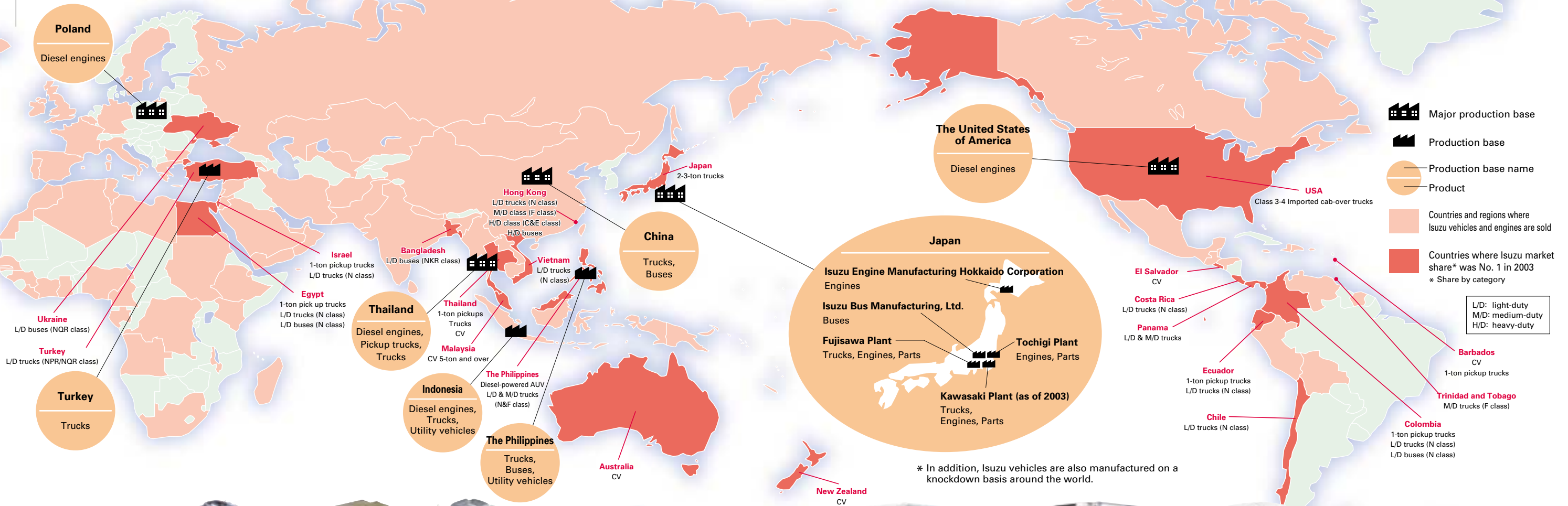




**ISUZU**  
**Environmental Report**  
**2004**

# Isuzu — Working Globally

Isuzu vehicles and engines are sold and working around the world. Here we will take a look at our global business including production bases.



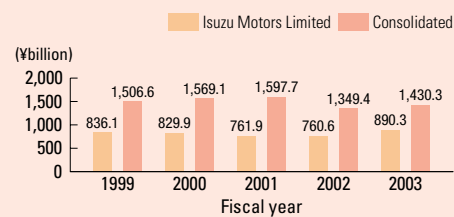
## Main Products



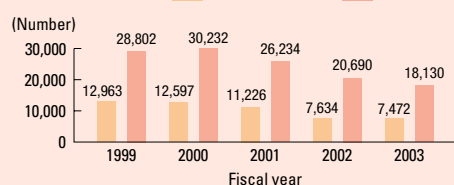
## Corporate Outline

Company name: ISUZU MOTORS LIMITED  
 President and Representative Director: Yoshinori Ida  
 Headquartered at: 6-26-1 Minami-oi, Shinagawa-ku, Tokyo 140-8722 Japan  
 Established: April 9, 1937  
 Capital: ¥67.5 billion (as of March 31, 2004)  
 Business operations: Manufacture, sales and service of motor vehicles, transport machinery and tools, motors and related parts and materials  
 Sales: Non-consolidated ¥890.3 billion, Consolidated ¥1,430.3 billion (for the period ending March 2004)  
 Ordinary profit: Non-consolidated ¥57.5 billion, Consolidated subsidiaries ¥ 81.6 billion (for the period ending March 2004)  
 Vehicle sales: 233,144 (101,438 sold domestically, 131,706 exported) (for the period ending March 2004)  
 Main products: Heavy, medium and light duty trucks, pickup trucks, utility vehicles, buses, engines and components.  
 Number of employees: Non-consolidated 7,472, Consolidated 18,130 (as of March 31, 2004)  
 Offices and Plants: Head office, Fujisawa Plant, Tochigi Plant, Kawasaki Plant

### Sales



### Employees



## Editorial Policy

The Isuzu Environmental Report 2004 is prepared to provide information on our approach to environmental management, management to manufacture environmentally friendly vehicles and our clean diesel engine which have great environmental potential, in an easy and comprehensive format. We have followed the Environmental Reporting Guidelines issued by Japan's Ministry of the Environment and the Sustainability Reporting Guidelines issued by GRI\* in compiling this report, which is the sixth edition.

\* GRI: The Global Reporting Initiative (GRI) is an international organization founded with the aim of formulating and spreading guidelines for sustainability reporting that can be applied worldwide. One feature of these guidelines is the emphasis on reporting the balanced performances of economic, environmental and social aspects of business activities.

## Scope of This Report

This report primarily covers the environmental efforts of Isuzu Motors Limited, while introducing activities in the domestic and overseas consolidated subsidiaries.

## Period Covered

The data compiled in this report are of the fiscal 2003 from April 1, 2003 to March 31, 2004. This report also includes some activities in the fiscal 2004.



# Environmental Management Vision

Isuzu is contributing to the preservation of the global environment in an effort to be the world's leading maker of environmentally friendly diesel engines and trucks.



*Yoshinori Ida*

Yoshinori Ida  
President and Representative Director

## High Targets for Contributing to Society

At Isuzu Motors, as articulated in our corporate principles, we strive to be a reliable partner supporting "transport" and thus contribute to society by creating a more plentiful way of life. We are aiming to make significant social contributions through both the hardware used in logistics services and the soft side of support.

Many of our products are working vehicles used to transport freight or people, in this way supporting their lives and playing essential roles in society. However, our top priority is to produce safe and environmentally-sound products which work for people.

Especially, safety is the key in making vehicles. We always keep in mind that our products involve human life, taking product quality as our top priority. We strive to fulfill corporate social responsibility through transparent communications and quick responses.

Environmental issues are getting more serious around the world. We believe that it is our social mission as a corporation to hand our current quality of life down to the next generation. For this purpose, we have established the Global Environmental Committee in 1992 to actively promote environmental preservation activities.

## Our Corporate Vision

### Isuzu will always mean the best

A leader in transportation, commercial vehicles and diesel engines, supporting our customers and respecting the environment

#### Environmental Policy: Environmental Responses Ahead of Time

Under the slogan, "FOR THE FUTURE OF MANKIND AND THE EARTH" we have established the Isuzu Charter on the Global Environment and actively and continually aim to realize compatibility between the progress of world economy and the global environment. The basic policy for this action is striving to protect the environment from the development, production, use and disposal of automobiles. Moreover, this policy is not limited to our business operations. We also aggressively pursue it in social and regional environmental protection activities as one global corporate citizen.

While automobiles as our products are indispensable to the lives of people today, they also create environmental issues, such as CO<sub>2</sub>, NO<sub>x</sub> and particulate matter (PM) emissions, as well as noise pollution and vibrations, that require urgent measures and solutions. In this respect, it is not an exaggeration to say that all the research and development are just responding to environmental issues. Isuzu is always working to respond to environmental needs ahead of time. Our line-up includes the ELF KR light-duty truck, which meets the new short-term emission regulations, the 4EE2 engine — the first in the world to meet EURO IV regulations — as well as the super-low PM emitting diesel ELF and FORWARD which have obtained ☆☆☆☆ certification. We intend to continue proactively striving to take environmental measures.

#### Environmentally Friendly Diesel Engines

In the 19th century, Rudolf Diesel invented the diesel engine in which Isuzu has great expertise. Now, diesels are used from passenger vehicles and heavy-duty trucks to ships weighing several thousands of tons. Furthermore, today diesel engines are attracting renewed attention due to their combustion efficiency and for their potential to prevent global warming. The fact that diesel engines get better mileage and emit very little CO<sub>2</sub> compared to gasoline engines is gathering expectations around the world for this environmentally friendly internal-combustion engine. Already in Europe, over 40 percent of passenger cars are diesel-powered and are playing a crucial role in preventing global warming.

#### Medium and Long-term Corporate Vision: Aspiring to be the Global Leading Company in Diesel Engines and Commercial Vehicles

With the diesel engine being spotlighted in the industry, focusing our business in diesel and commercial vehicle fields, Isuzu is striving to become the leader of eco-friendly manufacturers by further improving diesel engines. In addition, we want to contribute to society with vehicles that boast top-notch environmental, economical and safety performance. At Isuzu, our mission is to protect the global environment by supplying clean vehicles to the people around the world and helping to realize sustainable societies.

#### To the Readers

Through this report we hope to convey our aggressive environmental measures in an easy-to-understand manner. We would be pleased if this helps you better understand diesels and trucks that support your daily life. We will welcome your opinions on this booklet and Isuzu.

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# Outline of Isuzu's Environmental Impact and Activities

From material procurement to recycling and disposal, we are working to gauge the environmental impact during the vehicle life cycle and reduce it, with priority on the areas where impacts are great.

## Environmental Impact of an Automobile and Our Efforts to Reduce It

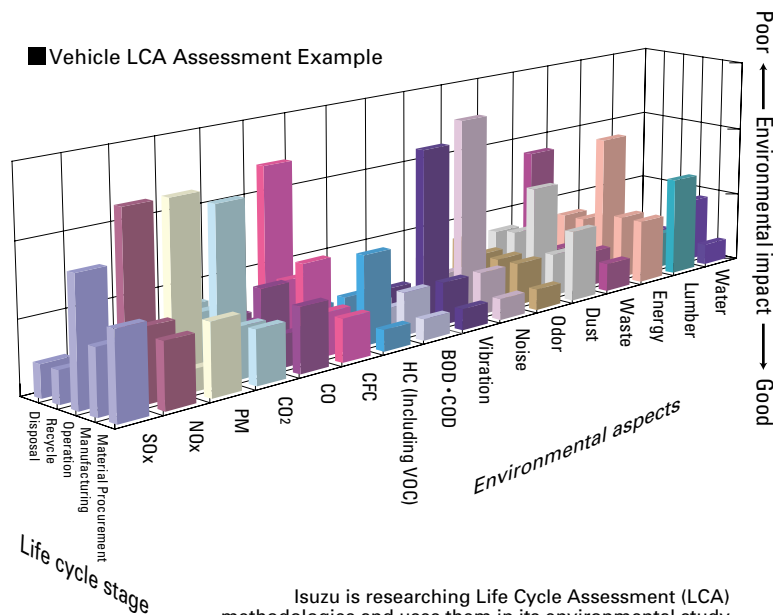
Most of the environmental impact of automobiles occurs during their use. The major environmental impact is exhaust emissions such as PM, NOx and CO<sub>2</sub>.

We are doing our best to reduce emissions and improve fuel economy to reduce CO<sub>2</sub>, realizing improvements in both hardware and soft aspects of our business operations.

From the hardware perspective, we are working on clean diesel engine development (P7, 8) and in the software aspect we are devising ways to educate customers about how to drive more efficiently (P9, 10).

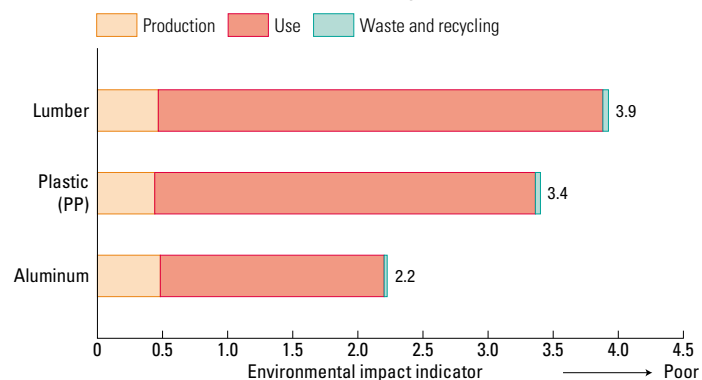
These pages show our activities to reduce the environmental impact at each stage of a vehicle's life cycle. Please refer to our activities as outlined on the following pages.

### Vehicle LCA Assessment Example

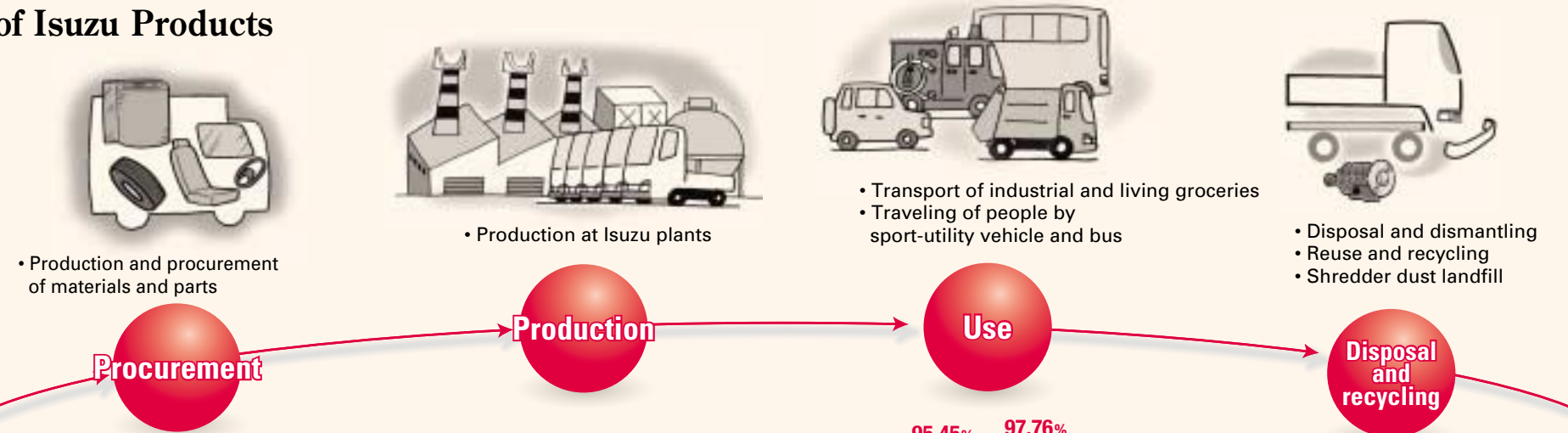


Isuzu is researching Life Cycle Assessment (LCA) methodologies and uses them in its environmental study.

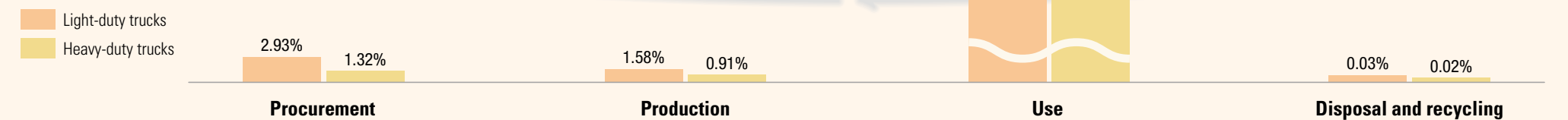
### Environmental Impact Evaluation of Cargo Bed Gate Materials



## Life Cycles of Isuzu Products



### Ratio of CO<sub>2</sub> Emissions



### Major Factors that Affect the Environment

- Procurement:** Consumption of resources and energy; Waste; Discharge into air and water; Use of environmental impact substances.
- Production:** Resource and energy consumption; Waste; Discharge into air and water; Use of environmental impact substances.
- Use:** Exhaust emissions (PM, NOx); CO<sub>2</sub> emissions; Noise; Packaging waste.
- Disposal and recycling:** Shredder dust; Industrial waste; Environmental impact substances.

### Environmental Effects

- Global warming
- Resources and energy depletion
- Ozone-layer depletion
- Air pollution
- Water pollution
- Noise
- Waste

## Isuzu's Major Initiatives

- Procurement:** Working with suppliers; Promoting green procurement; Introducing and operating a chemical substance management system.
- Production:** Preventing global warming; Reducing industrial waste; Reducing the use of substances with environmental impacts; Prevention of air and water pollution; Efficient use of resources.
- Use:** Cleaner exhaust emissions; Improve fuel efficiency and reduction of CO<sub>2</sub> emissions; Reduce external noise; Development of low pollution vehicles; Mimamori-kun vehicle diagnostic system to improve driving skills.
- Disposal and recycling:** Active recycling measures: Improve vehicle disassembly and separation of wastes, Reuse of recycled materials and parts, Waste reduction; Proper disposal of environmental impacts substances.

### Environmental management

- Environmental policy • Organization and system • Continuous improvement of ISO 14001 • Environmental audit • Legal compliance • Environmental risk management • Environmental accounting • Education

### Environmental communication

- Enhance environmental communications through Environmental Report, participation in environmental exhibitions, environmental information disclosure • Social contribution activities • Driving Seminars

# Development of Clean Diesel Engines

In terms of measures on the hardware or technological front, Isuzu is contributing to society by researching and developing diesel engines that are both environmentally friendly and economical, with the aim to reduce exhaust emissions and to improve fuel economy.

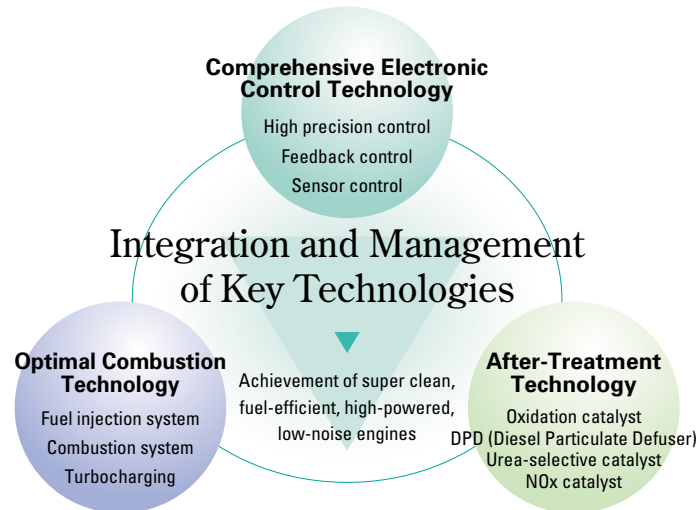
## Our Approach

Diesel engines are recognized as economical and environmentally friendly because of their good fuel economy and lower CO<sub>2</sub> emissions. However, they also emit NO<sub>x</sub> and PM, which are said to cause air pollution in large cities. At Isuzu, we are striving to further improve the advantages of diesel engines while overcoming the disadvantages.

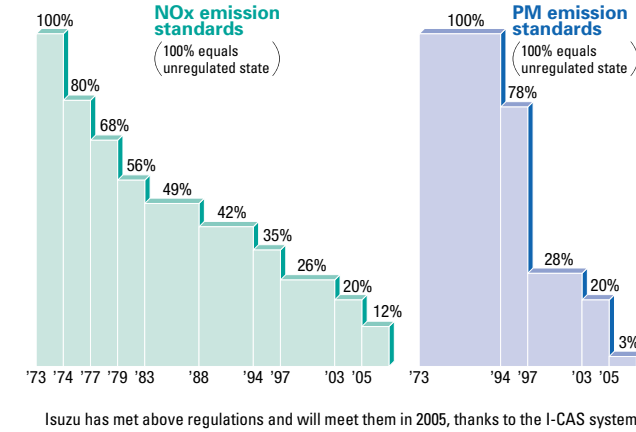
## Three Core Technologies of the Super Clean Diesel

Optimal Combustion Technology, after-treatment exhaust gas processing technologies and comprehensive electronic control technologies — these three are key to "ICAS: ISUZU Clean Air Solutions", Isuzu's original technologies for clean diesels. We are realizing clean, fuel efficient, powerful and quiet engines, by integrating and improving these technologies.

### Three Key Technologies of I-CAS



### Exhaust Emission Standards



The Optimal Combustion Technology consists of a supercharger for turbo and fuel injection technologies that realizes ultra high-pressure fuel injection to control and optimize the injection pressure, timing and amount.

The After-Treatment Technology is the technology that further cleans exhaust expelled by the engine using a catalytic agent. To trim PM emissions, we developed oxidizing catalytic converter and the Diesel Particulate Defuser (DPD). To reduce NO<sub>x</sub> emissions, we are working to research and develop the Urea-Selective Catalytic Reduction catalyst and NO<sub>x</sub> catalyzing technologies.

The Comprehensive Electronic Control Technology precisely controls "Optimal Combustion Technology" and "After-Treatment Technology" by engine sensor and feedback control technologies.

In April 2004, we announced the ultra-low PM emission diesel vehicles with an 85% PM reduction ☆☆☆☆. This achievement was based upon the I-CAS systems fusing these three key technologies. The newly developed DPD System is reported below.

## Interview with Isuzu Engineers Who Have Developed DPD

The DPD is an after-treatment system that uses a ceramic filter to collect and burn the PM in exhaust emissions. By common rail fuel injection with multistage injection control, the adoption of an exhaust throttle as well as our own unique exhaust temperature control, we have been able to efficiently burn PM and clean exhaust emissions.

This fuel injection control system achieves optimal combustion treatment by optimal fuel injection pressure, timing, quantity and frequency with automatic control.

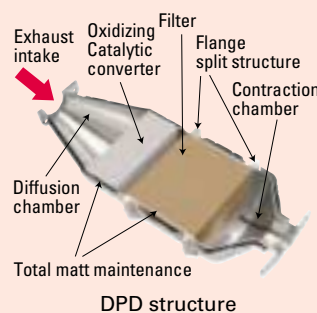


Takuro Iwashita Takao Onodera  
Futoshi Nakano Tadashi Saeki  
DPD Development Team in Fujisawa Plant

## The DPD is the Fruit of Our Predecessor's Ideas that was Realized by the Accumulated Technologies and Innovation for Two Decades

The concept for DPD was born nearly 20 years ago, but it did not spread well. This is because, by simply attaching a filter to an engine, the PM would clog in the filter and the user had to regularly burn the DPD to clear the filter. As a result, it was necessary to increase the DPD temperature high enough to burn the PM, but during test driving, it was difficult due to low exhaust temperature.

However, with the recent shift to the common rail fuel injection system, precise fuel injection control such as multistage injection has become possible. Thanks to this we are now able to raise the DPD temperature to the point that PM burns. We owe this achievement to our predecessors' development which was highly improved by advanced technologies. Without existing technology and detailed data records, we would not be able to realize this DPD. Furthermore, we are immensely grateful for the support of the hundreds of professional technicians and mechanics at Isuzu.



## Light at the End of a Dark Tunnel After Many Bitter Failures in the Limited Time Scheme

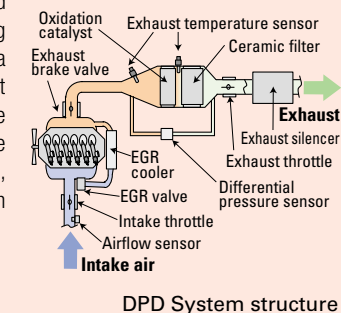
In the Engine Engineering Division, we are involved in the design and experiments of the engine, after-treatment systems such as DPD, and the programs that control these components. With vehicle emission regulations getting more and more stringent, our project team was formed in 2001 to develop diesel engines one step ahead of the regulations and competitors.

After establishing the first prototype design and control program, we test them through experiments and redesign for all the defects and flaws. This is a daily process of trial and error.

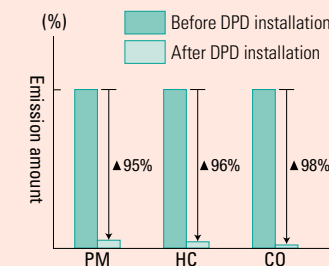
Late autumn in 2002 is remembered as the most difficult time. With the DPD System, fuel is combusted in the DPD instead of in the engine, and burns the PM that is collected inside the filter. The fuel sludge that remains on the cylinder wall slowly accumulates in the oil pan.

This result was far worse than our initial estimation. We struggled but could not find a solution.

We consulted with the project leader, even considering a large-scale system change, but the only answer we got was "Just do it in anyway!" After that, we worked and worked, day and night, without days off. Even during conferences, we collected data from the experiments. Finally we hit upon a key to a solution after the grueling days. After adjusting the method with numerous corrections, we finally settled on a production target.



### DPD-induced Vehicle Emission Improvements



## Meeting Environmental Regulations is a Challenge, But Necessary for the World and is the Passion of Our Engineers

We think the environment is a very important factor when considering what we can leave to future generations. Emission regulations are getting stringent but we need to keep one step ahead of the regulations by performing advanced research and development. For each problem and error, we analyze, take measures, redesign, inspect and find a solution. This is the continuous cycle to develop environmentally friendly diesels. Very difficult and rough process, but this is the engineers' raison d'être. We are proud to conduct research and development of diesels that have high environmental potential. In the future, we will do our best to pursue cleaner diesel while meeting the EU and US emission regulations.



# Reducing Environmental Impacts with “Mimamori-kun” System

Isuzu is contributing to protecting the environment on the soft front via the Mimamori-kun vehicle diagnostic system, which analyzes a range of driving data in order to provide information on how best to reduce fuel consumption and drive more safely.

## Approach to Lowering Environmental Impact during Vehicle Operation

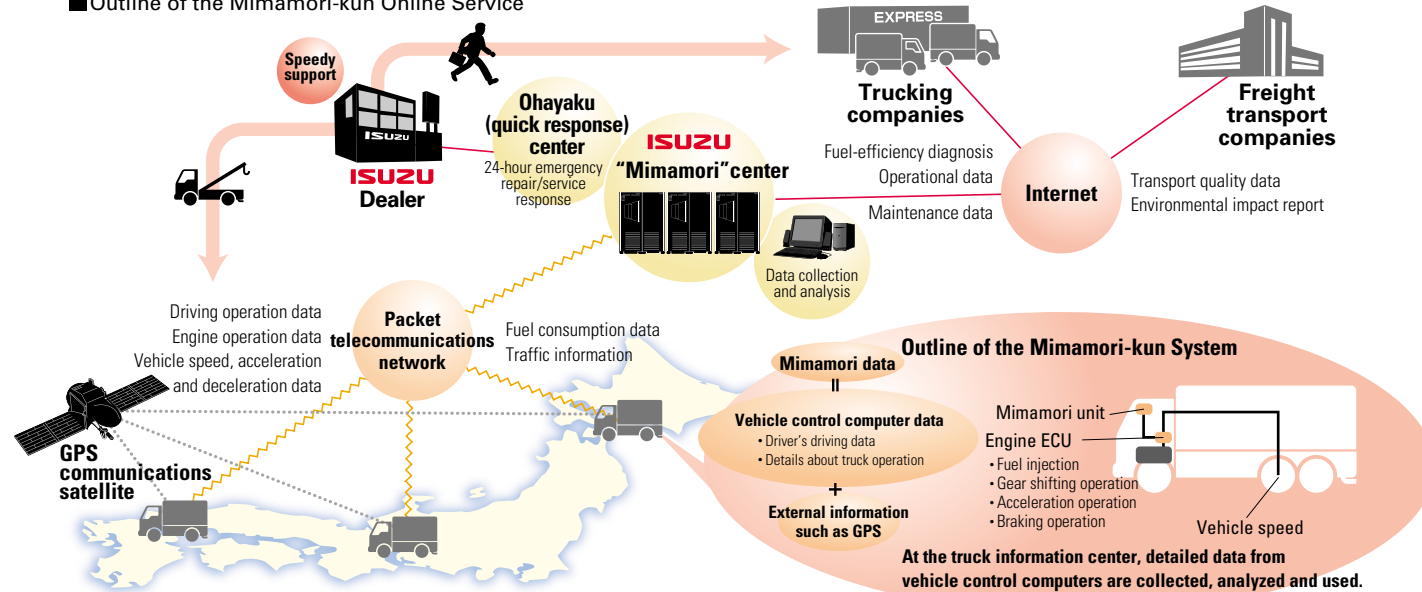
Logistics underpin today’s modern lifestyle in Japan. Currently 90 percent of business cargo is carried out by cargo trucks. However, there are problems such as exhaust emissions as well as serious accidents. It is true that there are numerous criticisms from society toward trucks.

Isuzu is not just involved in the manufacture of trucks and diesel engines, but also take it upon ourselves to address the soft, or non-hardware side of business as part of our social responsibility to enhance truck safety and do our utmost to develop clean diesel engines. At the same time, we conduct seminars that instruct how to improve fuel economy as well

as to drive safely. In addition, with the development of our “Mimamori-kun Online Service”, we have made possible the solution of issues such as improving mileage, safety and reducing environmental impacts, faced by the trucking transport industry.

Through our hardware and software products, we are creating new service and value; thus, we contribute to driver safety, peace of mind in the community and preservation of the global environment.

### Outline of the Mimamori-kun Online Service



## The Mimamori-kun Online Service is Contributing to the Preservation of the Global Environment

### Reporting Driving Data to Dispatchers

“Mimamori-kun” is a system that collects an array of information, including a truck’s driving mileage, conditions such as acceleration and braking, and sends vehicle reports and driver reports to the operator. Based on this data, the operator can gain the environmental data such as how much CO<sub>2</sub>, NO<sub>x</sub>, and PM are emitted during truck operation. At Isuzu, we have examined this data and advised the operators and drivers on how to drive more efficiently and reduce costs. We have more than 1,000 cases in total since we announced “Mimamori-kun” in January 2002.

### Offering Real-time Information

In February 2004, we announced the “Mimamori-kun Online Service” with a real-time information service in addition to the original “Mimamori-kun”. Data collected from the vehicle computer is transmitted to the “Mimamori” Center host computer where truck operators can obtain it instantly, using KDDI packet telecommunications technology. Furthermore, “vehicle location indicator” service gives the location of a vehicle using GPS communication satellites, as well as an alert that is automatically dispatched in the event of accidents or when vehicle speed increases or decreases drastically that might indicate an accident. Through these information providing services we help realize safer and more efficient vehicle operations. At the same time, this also translates into a reduction in CO<sub>2</sub> emissions, which cause global warming, resulting in the preservation of the global environment.

## Promoting After-sale Support to Lower the Environmental Impact

### Fuel-efficiency Driving Seminars

Since 1996, Isuzu has been holding seminars to instruct and encourage fuel-efficient driving and driving safety for fuel saving, lowering environmental impact and driving safely. Among these have been our ongoing “Transport Strategy Seminar” and “Driving and Delivery Seminar” which have produced positive results. Since initiating these seminars, more than ten thousand people have already participated. In fiscal 2003, a total of 343 individuals from 289 companies received this seminar.



Transport Strategy Seminar

### Testing “Mimamori-kun” in New Zealand

In New Zealand, Isuzu Commercial Vehicles are very popular, keeping the No.1 market’s share for four consecutive years. Since 2003, six companies have introduced “Mimamori-kun” on a trial basis. In March 2004, Isuzu compiled reports of their results and held a diagnostic results explanation session. The participants praised the report for the data analysis on driver’s operation and fuel injection amount as well as the advice on fuel efficient, safe driving and operation control, which are very similar to those for the domestic users.

We are planning similar seminars in major countries where Isuzu vehicles are exported and produced.



A trial program in New Zealand

## The Mimamori-kun’s Potential to Transform Trucking and Society



**Noboru Maesono**  
Senior Staff  
Sales Promotion Group  
Sales Promotion Department

### Mimamori-kun Online Service Originally Started for Fuel Economy

As a manufacturer of trucks as working vehicles, for long time, we have abundant expertise and technologies to cut fuel consumption and reduce the environmental impact by altering driving habits. Drivers can improve mileage by an average of 15 percent and reduce exhaust emissions, but the problem for us was how to educate the driver. We have been conducting fuel-economy seminars in various locations for eight years. Our instruction staff often have ridden in the passenger’s seat to advise the driver.

In 2004, following the “Mimamori-kun” we have started “Mimamori-kun Online Service”, developed collaboratively with KDDI, that provides real-time information to truckers, transport companies, cargo owners, and Isuzu. Now we can issue the report in real-time where it used to be issued on a monthly basis. Also, we have a wide array of data available for customers.

### Taking Trucking Beyond Logistics

A variety of information can be collected from trucks while they are on the road, such as driving operation, engine operation, vehicle speed, acceleration and deceleration, fuel consumption, and road conditions. As commercial trucks usually run the same routes every day, by accumulating and analyzing the information, we will find new facts and solutions in the future.

For example, the analysis may prove that traffic jams are caused by drivers’ use of the accelerator and brakes. If we can determine the cause of accidents, this will lead to more efficient transport.

Pending future developments, there is a possibility that trucks with the Mimamori-kun system will play a role in the social infrastructure as mobile sensors and the data they collect could contribute to social activities or security.

We will work more aggressively to see that trucks are for more than transport, by adding value to them — such as information collection and transmission, and construct various information systems that contribute to society.

# Environmental Committee Chairperson's Policies

Here we introduce messages about Isuzu's environmental activities guidelines from members of the Global Environmental Committee members and chairpersons of the subcommittees.



**Hiromasa Tsutsui**  
Executive Director  
Chairperson of the Global Environment Committee and Chairperson of the Plant Environment Committee

## As Global Environmental Committee Chairperson

### ● Our Environmental Measures are Showing Results

As a result of our Global Environmental Committee's efforts to take environmental steps from a number of angles, we have seen solid results in the past few years. In the engineering division, we are developing cleaner vehicles that are more fuel efficient. In the purchasing division, we have promoted green procurement. The manufacturing division are striving to reduce environmental impacts in the manufacturing process, while in our sales division, we have offered seminars on fuel efficient driving. These are a few examples of the awareness of the need for environmental preservation that we bring to all sectors of our business. What I should mention specifically is the positive business cycle we have created linking these activities to Japanese economy. We are also working to respond to regulations abroad in advance of their introduction through technological development and expect to create virtuous cycles overseas as well.

### ● Initiating Consolidated Environmental Management in Group

When thinking about future environmental measures, it is clear that consolidated accounting and environmental initiatives as a group prove indispensable. Currently, approaches and measures differ by company, but we need to promote a collective environmental awareness and promote it from Isuzu headquarters on a large scale, from our suppliers to dealers.

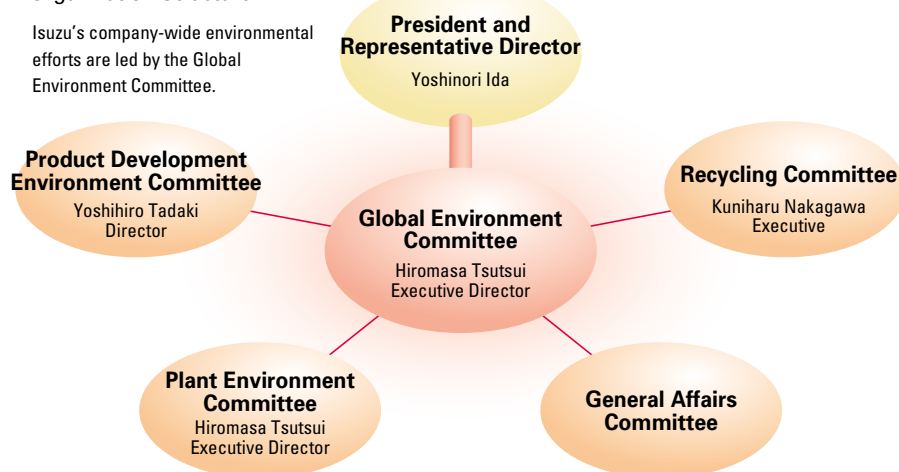
As a group guideline we will make clear environmental action plans and actively cooperate in promoting consolidated environmental management among group companies, working from Isuzu headquarters.

In addition, supply chain management is becoming crucial for vehicle manufacturers and measures beyond the group are necessary.

We will not stop at environmental measures for only our products, but introduce environmental management systems at marketing service and showrooms sales where we meet the customer.

We will introduce our steps to reduce the environmental impact to customers to boost their understanding of our efforts.

### ■ Organization Structure



Isuzu's company-wide environmental efforts are led by the Global Environment Committee.

### My eco-friendly life

I like flower watching every season of the year, because flowers always give me inspiration. At home, I devote my time to gardening to experience this inspiration.

## As Chairperson of the Plant Environment Committee

### ● Efficiency and Flexibility through Relocation

In promoting our plan to relocate our domestic manufacturing bases, we have closed our Kawasaki Plant and shifted its functions to our Tochigi Plant and Fujisawa Plant. The aim of this relocation is not simply to reduce manufacturing bases, but to concentrate and increase the efficiency and flexibility of operations. Before these shifts completed, the operation rate used to be around 50 percent for production machinery 3,200 units in total of all plants. Even at this low level operation rate, equipment must standby and consumes its base-level energy. The relocation plan consolidated the job required of ten production machines into five while concentrating the products and processes that were scattered among different plants.

### ● Continuing to Boost Efficiency and Pare Environmental Impacts

While promoting the plant relocation plan, we incorporated environmental improvements in various business fields, including operating efficiency, increasing operationability, reducing waste and eliminating wasteful energy. As a result, I am convinced that we have seen major results in reducing the environmental impact of our business operations.

Boosting efficiency translates into saving energy and resources, and in the future, we plan to further increase production efficiency and introduce energy saving facilities. One example is to overhaul the Fujisawa Plant's cogeneration facilities in fiscal 2005 and use this as an opportunity to enact energy saving measures and reduce CO2 emissions.

**Yoshihiro Tadaki**  
Director

Chairperson of the Product Development Environment Committee

### ● "See Technology" the Fundamental Concept for Development

The underlying base concept for engineering at Isuzu is referred to as Safety, Economy and the Environment, or "See Technology" for short. Environment is at the core of technological development and an important element in establishing our strong, competitive market position. In the past one or two years, "See Technology" has been established as a central pillar of development and has yielded concrete results. From an environmental perspective, it has resulted in achievements on exhaust gas, fuel economy, reductions of vehicle weight and noise in line with our targets. These achievements are the result of setting our sights on the vehicles of our competitors as a benchmark and trying to exceed them.

### ● Making Vehicles in Advance of Environmental Regulations

From Europe to North America, regulations are getting more stringent and a high-level of technological development is required for vehicle manufacturers. To maintain the position and reputation of the Isuzu brand, we must do our utmost to respond to these demands ahead of competitors. To respond to these demands, realizing a large-scale improvement in the engine cooling function while fusing our optimized combustion technology, after-treatment technology and comprehensive electronic control of diesel engines will prove key. From 2004, vehicles equipped with new technology will hit the market all over the world. As global warming becomes more serious, reducing CO2 emissions is a crucial issue spurring the global interest in diesel engines. I hope to grow Isuzu into a corporation with a global presence and contribute to environmental preservation by introducing vehicles that meet regulations ahead of competitors.

### My eco-friendly life

I am drawn to the beautiful greenery and lushness of nature and enjoy gardening at home. I can relax and enjoy a taste of the country life.

**Kuniharu Nakagawa**  
Executive

Chairperson of the Recycling Committee

### ● Tackling Japan's Automobile Recycling Law is a Major Topic

With the establishment of the nation's Automobile Recycling Law in 2005, automobile manufacturers are obligated to collect three items upon vehicle disposal: chlorofluorocarbons, airbags and shredder dust. A massive system — tasked with overseeing the network of more than one hundred-thousand of concerned companies, ensuring that recycling fees are collected from vehicle owners and managing the 75 million vehicles on the nation's road to see that they are recycled upon disposal — is being established. It is a crucial and urgent topic to get the system off the ground and ensure the proper operation.

At Isuzu, we are promoting a number of projects, including information management on our sold vehicles, setting recycle fees, recycling system and dealer network, the education of dealers as well as promoting the understanding of customers.

### ● Aiming for a 95 Percent Recycling Rate by 2015

Isuzu has achieved its goal of making all new vehicles more than 90 percent recyclable from 2002. We will develop new vehicles in an easier dismantle way, and will optimize the use of materials to achieve our goal of a 95 percent or more recycling rate by 2015. For trucks, the cab section's recycleability is a major issue. Especially in regard to recycling shredder dust, eight domestic automobile makers have formed a partnership known as the ART to achieve recycling rate targets and tackle issues, such as lowering costs.

### My eco-friendly life

I enjoy walking in the mountains with my camera. I make sure to take all garbage home with me for keeping nature clean.



Isuzu believes that preserving the global environment is our most important management theme. We are also actively working to achieve harmony between the development of the world economy and environmental preservation. To this end, the Isuzu Global Environment Committee was established back in August 1990. In May 1992, we established the Isuzu Charter on the Global Environment with our special environmental logo including the slogan "FOR THE FUTURE OF MANKIND AND THE EARTH."

## Isuzu Charter on the Global Environment (established in May 1992)

### Policies in Coping with the Global Environment

1. Throughout the life of vehicle from production to usage and disposal, we will cope with the conservation of environment with positive stance.
2. In order to leave beautiful earth to our descendants, not only through business activities but also as citizens of the earth, we will cope with environmental conservation activities of locality and society with positive stance.

### Action Directives

1. In production processes of vehicles, we will minimize consumption of energy, control to minimize emissions, and thus cope with the conservation of environment.
2. With regard to exhaust gas, noise, etc. which are generated in the process of using vehicles, we will cope with reduction through development and production of vehicles. Also, through developing logistics systems, we will think out rational logistics and will thus cope with the conservation of environment.
3. Realizing that resources are finite, we will aim to provide vehicles which are loved by customers for long time, and we will, in order to make our vehicles recyclable in disposal process, thoroughly cope with the thought of recycling.



Highlights

# Environmental Goals and Achievements/Environmental Accounting

Here we show the targets and achievements of our environmental activities, as well as environmental preservation expenditures and the results of environmental accounting in fiscal 2003.

## Environmental Goals and Achievements

### Creating Environmentally Sound Products

Fiscal 2003 Environmental Goals	Fiscal 2003 Achievements	Self-evaluation	2004 Goals	Mid-term target	Related pages
<b>Improve fuel efficiency to prevent global warming</b> • Introduce new products with improved fuel efficiency	• The new GIGA heavy-duty truck was launched in June 2003 which improved fuel efficiency by 11% through adopting fully-automated 12-speed mechanical transmission "Smoother-G". • Launch of "Mimamori-kun" Online Service in February 2004 realized superior fuel efficiency by utilizing driving data • Achieved better mileage on par with the easy-drive by adding the automatic transmission to the "Smoother-E" manual transmission in the ELF in May 2004.	○	• Continuous development of fuel efficient products	• Attain highest fuel efficiency in its class	P9-10 P18 P20
<b>Clean exhaust emissions</b> • Early launch of low emission vehicles	• GIGA heavy-duty truck, a "Ultra-low Particulate matter emissions certified vehicle☆☆☆☆" with greatly reduced PM emissions by 75% went on sale in December 2003. • Diesel Particulate Defuser (DPD) and PM catalytic converter equipped FORWARD and ELF, medium- and light-duty trucks with greatly lowered PM emission level that are "Ultra-low PM emissions certified vehicles☆☆☆☆ with 85% reduction" and "☆☆☆☆ with 75% reduction," went on sale in April and in May 2004.	○	• Early launch of low emission vehicles	• Development of next-generation after-treatment equipment	P7-8 P20
<b>Reduction of external noise</b> • Meet external noise standards and develop low noise technology	• Launched ELF light-duty truck and FORWARD medium-duty truck in April 2004, and GIGA heavy-duty truck in June 2003; all of which met legal regulations • Reduced peculiar diesel idling noise by accumulated sound improvement technologies; the ELF light-duty truck achieved a reduction of 1dB.	○	• Development of external noise reduction technology • Development of noise tone improvement technology	• Reducing external noise during idling around town	P18-20
<b>Development and spread of low-pollution alternative fuel vehicles</b> • Promote development/sale of low-pollution alternative fuel vehicles	• Sold 1,421 units of ELF CNG-powered light-duty trucks (67% Market share), 73 units of FORWARD CNG-powered medium-duty trucks, and 41 units of CNG-powered buses • Sold 1,175 units of ELF LPG-powered light-duty trucks.	○	• Development of electric-diesel hybrid vehicles	• Development of next-generation low-pollution alternative fuel vehicles	P17-18
<b>Promote vehicle recycling</b> • Increase recyclability • Proper response to the Automobile Recycling Law	• Introduced and started operation of a chemical management system (Began IMDS operation in September 2003; explanatory seminars held with collaborating suppliers as well as improved and promoted the implementation of glass collection and recycling • Constructed an in-house system, instructed our dealers on legal compliance, and conducted activities to increase awareness among customers	○	• Take solid measures to meet requirements of the automobile recycling law • Enhance IMDS database • Boost awareness through education	• 95 percent or more recycling rate for used automobile by 2015	P21-22
<b>Reducing substances with significant environmental impacts</b> • Cut lead to less than 1/3 of fiscal 1996 levels by 2005 • Work to reduce/eradicate the use of lead, mercury, cadmium and hexavalent chromium	• Lessened the amount of lead used in major automobile frames to less than 1/3 • Replaced hexavalent chromium with alternative substances in some bolts and nuts; currently developing a means to eradicate use of the substance • Achieved voluntary target of no use of mercury except in lights and indicator devices	○	• Reduce lead, mercury, cadmium and hexavalent chromium	• Reduce lead to less than 1/10 (1/4 for heavy-duty commercial vehicles) of 1996 levels from 2006 onward • Ban the use of mercury (from January 2005), cadmium (from January 2007) and hexavalent chromium (from January 2008)	P19

### Creating Environmentally Sound Plants

Fiscal 2003 Environmental Goals	Fiscal 2003 Achievements	Self-evaluation	2004 Goals	Mid-term target	Related pages
<b>Global warming prevention (CO<sub>2</sub> emissions reduction)</b> • Increase energy efficiency, reduce CO <sub>2</sub> emissions by 1% or greater per unit annually • Stabilize low CO <sub>2</sub> emission level, reduce emissions by 30% of fiscal 1990 levels by 2010	• Reduced CO <sub>2</sub> emissions per unit by 8.4% of fiscal 2002 levels • Reduced by 50% of fiscal 1990 levels	○	• Reduce by 1% or greater per unit average • Reduce by 30% of 1990 levels	• Reduce CO <sub>2</sub> emissions by 30% of fiscal 1990 levels by 2010	P23
<b>Waste reduction</b> • Further boost the zero emission efforts by reducing landfill disposal of industrial waste to less than 539 tons	• Landfill disposed of waste: 356 tons (40% decrease year-on-year)	○	• 176 tons or less	• Reduce landfill disposal of industrial waste to 48 tons or less (including incineration ash) by the end of fiscal 2005	P24
<b>Reduction and management of substances with significant environmental impacts</b> • Reduce VOC emissions from painting processes by 45 g/m <sup>2</sup> by the end of fiscal 2005	• VOC emissions: 24g/m <sup>2</sup> (47% decrease year-on-year)	○	• 45g/m <sup>2</sup> or less	• 45g/m <sup>2</sup> or less by the end of fiscal 2005	P25
<b>Logistics</b> • Improve vehicle delivery mode (percentage of driving-vehicle transport delivery 20% or less) • Boost the efficiency of delivery vehicles (70% or more direct deliveries)	• Driving-vehicle transport delivery: 21% (5% decrease year-on-year) • Direct delivery: 83% (51% increase year-on-year)	△*	• Continue improvement	• Further heighten logistical efficiency, work to control waste generation	P30

\* We are struggling to achieve this target due to our efforts to meet urgent shipping requests from customers.

### Environmental Management

Fiscal 2003 Environmental Goals	Fiscal 2003 Achievements	Self-evaluation	2004 Goals	Mid-term target	Related pages
<b>Environmental management</b> • Continuous efforts to improve our ISO14001 Environmental Management System • Promote consolidation among group companies	• Continuing to renew certification acquisition at all manufacturing bases • Established a consolidation plan, included it in fiscal 2004 policy, and initiated activities	○	• Consolidate environmental management efforts with domestic and overseas manufacturing companies • Consolidate environmental management efforts with dealers	• Promote consolidation of Isuzu Group environmental management	P15-16 P26
<b>Promote green procurement</b> • Promote green procurement of materials and components • Promote acquisition of ISO14001 among suppliers (over a 74% acquisition rate)	• Established green procurement guidelines, held explanatory conferences for suppliers on purchasing policy and green purchasing, and requested a reduction in use of substances with significant environmental impact in materials and components • Certification acquisition rate: 74% (4% increase year-on-year)	○	• Reduce substances with significant environmental impact • Promote acquisition of ISO14001 among suppliers (over 80% for fiscal 2004)	• Reduce substances with significant environmental impact • Promote acquisition of ISO14001 among suppliers (over 92% for fiscal 2006)	P16

### Social Report

Fiscal 2003 Environmental Goals	Fiscal 2003 Achievements	Self-evaluation	2004 Goals	Mid-term target	Related pages
<b>Environmental communication</b> • Publication of Japanese and English Environmental Report in September and December 2003, respectively • Participation in exhibitions, promotion of social contribution activities	• Environmental Report published in September 2003 and its English version in November. • Active participation in Eco-Products 2003, ECO CAR WORLD, World Gas Conference, Land Transportation Day, Fujisawa Environment Fair and other events • Provide technical support members to the Japanese Antarctic Research Expedition, worked to clean up communities surrounding plants, and participated in local communities' activities	○	• Publication of Japanese and English Environmental Reports in September and December 2004, respectively • Participation in exhibitions, promotion of social contribution activities	• Actively promote social contribution activities and environmental communication efforts	P33

\* "○" in the self-evaluation column indicates that the target was met.

## Environmental Accounting

### Environmental Accounting in Fiscal 2003

Environmental accounting provides information on costs and benefits that are related to the environment and is an important indicator to help promote effective and sustainable environmental activities as well as business operations. Isuzu utilizes environmental accounting as a tool to provide information to assist management decisions related to our environmental protection activities, and to share this information with customers, stockholders, and others through our Environmental Report. We work hard to improve the accuracy of our environmental accounting and to expand the scope covered in our calculations on costs and effects.

### Environmental Protection Costs

In fiscal 2003, total expenditure for personnel management, production costs, and capital investments related to environmental protection was 23.1 billion yen (calculated on a cash-flow basis). Of this, 21.4 billion yen was spent on research and development, including measures to meet exhaust emission regulations. We referred to the Environmental Reporting Guidelines issued by Ministry of the Environment of Japan in calculating these costs. For composite costs including the costs for purposes other than environmental protections, calculations have been made on a proportional basis.

### Environmental Protection Effects

Energy and waste costs increased as production boosted but we were able to steadily reduce waste disposal volume and water usage due to promotion of recycling and other efforts.

### Environmental Protection Costs Period covered: April 1, 2003 ~ March 31, 2004

(Units: million yen)

Category of Environmental protection cost		Major initiatives	Amount
1)	Environmental protection costs to control environmental impacts in the areas of major business operations (operational area costs)		
	Breakdown		
	① Pollution prevention costs	Wastewater treatment, incinerator combustion aid gas, maintenance of anti-pollution equipment	215
	② Global environmental protection costs	Improvement of energy efficiency	21
	③ Resource circulation costs: industrial waste processing (including landfill) cost	Waste reduction activities	374
2)	Upstream/downstream costs	Purchasing rebuilt engines, returnable racks	478
3)	Management activity costs	In-house steps to address the Automobile Recycling Law, ISO14001 improvement activities	370
4)	Research and development costs	Efforts to meet exhaust emission regulations in Japan and overseas, development of products with reduced environmental impacts, etc.	21,404
5)	Social activity costs	External efforts to build a system in line with recycling law, support for social contribution activities	219
6)	Environmental damage costs	Penalties for polluting, litigation costs, etc.	65
7)	Other environmental protection costs		0
Total			23,146

### Environmental Protection Effects

Cost Reduction Effects	(Units: million yen)
Cost reduction through energy conservation	-152 (increase)
Cost reduction through reduced waste disposal	-21 (increase)
Cost reduction via tap water, sewage water and industrial water conservation	11
Total	-162 (increase)

### Physical Effects

CO <sub>2</sub> emissions	-25,000 tons (increase)
Waste disposal amount	240 tons
Water consumption	130,000 m <sup>3</sup>



# Environmental Management Systems

To tackle global environmental issues across the Isuzu group, we have initiated our "consolidated environmental management" system for activities with manufacturers and dealers both domestic and overseas.

## Our Consolidated Environmental Management Approach

### Shifting to a Consolidated Environmental Approach at Isuzu Group

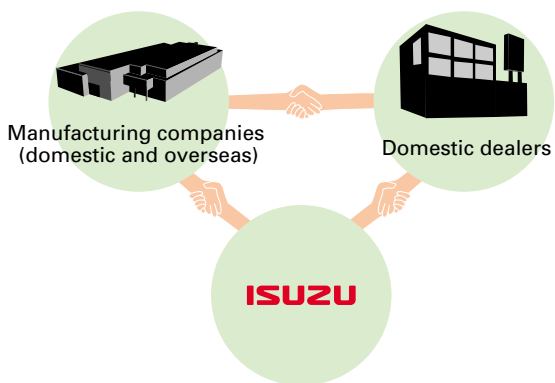
Isuzu has established an environmental management system to continually reduce the environmental impact of its corporate activities and to strengthen the corporation to deal with environmental control. We have focused our efforts on introducing Environmental Management Systems in the manufacturing division and completed introduction of these systems also in the engineering division including at our major overseas plants in fiscal 2002. However, in light of our group companies around the world, this is not sufficient. Under a clear system of governance, it is our responsibility as a global corporation to gauge and reduce our environmental impact as a group. The next step in this process is to promote, based on our Isuzu Charter on the Global Environment, a group-wide Consolidated Environmental Management initiative to reduce our environmental impact.

### Scope of Consolidated Environmental Management

Group companies under Consolidated Environmental management are affiliated companies subject to the equity method and financially consolidated companies.

We have started with eight domestic and six overseas manufacturing companies and domestic dealers. We will gradually expand the program's scope in the future.

### Coverage scheme



### Implementation and Manufacturing Companies

We have set Environmental Measure Guidelines\* for domestic and overseas manufacturing companies. Taking into each company's "personality", an Environmental Action Plan based on the guidelines are established and implemented.

### Environmental Measure Guidelines

- 1 Promotion of ISO14001 Environmental Management System
- 2 Prevention of global warming and reducing of CO2 emissions
- 3 Reduction of waste
- 4 Management and reduction of regulated substances

### Consolidated Environmental Management Promotion Schedule

We first introduce this system in stages among manufacturing companies at home and abroad responsible for large environmental impacts. For domestic and foreign manufacturing companies already established ISO14001 Environmental Management Systems, we will begin including them in fiscal 2004 in the Isuzu Group's Consolidated Environmental Management scheme. However, for dealers, fiscal 2004 will be a preparatory period. They will officially participate from fiscal 2005.

### Companies Subject to Environmental Management: Domestic and Overseas

		Fiscal 2003	Fiscal 2004	Fiscal 2005
Japan	Manufacturing companies			
	Dealers			
Overseas manufacturing companies				

■ Preparation period ■ Submission of guideline ■ Plan establishment and implementation

### Companies Subject to Environmental Management in Fiscal 2005: Domestic and Overseas

**Domestic manufacturing companies (8)**

- Isuzu Motors Limited
- Isuzu CASTEC Corporation
- Isuzu Bus Manufacturing, Ltd.
- Isuzu Engine Manufacturing Hokkaido Co., Ltd.
- Automotove Foundry Co., Ltd.
- Nippon Fruehauf Co., Ltd.
- Jidosha Buhin Kogyo Co., Ltd.
- TDF Corporation
- Shonan Unitec Ltd.

**Domestic dealers**

· 41 companies in total

**JAPAN**

**Overseas manufacturing companies (6)**

**Poland**

· ISPOL

**Thailand**

· IMCT · IEMT

· IT Forging Co., Ltd.

· TID

**USA**

· DMAX Ltd.

### Holding of the first inaugural Liaison Conference for the Environment

Representatives from the eight domestic consolidated companies had a meeting on July 8, 2004 at Isuzu's corporate headquarters. Please see page 26 for more details.



Environmental executives from the eight domestic consolidated companies

## Promotion of Environmental Audits

To make sure that the Environmental Management Systems are appropriately implemented and improving environments, we conduct regular audits annually. Through these audits we aim to address and resolve issues and improve our system and its performance.

Isuzu's environmental audits consist of internal environmental audits conducted on a regular basis once or twice annually and of surveillance and reviews for renewal by external third-party certification organizations. In fiscal 2003, all domestic plants and the engineering department had surveillances. No problems were indicated.

Also, in order to enhance our environmental audits we are working to train personnel to conduct internal environmental audits as well as renewing programs for internal environmental auditors who have already been certified.

In fiscal 2003, our plants and product development divisions held Isuzu's Global Environmental Committee and the committee members visited to observe environmental improvement efforts on site. This helped to heighten the understanding of committee members as well as the awareness of those in charge of environmental efforts on the front line.

In our product development division we are promoting the initiative to simplify the environmental documents in conjunction with improving our product quality system (ISO9001, QS9000) for further efficiency. As a part of this initiative, we conducted product quality and environmental audits at the same time, aiming to boost audit quality and efficiency.



GEC members inspecting a plant environment



Training of internal environmental auditors

## Compliance with Environmental Laws and Regulations

As a global company, it is our responsibility to do our utmost to reduce the environmental impacts resulted from our business operations. For this reason, we set stricter standards than the national and local governments' as we seek to reduce our environmental impact. We regularly hold plant environmental committee meetings to confirm compliance with legal requirements and discuss day-to-day maintenance of standards. All requirements are fulfilled.

## Approach on Green Procurement

Isuzu does more than simply undertake environmental efforts itself, it also demands cooperation from suppliers of materials and other goods. We are actively pushing our green procurement initiatives ahead with establishment of purchasing guidelines.

### Purchasing Guidelines: Encouraging Green Procurement

- 1 Strengthening our Environmental Management System
- 2 Reducing use of substances with environmental impacts

Our green procurement efforts are proceeding ahead on a company-wide basis with cooperation of the development division, sales and marketing division and manufacturing division.

In fiscal 2003, we held a purchasing guidelines seminar largely for suppliers and business partners (281 companies participated), a green purchasing seminar (206 companies participated), and an IMDS\*1 explanatory seminar (370 companies participated). In addition to the above, we also made the following requests and undertook the following activities

- 1) Promoted reduction in stages of substances that impact the environment as outlined under the EU-ELV\*2 directive
- 2) Held two IMDS explanatory seminars and started operation of system
- 3) Released the guidelines for and encouraged reduction of VOC\*3 in vehicles

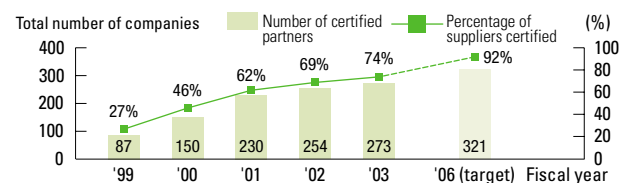
73.8% of our suppliers has become ISO 14001 certified as of March 2004. As the percentage of certified suppliers is steadily growing, we reset our target on the ISO 14001 certification more challenging.



Green procurement explanatory seminar

- \* 1 International Material Data System
- \* 2 EU-ELV: European Directive on End-of-Life Vehicles
- \* 3 VOC: Volatile Organic Compounds

### ISO14001 Certification of Isuzu Partners



## Environment-related Product Recalls and Lawsuits

In fiscal 2003, there was one environment-related recall on the COMO concerning an exhaust device.

A decision was handed down for the first trial of the First Tokyo Air Pollution Lawsuit on October 29, 2002, and currently the appeal is underway. The need for the second and following trials are being heard in the first trial.



# Creating Environmentally Sound Products

We have established a basic concept "See Technology" and are focusing on eight core engineering themes to help us develop environmentally sound products.

## The "See Technology"

Logistics is a crucial element in maintaining and raising the quality of our lives, and the majority of goods are distributed by trucks. But if trucks are the cause of social problems such as to pollute the environment, to cause safety problems, and/or to raise the cost of transport, they are degrading our quality of life instead of improving or maintaining it. At Isuzu, we have designated "earning the trust of everyone" as part of our development principles. Moreover, Isuzu strives to do our best in the three areas of Safety, Economy and Environment, and we have taken the first letters of each of these areas and devised "See Technology" as the concept in developing products. We will continue to promote development based on our development principles and development concepts to provide new product values that find a balance between reducing environmental impacts and economy to society.

In developing environmentally sound vehicles, Isuzu emphasizes eight key themes that comprise the major environmental impacts during a vehicle's life cycle. Until 2002 we focused on seven areas, whereas in fiscal 2003, one other category was added for further technological development efforts to minimize the environmental impact of vehicles, namely reducing VOC inside vehicles.

## Developing Eco-friendly Vehicles

Diesel vehicles play a central role in transportation today from city driving to long distance. Isuzu has made it a priority to clean the exhaust emissions of diesel engines known for their superior combustion efficiency. The need for the development of eco-friendly vehicles suited to different uses and driving circumstances is also increasing.

We are developing compressed natural gas (CNG) vehicles for commercial use that are suited to relatively short distance travels in urban areas where air pollution prevention is strongly required. Use of these vehicles is further expected to expand in the future.

We are also putting effort into the development of electric-diesel hybrid vehicles, not just for passenger vehicles but also for commercial vehicles, to meet the growing demand for short- and middle-distance transport.

In addition, expectations are also high for the development and commercialization of dimethyl ether\* (DME) fueled commercial vehicles that do not create PM or soot while emitting very low levels of NOx.

Isuzu is striving to develop eco-friendly vehicles that balance global and local environments with efficiency in transportation and economic considerations.

\* dimethyl ether: A fuel made from natural gas or coal. Dimethyl ether is drawing attention of industry as a promising alternative fuel.

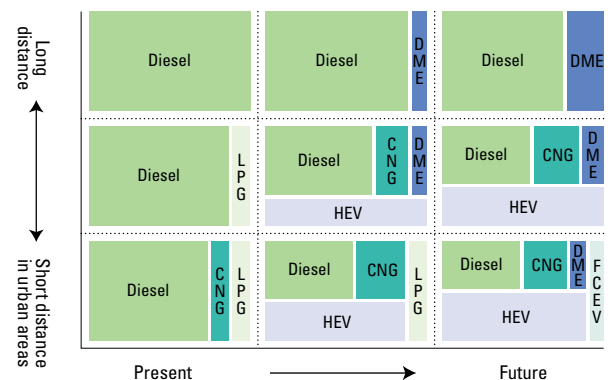


Base Concepts in Product Development "See Technology"

## Key Issues for Developing Environmentally Sound Products

- 1 Improve fuel efficiency and reduce CO2 emissions
- 2 Produce cleaner exhaust emissions
- 3 Develop vehicles that run on cleaner energy
- 4 Reduce external noise
- 5 Reduce use of substances with environmental impacts
- 6 Improve recyclability
- 7 Reduce volume of refrigerants in air conditioners
- 8 Reduce VOC inside vehicles

## Trends in Development of Eco-friendly Vehicles



CNG: Compressed Natural Gas      DME: Dimethyl Ether  
 LPG: Liquefied Petroleum Gas      HEV: Hybrid Electric Vehicle  
 LNG: Liquefied Natural Gas      FCEV: Fuel Cell Electric Vehicle

## Eight Key Themes in Developing Products

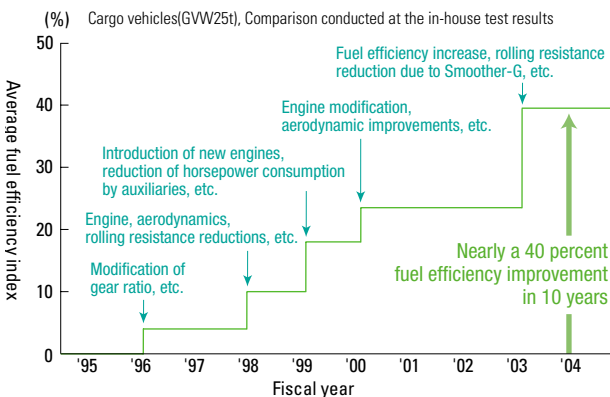
### 1 Boosting Fuel Efficiency and Reducing CO2 Emissions

Diesel engines are efficient in converting fuel into driving energy. Compared with gasoline engines they release 20 to 40 percent less CO<sub>2</sub>, making them more environmentally friendly. At Isuzu, in order to further reduce CO<sub>2</sub> emissions, we have improved the fuel economy of the overall vehicle including the engine as well as lessened running resistance, reaching nearly 40 percent reduction in the past ten years.

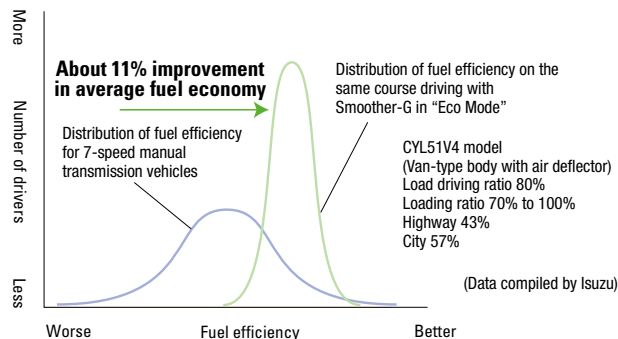
One example of our efforts is the revolutionary Smoother-G transmission, developed to combine the easy operation of an automatic transmission with the economy of a manual transmission.

The Smoother-G is installed on the GIGA heavy-duty truck series. In its "Eco Mode," the engine will shift automatically to maintain engine revolutions that constantly maximizes fuel efficiency, resulting in fuel-efficient driving regardless of the driver's skill.

#### Fuel Efficiency of Heavy-duty Trucks



#### Smoother-G Model Driving Patterns



### 2 Cleaner Diesel Exhaust Emissions

Isuzu is aggressively striving to clean diesel exhaust emissions, focusing on three core technologies called the "I-CAS".

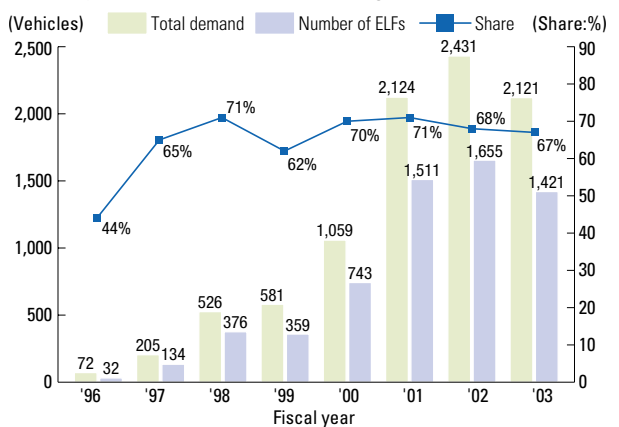
For more detailed information please refer to the "Clean Diesel Engine Development" segment of pages 7 and 8 in the Highlights section.

### 3 Development of Clean Energy Vehicles

Isuzu is forging ahead with the development of various alternative-fuel powered vehicles, such as those using Compressed Natural Gas (CNG) and DME vehicles as well as liquefied petroleum gas (LPG) fueled trucks, buses, and hybrid vehicles. Among them, our ELF and FORWARD series, which are CNG vehicles whose demand are increasing in urban transport, are acclaimed for their superior environmental and economical performances.

Furthermore, by heightening the compression ratio to a level on par with diesel, we have established engineering technology for a highly fuel efficient and clean direct injection CNG vehicle ahead of the competitors.

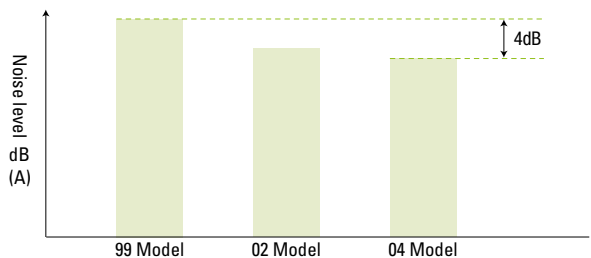
#### CNG-powered ELF New Vehicle Registrations



### 4 External Noise Reduction

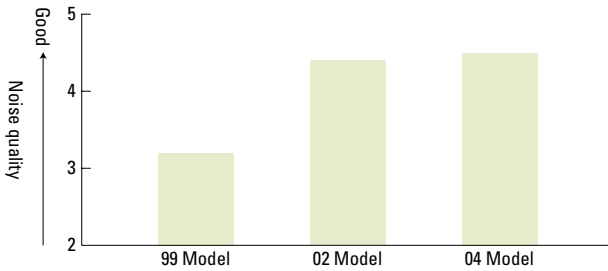
Japan has the world's most stringent noise regulations. Isuzu not only meets these regulations, but goes one step further to reduce the noise of idling and improve on the unpleasant noise particular to diesel engines. The majority of our efforts involve reducing noise from the engine and drive train, analyzing the route of combustion noise, and developing sound insulation and damper.

#### ELF Idling Noise Quality





■ ELF Idling Noise Quality



⑤ Reducing the Use of Substances with Significant Environmental Impacts

We are aggressively striving to reduce the use of the heavy metals of lead, hexavalent chromium, cadmium, and mercury, and have established a set of guidelines for regulations regarding the use of the four heavy metals to meet the European Union's End-of-Life Vehicle Directive (EU-ELV) and voluntary regulations of the Japan Automobile Manufacturers Association. We are working to meet the voluntary reduction targets set in fiscal 2001 with the help of our suppliers for each vehicle model and type of equipment that we produce.

In reducing lead, we have developed alternative substances for use and are applying them on new vehicles and equipment. We use hexavalent chromium-free methods to process the surface of some bolts and nuts and are reducing the use of the substance for future banning. As for cadmium, we have taken cadmium-free in flasher units and thermometer switches and are gradually phasing out the use of cadmium. As for mercury, we have ceased its use except in some lights and indicator devices, achieving our voluntary target.

<b>Lead</b>	Reduce lead to less than 1/10 (1/4 for heavy-duty commercial vehicles) of 1996 levels from 2006 onward
<b>Hexavalent chromium</b>	Phase out the use of hexavalent chromium in new vehicles in stages from 2003 to 2008
<b>Cadmium</b>	Gradually phase out the use of cadmium in new vehicles from 2003 to 2007
<b>Mercury</b>	Ban the use of mercury from January 2005 onward in new vehicles in line with the enactment of the Automobile Recycling Law, except for some lights and indicator devices

⑥ Boosting Recyclability

Isuzu is actively working to recycle and reduce the use of substances with significant environmental impacts at all stages of our vehicles' life cycles.

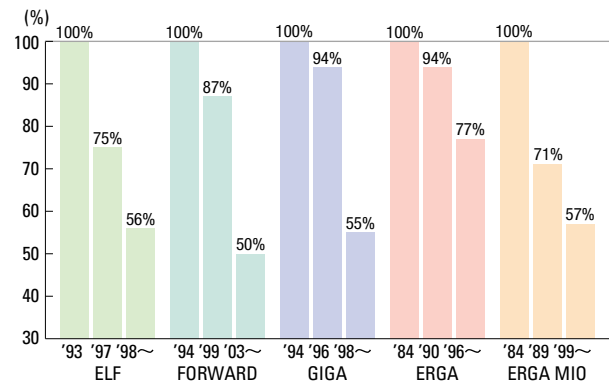
For more details, please refer to the "Recycling Efforts" section on pages 21 and 22.

⑦ Reduction of Refrigerants in Air Conditioners

In 1993, Isuzu completely phased out the use of ozone-depleting CFC12 refrigerants, switching to HFC134a, a CFC substitute. However, HFC134a is a greenhouse gas with a high global warming potential so we resolved to reduce its use to 10 percent less than the 1995 levels. Through improving the heat exchangers and increasing the overall efficiency of cooling systems we successfully reduced the amount of refrigerants used. As a result, we have been able to achieve a reduction of more than 20 percent by the 1995 levels for all vehicle models.

Isuzu is promoting the development of air conditioning systems utilizing other types of refrigerants such as CO2 simultaneously with such efforts to reduce the use of CFC substitutes.

■ Reduction in amount of refrigerants per vehicle in Isuzu vehicles



⑧ Reduction of VOC in Vehicle Cabin

VOC refer to Volatile Organic Compounds, such as formaldehyde and toluene, which are sometimes used in adhesives and paint solvents. Measures to address pollution of indoor air by these chemicals are stressed because VOC have been implicated as substances that damage human health, such as by causing the sick house syndrome or chemical sensitivity afflictions. Originally, the issue was one focusing on rooms in the house or building but in December 2000, a government deliberation committee on sick house syndrome issued an interim report, mentioning the issue also relevant to automobiles. To comply with this, Japan Automobile Manufacturers Association (JAMA) established a working group on VOC in vehicles and began reviewing the issue.

At Isuzu, we are working to reduce VOC in vehicle cabins in line with JAMA's guidelines for voluntary measures while focusing on the 13 substances and guideline values designated by the Ministry of Health, Labor and Welfare. In fiscal 2003, we started to develop technologies to reduce these substances, following the research on the current situation.

# New Products

Designed to minimize their environmental impacts, all products boast Isuzu's latest technology.

## ■ ELF Ultra-low PM Emissions Truck

In May 2004, Isuzu launched an environmentally evolved version of the popular ELF KR light-duty truck, released in June 2002 and complied with the 2003 new short-term exhaust emission regulations. Equipped with a DPD system, the aftertreatment equipment of exhaust emissions, the vehicle has been certified as an "ultra-low PM emission truck (85% reduction) ☆☆☆☆☆." The intercooled turbocharged engine installed with a new oxidization catalytic converter has also resulted in a "ultra-low PM emission vehicle (75% reduction) ☆☆☆" certification for the vehicle.



ELF

## ■ FORWARD Ultra-low PM Emissions Truck

In April 2004, Isuzu launched the new FORWARD medium-duty truck with a supreme balance between environmental performance and economy. The DPD-equipped 6HL1 engine received certification as a "ultra-low PM emission (85% reduction) ☆☆☆☆☆." We equipped the 6HK1 engine with a new PM catalytic converter and received a "ultra-low PM emission truck (75% reduction) ☆☆☆" certification for the vehicle. We have also realized cleaner exhaust emissions through higher compression fuel injection and tighter control on the optimization of injection conditions.



FORWARD

## ■ GIGA Ultra-low PM Emissions Truck

Isuzu GIGA heavy-duty cargo truck utilizes our original next-generation clean technology "I-CAS" and meets the new short-term emissions regulations in Japan slated for 2004 a year ahead of schedule. It has also been certified as an "ultra-low PM emission truck (75% reduction) ☆☆☆." The improvements are the result of our successful drive to create a vehicle combining reduced transport costs and improved environmental responsiveness in the market — the two musts for a heavy-duty truck forming the backbone of logistics activities.



GIGA

## ■ Smoother-E Autoshift for ELF

The ELF Smoother-E Autoshift is a fully automated electronically controlled transmission incorporating the advantages of manual and automatic transmissions. This transmission offers pleasant and safe driving and reduced running and maintenance costs through improved fuel efficiency.



Smoother-E Transmission

Smoother-E Transmission autoshift



# Recycling Measures

Aiming to become a corporation that aspires to build a sustainable society, Isuzu works to increase recycling rates as a group.

## Working to Recycle Vehicles with a Vision of Coexistence with the Global Environment

In October 2000, The European Union issued the EU End-of-Life Vehicles Directive mandating that automobile manufacturers and importers would be responsible for the recycling of used passenger cars and trucks. In Japan as well, as of January 1, 2005, the Automobile Recycling Law will go into effect. These are examples of the environmental regulations with the aim of establishing sustainable societies around the world. As a global corporation, Isuzu has responsibility to reduce the environmental burden of vehicles throughout their lifecycle — from the stage of production and usage to disposal — with a vision of coexistence with the global environment (see below). We are also striving to contribute to the reduction of environmental impacts by providing vehicles with longer lifecycles, which are designed to facilitate recycling.

## 4Rs throughout the Vehicle Lifecycle

At Isuzu, the following 4Rs form the basis of our recycling efforts.

- 1 Refuse to use substances with environmental impacts
- 2 Reduce substances that cause negative environmental impacts
- 3 Reuse vehicle components and materials
- 4 Recycle materials such as shredder dust

These 4Rs are incorporated in the research and development, design and manufacturing, usage, and post-usage stages of our vehicles. For example, through research and development we make aggressive attempts to improve the recyclability of our materials. This entails giving attention to the dismantling of vehicles and clarifying the methods for reducing and appropriately disposing of substances with environmental impacts at the time of vehicle disposal. For more detailed information, please see below.

## We are Working to Respond to the Automobile Recycling Law that Goes into Force in January 2005.

### Overview of the Automobile Recycling Law

Dwindling resources and a shortage of landfill space are becoming increasingly evident due to mass production, mass consumption and mass disposal. As a result the Basic Law for Establishing a Recycling-Oriented Society was enacted in 2000 to help create a recycling-oriented society. Against this background, the Automobile Recycling Law is also slated to go into effect in January 2005 targeting automobile manufacturers and related companies. This law calls for shredder dust, which has been disposed of predominantly via landfill sites up until now, to be recycled to reduce the amount of wastes in landfill sites. It also calls for the appropriate treatment and disposal of airbags and chlorofluorocarbons (CFCs). The disposal fees are to be borne by vehicle owners, and automobile manufacturers are responsible for carrying out the disposal process. This legislation is also to prevent the illegal dumping of automobiles.

### Structure of the System

As a member of the Japan Automobile Manufacturers Association, Isuzu is actively working to establish the strong structure of the industry to ensure that recycling proceeds smoothly after the enforcement of the Automobile Recycling Law. In collaboration with other automobile industries we have established the Japan Automobile Recycling Promotion Center and have carried out nationwide explanatory seminars for related parties on how the Automobile Recycling Law will function. We are also preparing an electronic manifest system as well as a system to oversee the management of recycling fees. We have been preparing for the Automobile Recycling Law to come into effect by establishing Recycle Promotion group in April 2003. We have established a network to facilitate communication among the development, manufacturing, sales and service departments, and have also set the operation rules in accordance with the new law. In addition, explanatory seminars were held for our dealers and suppliers to be fully prepared for implementation of the law.

## Details of Isuzu's Efforts

### Research and Development

- Investigate new uses for recycled materials
  - Development of sandwich-molding technology, development of artificial lumber, etc.
- Develop alternative technologies for substances causing environmental impacts
  - Lead free shift, surface processing without hexavalent chromium
- Develop technology to recycle materials from disposed vehicles
  - Collecting glass, promoting experimental research of recycling methods
- Introduce and operate a chemical management system
  - Management of materials and chemical substances using IMDS\*
- Develop alternative technologies to use tree plantation to protect dwindling resources

\* IMDS: International Material Data System

### Design and Manufacturing

- Facilitating the separation of materials
  - Marking rubber and plastic components (See picture)
  - Labeling plastic materials used in commercial vehicle body
- Manual for efficient disassembly
- Reducing substances with environmental impacts
  - Adoption of lead-free paints
  - Lead-free tire balancers, etc.
- Promotion of green purchasing

### During Use

- Reuse of remanufactured parts (See picture)
  - Reusing engines, transmissions, etc.
- Reducing waste and substances with environmental impacts
  - Recycling LLC
  - Biodegradable grease
  - Ensuring appropriateness of lubricant additives

### Post Use

- Responding to requirements of the Automobile Recycling Law
  - Establishing a system for appropriate disposal
  - Compliance education to dealers
  - Activities to spread awareness about recycling among customers
- Collecting and recycling bumpers (Using recycled plastic)
- Promote recycling of the bodies of commercial vehicles
- Actively use remanufactured parts (See picture)



Management of Chemicals Under IMDS

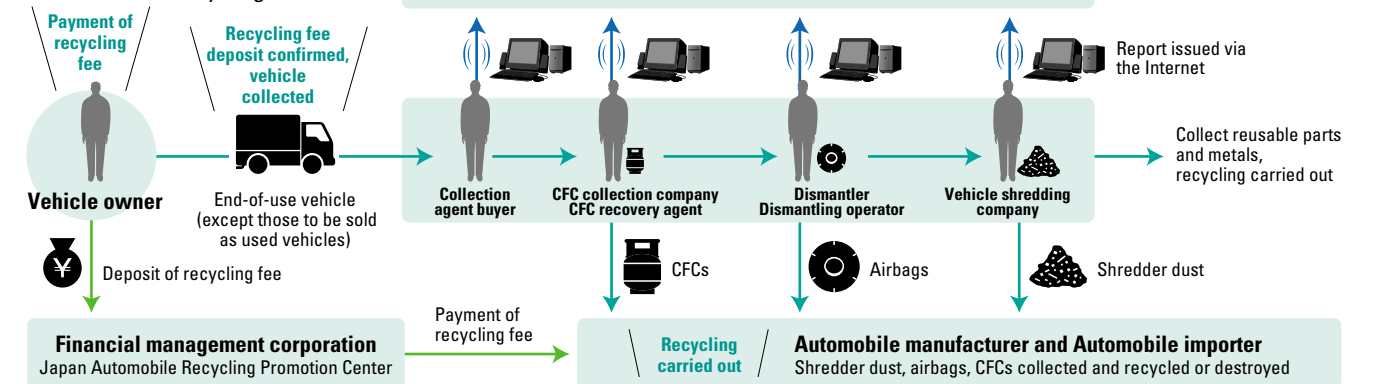


An example of markings on plastic parts



Remanufactured engines waiting to be shipped

### Schematic Diagram of the Automobile Recycling Law



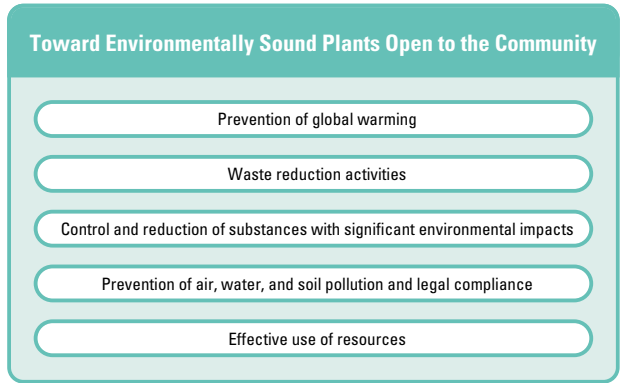
# Creating Environmentally Sound Plants

Five key issues for creating environmentally sound plants.

## Approach to Creating Environmentally Sound Plants

The environmental burden of automobile production ranges from the community surrounding the plant to the earth as a whole. Our philosophy of plant management is "think globally and act locally." We also believe in plants being open to everyone, forming strong partnerships with domestic and overseas business partners including suppliers, as well as maintaining good communications with local communities.

In an effort to make environmental friendly plants, we are addressing a number of issues mainly through each plant's environmental committee, such as prevention of global warming, reduction of waste, and management and reduction of substances with significant environmental impacts.

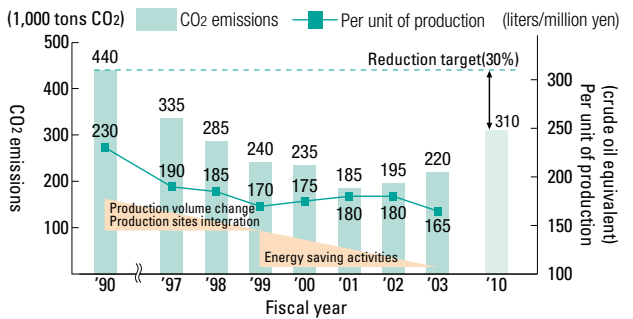


## Prevention of Global Warming

Isuzu's energy conservation activities include daily efforts, such as procedures to avoid air leakage, as well as more drastic efforts, including integrating production lines to accommodate production fluctuations. At our plants, we are enacting and seeing results from "energy saving patrols," which look for ways to improve efficiency — the effort coordinated by our Energy Conservation Committee.

We have set a target of reducing CO2 emission by 30 percent of 1990 levels by 2010. In fiscal 2003, CO2 emissions totaled 220,000 tons, which means we have already achieved a 50 percent reduction compared with our 30 percent reduction target. The CO2 emissions increased compared with fiscal 2002. However, this was due to increase in demand and production. On a per unit basis, our energy saving activities have resulted in reductions.

### CO2 Emissions



### Specific Measures

- Improved production efficiency by integrating production lines and manufacturing processes
- Elimination of loss, air leakage, steam leakage, and machine idling, etc.
- Consideration of additional introduction of cogeneration
- Consideration of boiler fuel switch
- Installation of inverters on pumps
- Reduction of compressor operation loss by switching lubricants, etc.

## Material Balance of Manufacturing Plants (Resource Inputs — Emissions)

Environmental impact of plants is expressed by subtracting emissions from inputs.

### Material Balance of Production Plants

#### INPUT

● Energy	130,000 kl	Electricity 68%
		Gas 16%
		Oils 16%
● Materials		
Metal materials	Steel 411,000 t	
	Aluminum 14,500 t	
Chemicals	3,900 t	
● Water	2,190,000 m <sup>3</sup>	



#### OUTPUT

● Product output	890.3 billion yen	Domestic 101,000 vehicles
		Exports 132,000 vehicles
● Air	• CO <sub>2</sub> 220,000 t	
	• NO <sub>x</sub> 45 t	
	• SO <sub>x</sub> 12 t	
● Waste	• Total amount 63,900 t	Recycled as material 49,700 t
		Landfill 360 t
		Others 13,840 t
● Wastewater	2.06 million m <sup>3</sup>	
● COD*	28t	

\* COD: Chemical Oxygen Demand

## Waste Reduction Initiatives

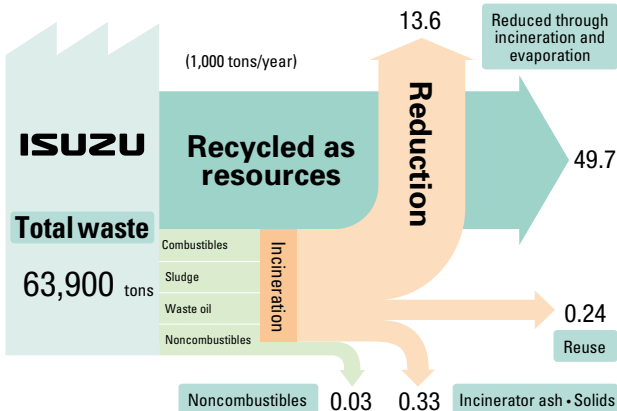
At Isuzu, zero emissions are defined as reducing landfill disposal of industrial waste by 95 percent of the fiscal 1995 level (excluding incinerator ash). We have already achieved zero emissions with a 97.6 percent reduction in fiscal 2001.

As a result, we set a new and higher target for ourselves while considering the reduction of costs: to reduce landfill disposal to one ton or less per month per plant (including incinerator ash) by the end of 2005.

In fiscal 2003, we started recycling of incinerator ash and achieved a 40 percent cut compared with fiscal 2002, reducing the amount of industrial waste to be disposed of at landfills to 356 tons despite an overall production increase.

The total amount of waste produced in fiscal 2003 was 64,000 tons, increasing in tandem with production levels. However, the amount of materials recycled increased to 50,000 tons (45,000 tons in fiscal 2002) resulting in a decrease in the amount of total waste requiring final disposal.

### Waste Treatment and Disposal for Fiscal 2003

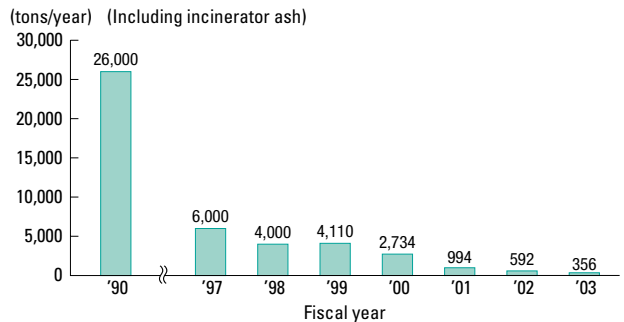


## Management and Reduction of Environmental Impact Substances

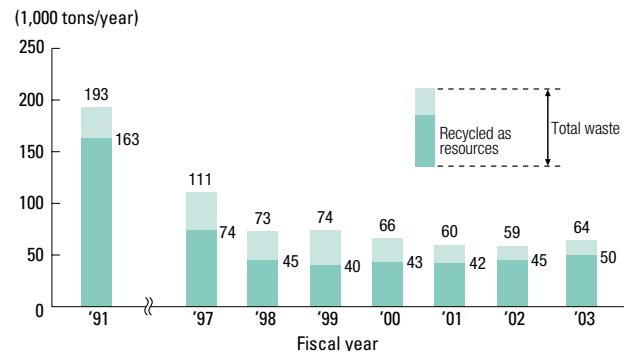
Although substances with significant environmental impacts contribute to improving production technologies and the performance of materials, their use involves risks of harm to humans and other species when they are released into and pollute the environment. Isuzu has established an integrated system that combines the information from our material procurement management system with that of our PRTR\* management system, which complies with Japan's PRTR Law, to reduce the risks of environmental pollution and damage caused by such substances. With this system, Isuzu is monitoring, controlling and reducing the substances targeted by the law. Due to a change in the law requiring data on chemicals handled in amounts larger than one ton rather than five tons, in fiscal 2003 the number of substances we handled subject to reporting increased from 5 to 16. In addition to the legal regulations, we are working to appropriately manage and reduce these substances via in-house stipulations such as Regulations on Chemical Substances Management that divide these chemical substances into three categories — those completely banned, those usable with care under certain conditions, and those usable with care — under our Environmental Management System.

\* PRTR: Law Concerning Reporting etc. of Releases of Specific Chemical Substances to the Environment and Promotion Improvement of Their Management

### Final Industrial Waste Disposal Amount from All Plants



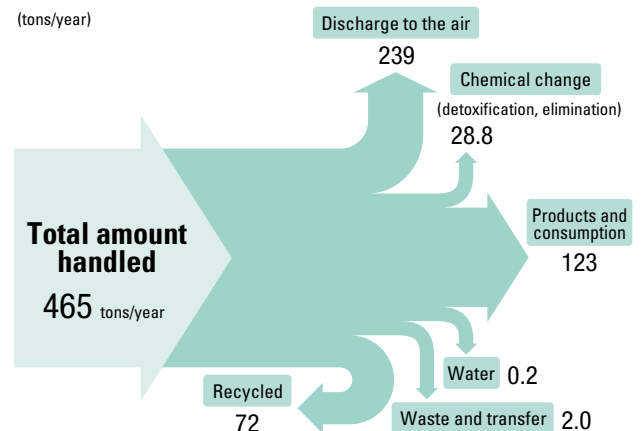
### Amount of Waste and Recycled Resources



### Major Initiatives

- Sorted collection, Resource recycling by dismantling and disassembly
- Reduction of waste and Activities to reduce packaging lumber
- Recycling of incinerator ash
- External cooperation: signing joint environmental declarations with waste contractors, participation in Zero Emissions Network, etc.

### PRTR Balance of Inputs and Outputs for Fiscal 2003 (All plants)





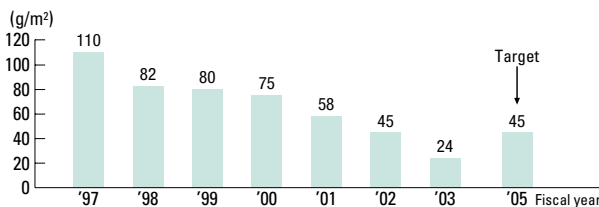
## Preventing Air, Water, and Soil Pollution and Legal Compliance

### Reducing the Use of Volatile Organic Compounds (VOC)

As a cause of photochemical oxidants, VOC are regulated under an amendment to the national Air Pollution Prevention Law that will go into effect in 2006. Isuzu has moved to reduce the use of organic solvents and other substances in painting processes in advance of these regulations. We are aiming to achieve a level of 45g/m<sup>2</sup> in 2005, which would put us in line with European regulations, through reduction of solvents in paint, recovery of cleansing solvents, and adoption of advanced paint application equipment and drying furnaces with improved exhaust combustion mechanisms.

In fiscal 2004, we made major reductions resulting in a value of 24g/m<sup>2</sup>, achieving our target ahead of schedule.

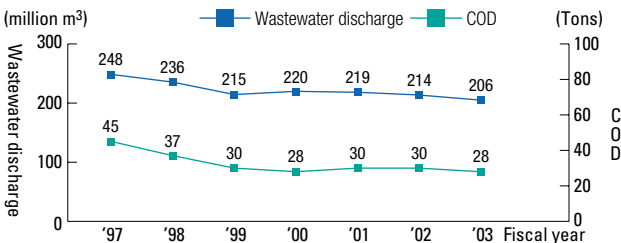
#### Change in VOC Amount (for painting process)



### Prevention of Air and Water Pollution

Preventing air and water pollution is the first stage for environmental protection activities. Isuzu takes concrete measures such as establishing voluntary targets that are stricter than legal standards, while under our Environmental Management System the status of waste operation and management are constantly monitored and reported to the Plant Environmental Committee. At the same time, we are also taking multiple approaches to reducing pollutants into air and water.

#### Wastewater Discharge and COD Levels



### Prevention of Dioxin Emissions

Our three domestic plants used to operate waste incinerators, but two plants except Fujisawa ceased its operation in 2002 and we outsourced waste disposal. The incinerator at our Fujisawa Plant logged dioxin concentrations of 0.17ng-TEQ/m<sup>3</sup> in its emissions, easily clearing the government standard of 10ng-TEQ/m<sup>3</sup>. We will make continued efforts to control the combustion at this incinerator.

### Prevention of Soil and Groundwater Pollution

At Isuzu, we had used three chlorinated organic solvents\* that typically cause soil and groundwater pollution problems. However, their use has already been terminated. Since 1996, voluntary surveys have been implemented at plants and other operation sites to gauge the effects on soil and groundwater. With the surveys, we confirm that polluted spots remained within the site in question, implement cleanup measures, and report the results to administrative authorities.

\* three chlorinated organic solvents:  
trichloroethylene, 1-1-1 trichloroethane, dichloromethane

## Effective Use of Resources

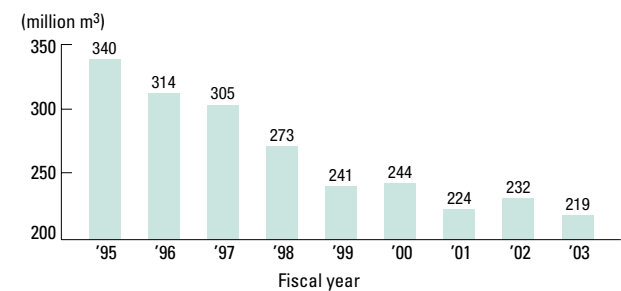
We are continuously promoting effective use of resources through the Environmental Management Systems at each of our plants and the setting of environmental impact reduction targets in line with these systems.

### Initiative Case Study: Near-dry Cutting Process

In machine processing, an immense amount of cutting lubricant coolant is used and it comprises a significant portion of our industrial waste.

In fiscal 2003, through the improvement of machining acceleration, the adoption of specialized ceramic coating tools and other efforts, we were able to realize a dry-cutting method that does not require cutting lubricant. With 33 processing machines adopting this method, we have reduced cutting lubricant use by 37 percent from the original planned usage of 250 tons.

#### Water Usage



#### Other Specific Initiatives

- Reducing the number of cutting lubricant types
- Selecting lubricants with low levels of cutting lubricant
- Measures to prevent lubricant leakage, recovery of lubricant, etc.

# Isuzu Group Environmental Liaison Conference

Isuzu is promoting Consolidated Environmental Management through which we reduce the environmental impact of the group as a whole, in line with our Isuzu Charter on the Global Environment.

## Inaugural Environmental Liaison Conference

We are planning to continue to advance our Consolidated Environmental Management activities by expanding their scope from current fiscal year and thereafter. Currently we are working to prepare the launch of the first stage, which is to be implemented in October 2004.

As a first step, the environmental directors from our eight major domestic manufacturing companies met at Isuzu Omori Headquarters on July 8 for the

Inaugural Environmental Liaison Conference. At this gathering, the environmental approaches of each company were introduced, and discussions were held regarding the establishment of guidelines. This marked the first time for all of the environmental heads from these companies to meet. Participants discussed each company's approaches and issues they were struggling with. They confirmed their commitment to seeing that Isuzu presses ahead with environmental measures as a group.

**In conjunction with the launch of Consolidated Environmental Management, we will devote this section of the report to introduce the companies participating the activities. Below are the major eight domestic manufacturing companies that are participating.**

- ① ISO14001 acquisition (Date of initial acquisition, sites certified) ② Names of attendees to the conference on July 8, 2004 ③ Business operations ④ Environmental activities



### Automobile Foundry Co., Ltd.

- ① March 2002, three sites
- ② Masayuki Tanaka, Manager, Administrative Dept.
- ③ Manufacture of cast parts for automobiles, construction machinery, and industrial vehicles
- ④ Efforts to deal with waste sand, an output with a significant environmental impact peculiar to the foundry industry, and to reduce energy consumption are our highest priority environmental steps and topics.



### Jidosha Buhin Kogyo Co., Ltd.

- ① August 2004
- ② Akimasa Arai, General Manager, General Affairs Dept.
- ③ Design, development, and manufacture of industrial engines and power train components for vehicles
- ④ Working with the company as a whole to reduce our environmental impact, we acquired ISO14001 Certification on August 27.



### TDF Corporation

- ① May 2003
- ② Hiroshi Adachi, General Manager, General Affairs Dept.
- ③ Mainly manufacture of forged automobile components and machine work
- ④ Energy conservation and waste reduction are our priority issues due to the large amount of energy consumed in heat processing for forging and in metal heat treatment among other procedures.



### Nippon Fruehauf Co., Ltd.

- ① November 2002
- ② Kunihiro Kobayashi, Office Manager, ISO Management Office (left)  
Ryoichi Wada, Manager (right)
- ③ Manufacture and sale of truck bodies, trailers, containers and cargo equipment
- ④ Our vice president and branch manager are actively spearheading our internal audits and company efforts.



### Isuzu Engine Manufacturing Hokkaido Corporation

- ① May 1998
- ② Yasuhisa Anezaki, Manager, General Affairs Dept.
- ③ Manufacture of engines for automobiles
- ④ We acquired ISO14001 Certification earlier than any other commercial vehicle manufacturers and successfully underwent our second review for the certification renewal this April, as a model for environmentally advanced company in Isuzu group. We also achieved a landfill disposal rate for waste of 0.2 percent of 1995 levels.



### Shonan Unitec Ltd.

- ① Scheduled to acquire in April 2005
- ② Katsuki Saga, General Manager, TK Promotion Dept. (left)  
Yasuhiro Teshima, General Manager, ISO Promotion Dept. (right)
- ③ Design, development, and manufacture of automobile components
- ④ We plan to promote the current environmental preservation activities more vigorously and are in the process of linking with ISO9001 to acquire ISO14001 Certification.



### Isuzu Bus Manufacturing Ltd.

- ① August 2003
- ② Hideaki Komazaki, Manager, General Affairs Dept.
- ③ Manufacture of heavy-duty and medium-duty buses
- ④ We were the first Japanese bus manufacturer to acquire the certification. Buses are a public means of transport and we should take the environment into consideration in our business operations. Because the manufacturing processes generate a large amount of waste materials, we are promoting waste reduction above all.



### Isuzu CASTEC Corporation

- ① October 2003
- ② Kouichi Tamura, Executive Officer, General Operation, TPM-Promotion charge (left)  
Moriki Hachisuka, staff, Technical Dept. (right)
- ③ Metal casting of heavy, medium, and light-duty diesel engine cylinder blocks
- ④ The environmental impacts of our high energy consumption and massive output of waste sand are significant in our business. We are aspiring to become the world's most efficient foundry factory, valuing the environment and mankind.



# Environmental Initiatives of Isuzu and Group Companies

Starting with this year's report, we will be introducing the environmental initiatives of Isuzu and group companies. This year we will focus on our Fujisawa Plant, as well as one domestic affiliate and one overseas.



## Environmental Initiatives at Fujisawa Plant

**Masanori Katayama**  
Plant Executive in charge of Fujisawa Plant

### ● Relocation of our Heavy-duty Truck Assembly Line

The Fujisawa Plant is Isuzu's largest manufacturing site, processing and assembling components such as cabs, transmissions, and axles as well as assembling light-trucks and medium-duty trucks. My first assignment as a plant executive in charge of Fujisawa plant was to shift the heavy-duty truck assembly line for GIGA trucks from our Kawasaki Plant to the Fujisawa Plant and to establish a medium-duty (4 ton) and heavy-duty (10 ton) mixed assembly. In order to ensure a smooth launch of operations, we actively exchanged personnel between the Kawasaki and Fujisawa plants to achieve proficiency in the operation of each facility. Through the collective efforts of all involved, we were able to launch the GIGA line at the Fujisawa Plant in May. As a result, the Fujisawa plant was able to go online as a full-scale truck plant.

Through these steps, we were able to achieve an integration of functions, new levels of efficiency, and flexibility at the Fujisawa Plant. Moreover, it was also an opportunity to boost the environmental soundness of the plant, a valuable lesson for us that translated into enhanced energy conservation and other environmental improvements.

### ● Environmental Initiatives at Isuzu Group's Mother Plant

With the integration of the GIGA line at the Fujisawa Plant, our plant is now the center of Isuzu's manufacturing. As an Isuzu's mother plant, we are aggressively tackling environmental protection issues.

Initiatives at the plant cover a broad range — prevention of global warming, reduction of waste, control and reduction of substances with significant environmental impacts, as well as effective use of resources. Among them, the area that we are most focused upon is that of zero emissions.

We have set out a target of reducing landfill disposal to one ton or less per month per plant (including incinerator ash) by the end of fiscal 2005. By establishing a recycling center and recycling stations, and by sorting

waste into 49 categories, we have boosted our recycling scope and raised our recycling rate. We are also promoting the recycling of incinerator ash as a material used in cement.

Moreover, we communicate well with the local community around us as we aspire to become a plant that is open to the community. In fiscal 2003, nearly 5,000 people — including users as well as individuals from the government and communities, financial institutes and overseas plants — came to tour our Fujisawa Plant. The city of Fujisawa, where the plant is located, holds an environmental fair every year. Isuzu has participated since the event started in 1998 by introducing plant environmental initiatives. We will continue to work to become a plant open to the community.

### ● Realizing an "Evolving Manufacturing Division"

To realize an "evolving manufacturing division" at our plant, we are continually working to improve our procurement of materials and parts, our processing, and assembly and the quality of the final product. Quality is first and most important. The quality of automobiles is directly related to safety; therefore we will not compromise on product quality. In procurement, we emphasize strict observance of delivery deadlines and green procurement. On processing and assembly, we work to promote cost savings and safety while striving to improve the workplace environment. For this reason we act to absorb and incorporate employee proposals for improvements. These three points are emphasized in our activities and help us in our efforts to realize an "evolving manufacturing division."



The launching ceremony of the GIGA assembly line at the Fujisawa Plant



Fujisawa Plant



## Domestic Group Company Introduction: Automobile Foundry Co., Ltd.

**Yuu Shiga**  
President  
Automotive Foundry Co., Ltd.

### ● Aiming to be an Environmental Company

Automotive Foundry Co., Ltd. and our affiliate companies engage in integrated production, including machine processing and assembly, of cast parts totaling nearly 140,000 tons annually, 80% of which are supplied to Isuzu Motors Limited.

Since our establishment in 1937, we have been striving to coexist with our community. In recent years, we have aspired to be an environment protecting company, and all of our Tsuchiura, Kitaibaraki, and Ayase Plants acquired ISO14001 certification in March 2002 and March 2003.

As an example of our tangible efforts, since our processed materials production base at our Tsuchiura and Kitaibaraki Plants release sand and mud waste, we properly dispose of this waste, reduce its mass, and recycle it into materials for use. We promote the use of the waste as an ingredient in cement. In fiscal 2003, we were able to recycle 81 percent of the waste as a resource. In addition, because we rely on electric furnaces to dissolve steel, an immense amount of electricity is required. We are aggressively striving to meet reduction targets for energy use that we have set.

As an automobile industry company, we are working to give back to the local community by conducting traffic safety instruction at elementary schools. We are extremely careful to watch that the wastewater from our plant does not contaminate the Lake of Kasumigaura, the source of water for Tsuchiura citizens.

We strive to continuously improve our environmental management system and be an environmentally minded corporation that coexists with the surrounding community.



Tsuchiura Plant, Automobile Foundry Co., Ltd.



Certificate of ISO14001



## Overseas Group Company Introduction: IT Forging (Thailand) Co., Ltd.

**Hisato Tonouchi**  
President  
IT Forging (Thailand) Co., Ltd.

### ● We Protect the Environment As a Leading Company in Our Community

As a specialized forging company established in 1994, located 130 km southeast of Bangkok, Thailand, we manufacture crankshafts, connecting rods, and other engine components principally supplied to Isuzu Engine Manufacturing Co. (Thailand) Ltd. (IEMT).

In Japan, material processing plants have typically been known as dirty, hard, and dangerous places to work. Spurred by our company's strong desire and policy to be competitive in quality, cost, delivery, the environment, and safety (QCDES), we have overcome this bad reputation. To demonstrate our result, we acquired ISO14001 certification in November 2002.

Among our specific activities, we are properly processing the grease, black lead, and oil that are mixed in the wastewater from our manufacturing processes. We prevent scale pollution from these processes and separate our garbage, grease, and oil among other waste. We also have equipped the disposal area to prevent pollution. Moreover, waste fluids are prevented

from flowing away during the intense squalls particular to Thailand. In addition, plant patrols are conducted to prevent leakage of air, water, and oil.

As a leading company in the local community, we engage in environmental education, offering instruction to our subcontractors and suppliers. This year marked the third year that all site managers and staff have participated in the activity to clean roads each weekend. We are also putting effort into contributing and communicating with the local community, such as by donating school supplies to elementary schools.



IT Forging (Thailand) Co., Ltd.



ISO14001 Certification



# Corporate Site Data

Below is outline of the status of air, water and major PRTR indicators related to emissions at our three domestic plants and Engine Manufacturing Hokkaido Corporation.

## Fujisawa Plant

Location: 8 Tsuchidana, Fujisawa-shi, Kanagawa Prefecture

### PRTR

(Unit: kg)

Chemicals	Amount handled	Amount released				Amount transferred
		Air	Waters	Soil	Landfill	Waste
Zinc compounds	1,350		54			350
Bisphenol A (liquid)	1,230	6				14
Ethylbenzene	63,700	19,000				11
Ethylene glycol	14,300					85
Echloomezol	1,660	1,300				12
Xylene	69,000	33,000				100
Organotin compounds	4,750					190
Trimethylbenzene	4,350	3,300				63
Toluene	44,200	17,000				160
Nitrilotriacetic acid	2,410					
Phenol	2,880					
Benzene	1,170	8.5				
Manganese and its compounds	1,310		61			600
Dioxin	—	11.6*				1,357*

• No environmental accidents or complaints

\* mg-TEQ

## Kawasaki Plant

Location: 3-25-1 Tono-machi Kawasaki-ku Kawasaki-shi, Kanagawa Prefecture

### PRTR

(Unit: kg)

Chemicals	Amount handled	Amount released				Amount transferred
		Air	Waters	Soil	Landfill	Waste
Ethylene glycol	29,200					
Ethylene glycol monoethyl ether	1,610	240				
Xylene	15,900	7,100				
Trimethylbenzene	1,050	180				
Toluene	5,530	4,900				

• No environmental accidents

• One environmental complaint: A foul smell coming from the wastewater treatment area. Complaint received on May 26 and addressed using deodorizing substances and setting up a deodorizing device on July 23, 2003.

## Tochigi Plant

Location: 2691 Oh-aza Hakuchu Ohira-machi, Shimotsuga-gun, Tochigi Prefecture

### PRTR

(Unit: kg)

Chemicals	Amount handled	Amount released				Amount transferred
		Air	Waters	Soil	Landfill	Waste
Ethylbenzene	29,000	29,000				
Ethylene glycol	18,600					3
Xylene	132,000	120,000				
Toluene	6,210	3,400				
Poly nonylphenyl ether	1,120	83				

• No environmental accidents or complaints

## Isuzu Engine Manufacturing Hokkaido Corporation

Location: 1-4 Kashiwabara, Tomakomai-shi, Hokkaido

### PRTR

(Unit: kg)

Chemicals	Amount handled	Amount released				Amount transferred
		Air	Waters	Soil	Landfill	Waste
Ethylene glycol	3,230					
Xylene	1,190	69				
Toluene	1,710	52				

• No environmental accidents or complaints

### Air quality

Item	Facility	Regulatory value	Measured value	
			Maximum	Average
NOx (ppm)	Boiler	125	94	68
	Cogeneration	50	30	27
	Incinerator	150	73	71
	Paint drying furnace	230	20	18
Soot (g/Nm <sup>3</sup> )	Boiler	0.1	0.007	0.004
	Cogeneration	0.05	0.001	0.001
	Incinerator	0.1	0.1	0.09
	Paint drying furnace	0.1	0.002	0.001
SOx (Nm <sup>3</sup> /h)	Total emissions	21.82	1.55	1.12

### Water quality

(point of discharge : Hikichi River)

Item	Regulatory value	Measured value		
		Maximum	Minimum	Average
pH	5.8 – 8.6	7.9	7.4	7.7
COD (mg/l)	60	15	6.5	10.8
BOD (mg/l)	60	10	5	7
SS (mg/l)	90	13	5 or less	5.7
Oil content (mg/l)	5	1.5	1	1.1

### Air quality

Item	Facility	Regulatory value	Measured value	
			Maximum	Average
NOx (ppm)	Boiler	125	95	57
	Unit heater	150	50	50
	Metal heating furnace	200	17	15.8
Soot (g/Nm <sup>3</sup> )	Boiler	0.1	0.001	0.001
	Unit heater	0.15	0.003	0.0025
	Metal heating furnace	0.2	0.006	0.035
SOx (Nm <sup>3</sup> /h)	Total emissions	4.017	0.0076	—

### Water quality

(Point of discharge: Tama River)

Item	Regulatory value	Measured value		
		Maximum	Minimum	Average
pH	5.8 – 8.6	7.4	6.5	7
COD (mg/l)	60	11	5	5.9
BOD (mg/l)	60	7	5	5.7
SS (mg/l)	90	22	5	8.8
Oil content (mg/l)	5	1	1	1

### Air quality

Item	Facility	Regulatory value	Measured value	
			Maximum	Average
NOx (ppm)	Boiler	250	97	82
Soot (g/Nm <sup>3</sup> )	Boiler	0.3	0.027	0.015
SOx (Nm <sup>3</sup> /h)	Total emissions	17.5	0.9	0.2

### Water quality

(Point of discharge: Nagano River)

Item	Regulatory value	Measured value		
		Maximum	Minimum	Average
pH	5.8 – 8.6	7.5	6.8	7.1
COD (mg/l)	25	17	7.2	11.2
BOD (mg/l)	25	6.4	1.6	3.3
SS (mg/l)	50	6.6	1.8	3.7
Oil content (mg/l)	5	1>	1>	1>

### Air quality

Item	Facility	Regulatory value	Measured value	
			Maximum	Average
NOx (Nm <sup>3</sup> /h)	Boiler (Total emissions)	3.2	1.14	1.1
Soot (kg/h)	Boiler (Total emissions)	1.6	0.13	0.11
SOx (Nm <sup>3</sup> /h)	Total emissions	0.3	0.052	0.046

### Water quality

(Point of discharge: Yufutsu River)

Item	Regulatory value	Measured value		
		Maximum	Minimum	Average
pH	6 – 8	7.5	6.3	7.2
COD (mg/l)	50	26	3.8	15.3
BOD (mg/l)	50	11.2	0.5>	3.8
SS (mg/l)	50	11	1	5.6
Oil content (mg/l)	4	1.5	0.5>	0.7

Footnotes: 1. Data measurements for fiscal 2003 (2003.4 – 2004.3)

2. Standards shown are the strictest among those stipulated by environmental laws, ordinances, or pollution prevention agreements.

3. COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand SS: density of Suspended Solids in water

# Logistics

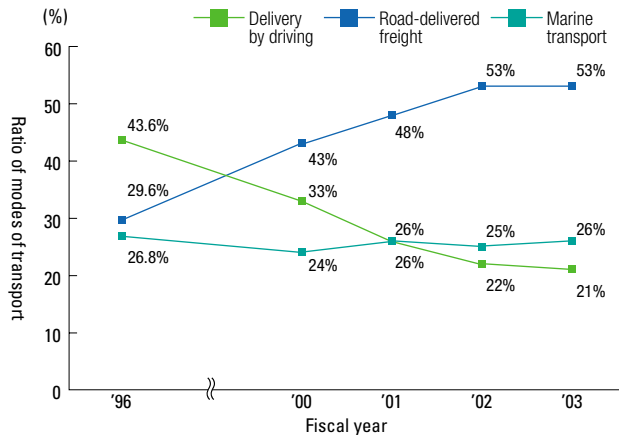
In the logistics sector, Isuzu group companies as a whole are promoting initiatives to help the environment, increasing returnable cases and boosting transport efficiency in the three areas of transport of vehicles manufactured, parts produced and parts procured.

## Rationalizing Vehicle Logistics

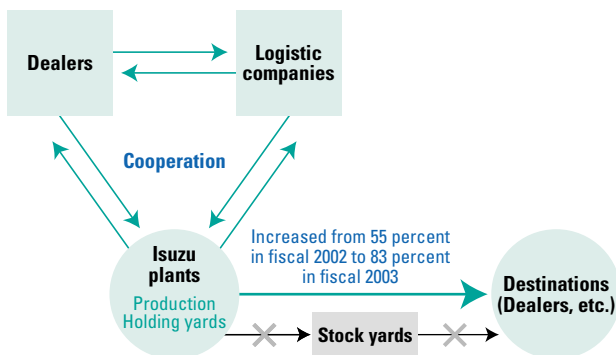
To reduce CO2 emissions and energy used during the transport of vehicles, we are shifting away from delivering the vehicles by driving, instead opting to use truck carriers as well as ships for transport. As a result, in fiscal 2003 we were able to reduce the percentage of deliveries by driving the vehicles ourselves by 21 percent overall.

Isuzu and its group companies are also lessening CO2 emissions by delivering vehicles directly from our plants to our dealers and places specified by our customers. To realize more efficient delivery of products, group dealers submit advance delivery requests and logistics companies provide unified transport control management. Isuzu provides information on production and sets a special holding yard at each plant. Group companies have taken responsibility to support these deliveries by sharing information. Due to these initiatives, direct delivery of vehicles from plants among group companies logged a major increase from 55 percent in fiscal 2002 to 83 percent in fiscal 2003, exceeding our target of 70 percent.

### Vehicle Deliveries: Changes in Transport Modes Used by Isuzu in Japan



### Improving Efficiency of Vehicle Deliveries (Cooperation with dealers, logistic companies and Isuzu)

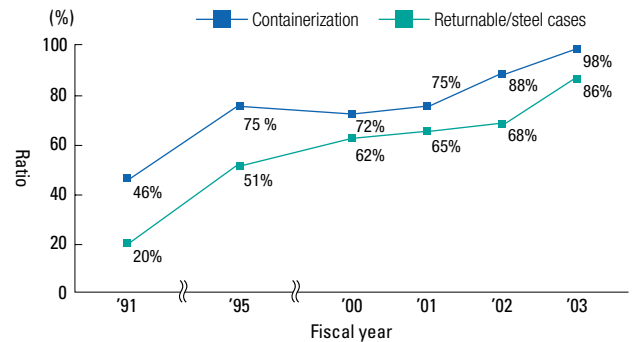


## Rationalizing Component Logistics

We transport parts for localized production overseas, but we are taking environmental steps to reduce the amount of wood used for packaging materials.

In fiscal 2003, we focused our efforts on components for China, and as a result the usage of non-wood packaging and packing materials increased to 98 percent in containerized transport and 86 percent in returnable cases and steel cases, with a shift to non-wood packaging materials for all countries that have major manufacturing plants.

### Promotion of Containerization and Returnable Cases/Steel Cases for Packaging Materials



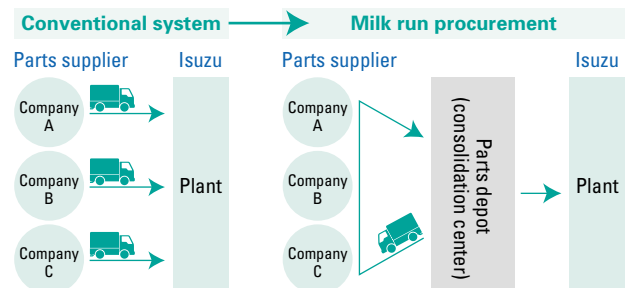
## Rationalizing Procurement Logistics

In 1995, Isuzu became Japan's first automobile manufacturer to introduce the milk run system\* for procurement. The introduction of the milk run system allows improvement of the cargo loading efficiency for delivery vehicles and efficient control of the number of delivery vehicles so that the amount of CO2 emissions and energy consumption are significantly reduced.

Today, the milk run system is used for 80 percent of our parts suppliers in the Kanto or Greater Tokyo region. We will continue working to further heighten our operating efficiency and meet the change in the production environment, including production models and the number of vehicles.

\* Milk run system: A method of delivering parts in which Isuzu as the purchaser makes the rounds picking up components, rather than having parts suppliers deliver them to Isuzu individually.

### Isuzu's Milk Run Procurement System

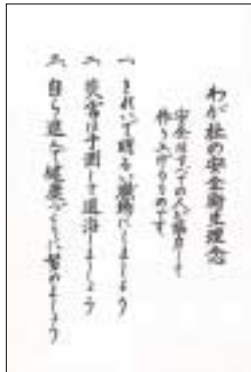


# Workplace Safety and Health

Isuzu provides safe, accident-free workplaces that are as comfortable and pleasant as possible.

## Safe and Pleasant Workplaces Free from Accidents

At Isuzu, we aim to create a pleasant work environment that is safe and free from accidents, based on our Workplace Safety Principle that "safety results from cooperation on the part of everyone." We are continuously striving to prevent accidents, particularly on prevention of workplace accidents, traffic accidents, and fires, while improving the work environment and promoting health. We especially strive to raise safety awareness, to learn from past accidents to prevent similar accidents in the workplace.



Workplace Safety Principles

### Key Issues and Initiatives

Key issues	Initiatives
Prevention of Industrial Accidents	<ul style="list-style-type: none"> <li>• Instruction using KYT*, company-wide forecasting of accidents due to carelessness</li> <li>• Review Labor Safety Conduct Code for the handling of usual/irregular situations during business operations</li> <li>• Promotion of plant safety through implementation of production equipment pre-operation safety assessments</li> <li>• Company-wide prevention of accidents by learning from the past cases of accidents</li> </ul>
Improving the workplace environment	<ul style="list-style-type: none"> <li>• Environmental assessments prior to location or operation of new or moved production lines</li> <li>• Encourage a pleasant workplace environment</li> </ul>
Promotion of employee health	<ul style="list-style-type: none"> <li>• Improve mental health care</li> <li>• Improve medical checkups and health guidance</li> </ul>
Prevention of automobile accidents (Raise traffic safety awareness)	<ul style="list-style-type: none"> <li>• Providing information on traffic accidents and safety instruction</li> <li>• Implementation of KYT* to prevent accidents</li> </ul>
Fire prevention by removing potential fire sources	<ul style="list-style-type: none"> <li>• Improve inspections of machinery and equipment and remove unnecessary combustible objects</li> <li>• Strengthen management of fire prevention facilities</li> </ul>

\* KYT: Kiken Yochi Training (Danger Awareness Training in Japanese)

## Promoting Total Health

We are promoting a "Total Health" program to ensure that our employees and their families lead fulfilling and happy lives.

For our "Mental Health" program, we have set up a 24-hour health consultation phone line and have signed a contract with an external professional organization to provide mental health counseling for our employees.

As for the "Physical Health" of our program, 10 hiking tours are held annually for employees and their families. The seasonal hiking and bus tours are the popular events attended by many.

We also offer one-day workshops and correspondence courses on obesity, high cholesterol, diabetes, high blood pressure and other afflictions to help prevent those diseases.

### Activities of the Health Promotion Center

Promoting health for the heart and the body		Implementation
Prevention of lifestyle-related diseases	Seminars	Diabetes, high blood pressure, high cholesterol, dental health (each once annually)
Lifestyle improvement	"Challenge courses"	Smoking cessation, exercise, diet change, alcohol free days (each once annually)
Life plan	Workshops	Life Plan workshop (Please see P32)
Mental health	Counseling, etc.	Available all year
Recreational activities	Hiking	About once a month or 10 times annually



Picking strawberries on a hiking trip

## Voluntary Activities by Employees: USE21

The USE21 is an activity organized by employees of the Engineering Division with the aim of preventing fires, industrial, traffic, and other accidents, of ensuring a safe and pleasant workplace, of training younger employees, and of improving product quality as well as technical skills. Employee members are actively working in different workshops to conduct the USE21 activities. In fiscal 2003, 19 such lectures, educational activities and events were held.

The Accident Prevention Workshop conducted first-aid lectures, workplace safety patrols, and on-grounds traffic controls on speeding. In fiscal 2003, educational and safety activities including lectures as well skill training were held five times in total, contributing significantly to the prevention of accidents.

Particularly the first-aid lectures are training a large number of first-aid instructors and team members. In order to raise the awareness and level of first-aid skills, members participated in a Kanagawa Prefecture first-aid competition every year finishing high in the rankings.



A USE21 first-aid class on how to stop bleeding



# Personnel and Human Resources Development

We are making a number of efforts to allow employees to realize their potentials and work positively.

## Approach to Personnel Management

The growth and development of a company depends on its people and human resources are our greatest asset.

It is crucial that the “people” behind our products to be of a high caliber. In this era of globalization, we need to continuously offer technologies, products, and services that contribute to a comfortable way of life and a more plentiful society. Isuzu, respecting the individuals, is now establishing a new personnel system in which employees can exercise their abilities and enthusiasm optimally and which contributes to the development of our corporation along with society.

## Personnel Development

We are working to produce independent-minded personnel through a company-wide employee education system that complies with the ISO/QS 9000 standards while placing emphasis on each individual employee’s motivation and personal development.

From new employees to senior members of the company, technical and language training is provided for various needs at all levels. We also appoint Technical Training Promotion Leaders at Manufacturing Division and Advanced Skills Training Leaders at Engineering Division to nurture the required skills for manufacturing. We work systematically to develop personnel with Isuzu’s unique technical screening system introduced to raise the level of technical skills. Training programs by our most skillful employees are also conducted.

### Key Issues and Initiatives

Key Issues	Initiatives	Hours conducted	Total participants
Training for young employees	While we place an emphasis on self-awareness, in order to train young employees to make learning a habit, we provide education and training to help employees with five years or less experience at Isuzu to acquire basic business skills and nurture independent mindsets.	6,280h	89
Independent-minded personnel training	To foster independent-minded personnel, we give opportunities for each employee to consider career opportunities.	624h	78
Position-specific training	Support for the learning of skills to suit the role and situations facing OJT leaders and supervisors.	6,562h	381
Training in line with global trends	Support the improvement of English language and conversational skills to help individuals cope with the increasingly international business environment.	6,700h	67
Raise self-awareness	Support the raising of self-awareness for each employee to improve his or her skills and enhance capabilities by correspondence courses, English conversation classes, etc.	—	—

## Initiatives for Gender Equity in Employment

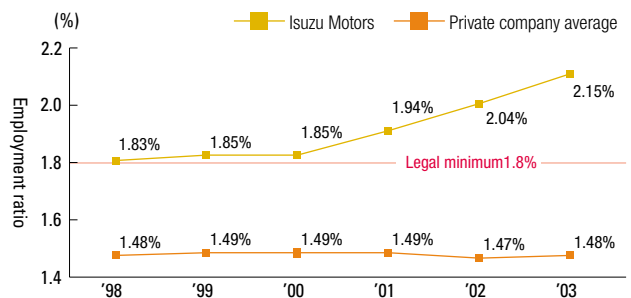
Isuzu endeavors to reform and operate its employment system to comply with relevant laws, and has realized gender equality in recruiting, training, and treatment of employees. With a past record of having women in managerial positions and stationed overseas, Isuzu is actively recruiting highly-motivated and talented persons, irrespective of gender, to help us meet the demands of a globalizing society.

## Initiatives for Employment of Persons with Disabilities

The Isuzu Charter on the Global Environment encourages active participation in society and in preserving the environment as a global citizen (see page 12). This philosophy also includes the concept of “normalization,” or creating a society where all persons, whether they are individuals with disabilities or not, live positively and comfortably in communities, allowing them to be independent and actively participate in society.

Over the past five years the proportion of handicapped persons employed at Isuzu has exceeded the legally-mandated level as well as that of private corporations in average.

### Employment Ratio of Persons with Disabilities



## Support for Employees’ “Second Life”

In order to help its employees realize more fulfilling retirement lives, Isuzu holds “Second Life Workshops” to respond to employee’s inquiries they may have regarding their plans for the future.

- 1) “Second life” Workshop I  
Provides programs essential for employees who have reached 50 years in age to ensure a good “second life” (141 participants in fiscal 2003).
- 2) “Second life” Workshop II  
Provides more specific and practical contents for employees who have reached 58 years to ensure a good “second life” (48 participants in fiscal 2003).

Both workshops can be attended by couples (participation on an individual basis is possible) and feature extensive lectures provided by experts.

# Social Contribution Activities and Environmental Communication

We are actively conducting environmental communication activities while promoting activities contributing to society as a corporate citizen.

## Approach

In our Isuzu Charter on the Global Environment we have declared our commitment that "In order to leave beautiful earth to our descendants, not only through business activities but also as a citizen of the earth, we will cope with environmental conservation activities of locality and society with positive stance." Isuzu is working toward realization of the above as our goal through active efforts in the realm of activities contributing to society and environmental communication with customers and society.

## Participation in Events and Exhibitions

We participate in a variety of events to introduce our environmental initiatives.

### Fiscal 2003 Participation in Exhibitions and Events

May 2003	"People and Car Technology Exhibition 2003" Sponsored by the Society of Automotive Engineers of Japan, Inc. "Eco-Car World 2003," Sponsored by the Ministry of the Environment of Japan
June	"World Gas Conference Tokyo," Sponsored by the World Gas Federation "Fujisawa Environmental Fair 2003," Sponsored by Fujisawa City
July	"Land and Transportation Day," Sponsored by the Land, Infrastructure and Transport Ministry of Japan
December	"Eco-Products Exhibition 2003," Sponsored by the New Energy and Industrial Technology Development Organization, etc.



Land and Transportation Day



Eco-Products Exhibition 2003

## Publication of Environmental Reports and Brochures

2004 marks the sixth publication of our environmental report since we first published it in 1999. In 2003, in order to see that everyone has a proper understanding of diesel engines, we published and distributed a brochure entitled "Learning More about Diesel Engines 2003," which contains information about the latest technologies and data on diesel engines.



"Learning More about Diesel Engines 2003"



"Bell's Diesel Seminar"



"What's CNG?"

## Activities Contributing to Society

### Supporting the Japan Antarctic Research Expeditions

Isuzu has been supporting the national observational expeditions to Antarctica by providing engineers for diesel-powered equipment installation and maintenance from the first observational expedition in 1956 to the current forty-fifth expedition. At the South Pole, observations are made to clarify global environmental changes, such as depletion of the ozone layer and global warming. Isuzu diesel vehicles and engines for snowmobiles and generators are among the equipment used to support these activities.



The temperature recorded minus 70C\*

### Environmental Communication and Contributions to Society at Each Plant

We are continually striving to make each of our plants a plant open to the community.

Plants	Events/Projects	Implemented
Fujisawa Plant	Fujisawa Environmental Fair 2003	March 2003
	Cleanup of area around plant	Monthly
Kawasaki Plant	Cleanup of employee commuter roads, Tama River promenade and Route 409	Monthly
	Issuing of "Environmental News," "Zero Emissions Bulletin" and "Saving-Energy News"	2 - 10 times/year
	Environmental suggestions campaign, plant manager's awards	Sept. - Dec. 2003
Tochigi Plant	Collaboration with the welfare facility of Ohira Town: Donating collected cans, helping the rehabilitation of disabled individuals, and outsourcing the cleaning of work uniforms and boots for reuse to the facility	1 - 2/month
	Cleanup around plant and local area	May 2003
	Environmental suggestions campaign, in-house awards	As appropriate
Isuzu Engine Manufacturing Hokkaido Corporation	Cleanup around plant and local area	April and June 2003
	Tomakomai City Tree Planting Festival; planted cherry and other trees	May 2003
	Participation in "Tomakomai City Zero Emissions Network Event"	6/year
	Participation in the "Environmental Protection Partners Forum"	February 2004



Fujisawa Environmental Fair



Working with welfare facilities to clean work uniforms



Cleaning up around factories



Tomakomai City Tree Planting Festival

# Messages from Readers

We are reflecting the opinions of independent individuals to help our business operations lead to the establishment of a sustainable society.



Non-Governmental Organization  
Japan Center for a Sustainable  
Environment and Society  
Secretary General  
**Jiro Adachi**

I have a great respect for (Isuzu's) initiatives, such as developing clean engines and working to reduce waste in plants and substances with significant environmental impacts. The personality of company and its staff is conveyed through your report, which was an enjoyable and educational for me. I especially felt that the "Mimamori-kun" was a unique endeavor.

Meanwhile, for Isuzu Motors to become the leading company in the move to realize a sustainable society, there are a few requests that I would like Isuzu to address.

With your company's efforts such as increased fuel efficiency and shift from vehicles for private use to commercial trucks, CO<sub>2</sub> emissions in the freight sector have been reducing since 1997. However, to halt global warming, medium to long-term significant reductions in CO<sub>2</sub> are required. CO<sub>2</sub> emissions of trucks per unit are nearly ten times more than that of the railroad. While continuing your efforts to improve fuel efficiency, I think that your Environmental Report would be much better if you could provide realistic visions for the future such as to take aggressive steps, though it would not be easy, toward a modal shift in cargo transport (government initiatives are also important here) and/or to develop a truck that runs on biomass or some other non-fossil fuel.

In regard to climate change, meeting the commitments under the Kyoto Protocol is becoming increasingly difficult and it appears to me that the introduction of an environmental tax is unavoidable. In England, the introduction of an environmental tax was spearheaded by Lord Marshall, an individual with roots in the business community. In Japan, many years of lenient exhaust gas regulations have delayed environmental action on diesel vehicles. The toughening of exhaust gas regulations in recent years has contributed to an increase in the sales of diesel vehicles. I believe that a positive approach to policy measures, such as an environmental tax, clearly articulated by Isuzu Motors is necessary if you are to act and lead ahead of time.



Nippon Association of Consumer Specialists  
East Japan Chapter/Branch  
Operations Committee Chairperson  
CS Management Office Representative  
**Eiko Kamoshida**

From your report, I was able to see that, in addition to your conventional environmental protection activities, you are also actively engaged in concrete initiatives to meet the national Automobile Recycling Law in 2005 and the amended version of the Air Pollution Prevention Law to go into effect in 2006.

I was also impressed that, while you take steps by equipping your products with environmental technologies, you have taken further steps in each field, from procurement and production to sales, and have established a solid internal structure to contribute to environmental protection activities as well as a Group structure to increase your ISO14001 certification rate.

In recent years, the relationship between corporate social responsibility and the environmental reports has gotten stronger. Therefore, I think it is important that reports are not limited to reporting accomplishments, but are rather more reader-friendly in regard to stakeholders.

Your 2004 report is more readable compared to the previous report with better use of charts and diagrams. I would hope that, while Isuzu is a truck manufacturer, you disseminate information in a manner that spurs consumers to approach the purchase of vehicles with environmental friendliness as the foremost factor in their minds. Moreover, not only the perspective of the manufacturer, but also user opinions incorporated in disseminating information would generate a new level of persuasiveness in your reports.

## In Response to the Readers' Messages

Readers' Messages for 2003 touched upon efforts to eliminate substances with significant environmental impacts, environmental initiatives as a group including our overseas operations, as well as major business innovations to reduce the total energy required for transport.

In response to these comments, in terms of substances with significant environmental impacts, we have been continuing our work to reduce and eliminate their usage and to create vehicles that are environmentally friendly. Additionally, starting this year is our Consolidated Environmental Management system involving Isuzu group companies launching the

Environmental Liaison Conference between our major manufacturing companies. We have also added new online service functionality to our "Mimamori-kun" system to help accelerate a move to safer and more efficient vehicle operation and affect innovation in the transport industry.

In fiscal 2004, we have high expectations for articulating a concrete vision of the future and providing consumers with information to participate in environmental protection. We will strive to see that the company as a whole unites for these efforts.





**Cover Message:** The front cover illustrates a sustainable society, in which human activity and life on the planet are in a state of harmony.



This booklet uses 100% recycled paper with highly biodegradable soy ink for easy recycling.

Heartway Co., Ltd. assisted in the design and preparation of this brochure.

## Environmental Report 2004

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Eco Planning Group

Program Management Dept.

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