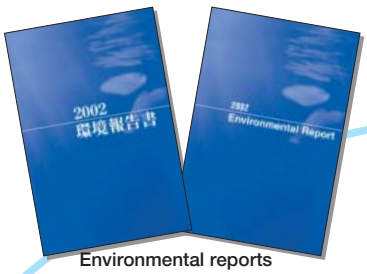
FHI has arranged contact channels to maintain communication with local residents and distributes environmental information in a variety of ways. FHI also introduces its approaches to environmental conservation on its Web site (http://www.fhi.co.jp).

In fiscal 2002, we prepared environmental ads for journals and magazines so as to introduce our environmental activates. Many people visit the Gunma Manufacturing Division, one of our automobile production plants, for study tours. For better understanding of its environmental conservation activities, easy-to-read explanation panels are posted along the tour route. FHI participates in the “Environmental Management Forum” sponsored by Nikkei Business Publications.

One of the explanation panels (Gunma Manufacturing Division)


Explanation panels posted along the plant tour route

Environmental advertisement (for the Subaru wind turbine generator system)



Environmental reports


Company brochure


Environmental information according to car models

In-house newsletter “Shuho”

Manufacturing division newsletter

International photo news (for elementary schoolchildren and junior high school students)

9 Overall Achievements in Fiscal 2002 and Fiscal 2003 Goals

Environmental Management

Fiscal 2002		Fiscal 2003 goals
Goals	Achievements	
Firmly establish and improve environmental management activities ・Respond to evaluation for recertification of ISO 14001 (Saitama Manufacturing Division and Transportation and Ecology Systems Division in Utsunomiya Manufacturing Division)	・Saitama and Utsunomiya Manufacturing Divisions renewed the ISO 14001 certificates ・Introduced the Environmental Performance Assessment System	Establish environmental management systems at Head Office and Tokyo Office
Further improve information in the 2002 Environmental Report (environmental achievements in fiscal 2001)	Reported performance of affiliated companies in the 2002 Environmental Report (environmental achievements in fiscal 2001)	Further improve information in the 2003 Environmental Report (environmental achievements in fiscal 2002)
Summarize and total environmental accounting achievements of affiliated companies in fiscal 2001	Totaled environmental accounting achievements of affiliated companies in fiscal 2001 and released the results in the 2002 Environmental Report	Continue reporting environmental accounting

Development Process and Products

Category	Fiscal 2002		Fiscal 2003 goals
	Goals	Achievements	
Fuel economy	・Continue fuel economy improvement for every full model change and annual model change ・Satisfy fiscal 2010 fuel economy standards earlier in fiscal 2006	Met fiscal 2010 fuel economy standards in 3 ranks out of 5 for passenger vehicles and in 6 ranks out of 6 for mini-sized trucks	Implement as planned
Exhaust emissions	・Introduce Excellent Low Emission Vehicles (E-LEVs) or Good Low Emission Vehicles (G-LEVs) to all models except some by autumn 2002 ・Start introducing Ultra Low Emission Vehicles (U-LEVs) in 2003 to shift 80% of all vehicles to U-LEVs by 2005	Goal was attained by shifting the Sambar supercharged mini-sized trucks to E-LEVs	Implement as planned
Noise	Further reduce noise levels in all vehicles	Reduced noise levels of the power unit and exhaust system in the annual improvement of Subaru vehicles	Continuously develop technologies to reduce noise levels in all vehicles for reduction of environmental noise
Clean energy vehicles	・Hybrid vehicles: Introduce hybrid vehicles to the market by fiscal 2006 ・Natural gas vehicles: Limited introduction of the Legacy B4 CNG in autumn 2002 ・Fuel cell vehicles: Start developing next-generation FCVs	・Development of secondary batteries for hybrid and fuel cell vehicles: New company was established jointly with NEC for development of automotive manganese lithium-ion combination batteries and started development of secondary batteries, which are much thinner, lighter, and cheaper, yet of higher performance, than existing ones ・Natural gas vehicles: Introduced the Legacy B4 CNG to the market (10 units)	・Development of secondary batteries for hybrid and fuel cell vehicles: Proceed with development as planned ・Natural gas vehicles: Proceed with development for introduction of NGVs based on the new Legacy

Production Stage

Category	Fiscal 2002		Fiscal 2003 goals
	Goals	Achievements	
Waste reduction	・Amount of waste generated: Try to reduce generated waste by 99% compared with the fiscal 1990 level ・Amount of waste disposal: Try to reduce waste disposal by 98% compared with the fiscal 1990 level	・Amount of waste generated: Reduced generated waste by 99% compared with the fiscal 1990 level ・Amount of waste disposal: Reduced waste disposal by 98% compared with the fiscal 1990 level	・Control generation of waste in total ・Promote activities to reduce landfill waste to zero
Energy conservation	・Improve energy consumption per production by 1% or more compared with the fiscal 2001 level ・Work to accomplish CO_2 discharge reduction goal (6% reduction compared with the fiscal 1990 level by fiscal 2006)	・Improved energy consumption per production by 2.4% from the fiscal 2001 level ・Reduced CO_2 discharge by 9.9% compared with the fiscal 1990 level	・Work to accomplish energy consumption per production goal (28% reduction compared with the fiscal 1990 level by fiscal 2006) ・Work to accomplish CO_2 discharge reduction goal (6% reduction compared with the fiscal 1990 level by fiscal 2006)

Category	Fiscal 2002		Fiscal 2003 goals
	Goals	Achievements	
Environmental impact substances	Work to accomplish paint VOC reduction goal (45 g/m^2 or less by fiscal 2006)	Reduced generation of paint VOC (per unit area) to 49 g/m^2, a 55% reduction compared with the fiscal 1995 level	Work to accomplish paint VOC reduction goal (45 g/m^2 or less by fiscal 2006)
Green procurement	・Automotive Business: Establish EMS (Phase III standard) at all suppliers by March 2003 (ultimate goal) ・Industrial Products Company: Develop green procurement activities ・Aerospace Company: Start green procurement activities	・Automotive Business: A majority of suppliers, 221 out of 291, established EMS as targeted as of March 2003 ・Industrial Products Company: In fiscal 2002, one year after the start of activities, about 60% of suppliers established EMS ・Aerospace Company: Explained development of green procurement activities to 74 suppliers in December 2002	・Automotive Business: Support suppliers not establishing EMS and try to finish establishment by March 2004 ・Industrial Products Company: Try to establish EMS at all suppliers by March 2004 ・Eco Technologies Company: Start green procurement activities ・Try to expand green procurement

Note: Reduction of CFC alternatives in the automobile production lines we have mentioned is excluded here since its goal (a 90% or more reduction of discharges to the atmosphere per unit compared with the fiscal 1996 level by fiscal 2005) was achieved in fiscal 2001, and it is now maintained and controlled.

Recycling

Category	Fiscal 2002		Fiscal 2003 goals
	Goals	Achievements	
Improvement of recycling efficiency	・Continue to develop technologies for easier dismantling ・Promote further expansion of use in PP-grade integrated materials	・Established new systems to promote recycling design, including easier dismantling of future developed vehicles, and started research activities ・Promoted use of PP-grade integrated materials for 100% adoption in applicable parts of nextperiod vehicles ・Advanced technological development on recycling of ELVs (End-of-Life Vehicles), particularly airbag treatment, and glass and ASR recycling	・Continue to develop technologies for easier dismantling and higher recycling efficiency ・Promote further expansion of use in PP-grade integrated materials ・Complete development of basic technologies for ELV recycling and start studying practical use
Recycling volume	Increase number of used bumpers collected from market	Collected 37,500 used bumpers, a 1% increase compared with the fiscal 2001 level	Increase number of used bumpers collected
Reduction of environmental impact substances	・Promote technological development of replacements for lead and continue to study further reduction of usage ・Promote technological development of replacements for hexavalent chromium and consider their application to automobile products	・Promoted adoption of lead replacements and projected replacement ratio of less than 1:9 in next-period vehicles compared with the fiscal 1996 level ・Completed replacement of brake discs containing hexavalent chromium in all vehicles	・Promote technological development of replacements for lead and continue to study further reduction of usage ・Further promote and continue development and adoption of replacement technologies for hexavalent chromium
Sales and services	・Promote installation of CFC collection equipment ・Advance preparations for the Fluorocarbons Recovery and Destruction Law	・Completed installation at bases vital to repair of collection equipment ・Completed registration of CFC collection and recovery operators at all bases ・Chiba Subaru Inc. acquired ISO 14001 certification	・Have dealers thoroughly observe the Fluorocarbons Recovery and Destruction Law ・Further promote environmental activities by dealers

Logistics

Fiscal 2002		Fiscal 2003 goals
Goals	Achievements	
Promote logistics efficiency and control generation of waste ・Control generation of packing material waste ・Further rationalize transportation of completed vehicles	・Promoted adoption of returnable packing materials for shipment of parts ・Rationalized sea and land routes in the Kyushu and Shikoku areas (Automotive Business)	Further promote reduction of environmental impact in logistics