



Environmental Report 2004

Nissan Motor Co., Ltd

Future Generations

Environmental Report 2004

Customers

Business Partners

Shareholders

Communities

Employees



CEO Statement

For Nissan, our corporate vision of "Enriching People's Lives" embraces protecting our environment. We firmly believe that a sound environmental policy is at the core of a sound business practice.

There is a strong interest in the world today about how to balance economic development with environmental protection. Economic growth does not necessarily threaten the environment. To the contrary, investments in technology can greatly benefit our understanding of the world we live in and how to preserve it. Collaboration among corporations, civic organizations, governments, and society in general will help move the world toward an effective balance between a healthy environment and healthy growth.

As a global corporation, Nissan places a high priority on sound environmental management. Our approach is twofold: we take actions to provide real-world value today, and we develop actions to create cleaner products and a cleaner world in the future.

Today, our efforts to fulfill our responsibilities to protect and sustain the environment are far-reaching. Within our company, we promote the highest levels of practice in every region and in every area of our operations. Eliminating landfill waste, reducing waste emissions, conserving natural resources, and enhancing recycling activities are a daily emphasis in our manufacturing and sales/service operations. We take care to reduce environmental impacts at every stage of our products' lifecycle—from production, sales, service, and use through disposal and recycling. At present, 90% of a new Nissan vehicle is recyclable, and efforts from the earliest stages of development emphasize making all our vehicles easier to disassemble and recycle.

In our products, we continue to work on cleaner exhaust emissions and increased fuel economy. More and more Nissan models are offered with continuously variable transmissions (CVT), which provide better fuel economy and better performance. Approximately 90% of new Nissan vehicles sold in Japan and, increasingly, in other parts of the world, are certified as ultra-low emission vehicles (U-LEV), and we are pushing our lead further with super ultra-low emission vehicles (SU-LEV). Our Bluebird Sylphy was the first car ever to be certified as a SU-LEV.

Aside from its contribution to cleaner air, perhaps the greatest benefit of U-LEV technology is its affordability. We recognize that if the price of a vehicle ends up being higher than the value perceived by the customer, then even the best of new technologies will fail in the market. U-LEV technology is efficient, affordable, and widely available to consumers, providing a real improvement in air quality today.

All these actions, and many more, are important for the world we live in today, but that is only half the story. We are pressing forward on research and development for future benefits as well.



Our investments span numerous technologies. We are working with several research institutions on solutions to the issue of carbon dioxide (CO₂) emissions, a major contribution to global warming. In 2003, we launched the X-TRAIL fuel cell vehicle in Japan, and our FCV research continues on many fronts. We are also developing hybrid electric vehicle technologies with Toyota, and our first model, an Altima Hybrid, will be introduced to the United States market in 2006. We are continuing to invest in improving gasoline engines and diesels, in alternative fuels and other technologies so that we will be ready to respond quickly when the market moves in any given direction.

For today and for the future, our commitment is to create products that our customers will value even as we make real and lasting improvements that will benefit the earth we all live in. Keeping that commitment is both good citizenship and good business.

Carlos Ghosn
President and chief executive officer
Nissan Motor Co., Ltd.

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Global Features

Nissan manufactures automobiles for customers all over the world. In this section, we highlight one story each from the many environmental efforts implemented during fiscal year 2003 in three of Nissan's major markets: Europe, Japan, and North America.



Biodiversity at Barmston Pond

Barmston Pond is a naturally formed pond next to the plant grounds of Nissan Manufacturing UK (NMUK) in the United Kingdom. All year round, this natural pond supports species such as gray heron, mallard, and snipe. It is a thriving feeding ground for migrating birds and a home for local species.

In late summer and autumn, flocks of migratory birds such as wigeon, teal, and shoveler arrive from Iceland, Scandinavia, and Russia, making a stop at Barmston Pond to refuel before their trips south for the winter. Barmston Pond is not just a home for birds; it supports a great diversity of wildlife. Amphibians, including the great crested newt, a protected species in the UK, thrive in the rich, undisturbed surroundings.

City and Company, Finding Solutions Together

Barmston Pond began suffering occasional dry spells in the summer and other water imbalances, and if left alone, may not have provided the right environment for birds and other wildlife. The City of Sunderland was very aware of this problem and was open to finding a solution.

Around the same time, NMUK recognized a need for rainwater drainage after the construction of an additional vehicle storage compound area for new cars. So began our partnership with the City in finding a mutually beneficial solution that would make both parties better off in the end.

In 1992, NMUK installed a fully lined balancing pond within the nature reserve near Barmston Pond. We also installed an oil interceptor as a precaution, in case of any possible contaminants. NMUK then installed a pump system between the man-made holding pond and Barmston that can be used bi-

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directionally: it can pump water into the natural pond during times of drought, and can also drain excess water from Barmston.

It is actually the latter that has allowed Barmston to flourish. At certain times of the year, pumping excess water from the natural pond creates ideal muddy feeding conditions for wading birds and other migratory species.

Enhancing an Ecosystem through Technology and Collaboration

Many birdwatchers often come to Barmston, and in 1993, this pond that is bustling with wildlife activity became the first designated Site of Nature Conservation Importance by the City of Sunderland.

Nissan has received telephone calls and letters regarding this effort, thanking NMUK for helping the area's birds and other wildlife. Nissan is contacted frequently by the local ornithology society regarding rare birds such as little stint, ruff, spotted redshank, greenshank, black-tailed godwit, and wood sandpiper that have chosen to stop at Barmston or at one of the many undeveloped, wildlife-rich areas on NMUK property.

We are pleased with the results of this collaborate approach to find the best solution for both NMUK and the City of Sunderland. Not only has this pump technology helped the pond ecology flourish, but we have also seen direct results through the positive effect it has had on the pond's wildlife. With pride, we will continue working in partnership with the City of Sunderland.



Barmston Pond,
City of Sunderland

Senior Engineer - Engineering
Graham Bagley

Nissan Motor Manufacturing (UK) Ltd.

Coexistence with the Community

-Protection of wading birds: partnership with the City of Sunderland-



A sign at the pond entrance:
"PLEASE KEEP TO PATH & AVOID DISTURBING BIRDS"



2003 model X-TRAIL FCV

Advanced Vehicle Engineering Division
 FCV Engineering Department
 General Manager
 Taro Hagiwara

Nissan Motor Co., Ltd

Challenge for the Future

-Development and lease sales of the fuel cell vehicle-



Expectations for the Fuel Cell Vehicle (FCV)

There are clear goals behind the development of the fuel cell vehicle (FCV). To enable the 21st Century to be an era of sustainable growth, there is a need for vehicles to meet the following conditions: 1) emit zero exhaust emissions, 2) reduce carbon dioxide (CO₂) emissions, and 3) run on renewable energy.

Because the FCV holds the possibility to fundamentally solve these problems rather than merely easing the current situation or prolonging the grace period until a real solution is found, the FCV is often referred to as the ultimate eco-car.

However, with today's level of technology, we cannot yet make a product that meets the demands, including cost considerations, of a large number of our customers. In other words, the biggest issues are, 1) how do we create new technology that meets the needs of our customers, and 2) how do we achieve true commercialization of FCVs? We recognize that finding answers to these issues is an important mission for automobile manufacturers.

This situation, in which needs are clearly defined and the creation of new technology is required, somewhat resembles the response to emissions regulations of the 1970s. However, the major difference between then and now is that the current situation requires a reform of the energy system—a challenge the automobile industry has never faced before.

Reform of the Energy System

FCVs run on hydrogen fuel. Hydrogen is almost non-existent as a gas in the natural world, but as an element, it is prevalent in many substances in the form of water and hydrocarbon. It is expected that the production method of hydrogen will diversify, enabling the use of other energy sources than oil. Looking at the long-term, if hydrogen or electricity can be generated from renewable energies such as solar, wind, or biomass, then it will be possible to achieve a transportation system that produces no emission of CO₂. Of course, a shift does not happen overnight, but looking at history, shifts in energy sources have occurred in 20-30 year cycles. Wood or coal never completely stopped being used when oil was introduced, but a major shift took place in the positioning of energy sources.

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Currently, oil plays an overwhelmingly important role as an energy source, but in the future, considering the increasing environmental impact, it is expected that renewable energy will take root as a major source of energy.

An executive from an oil company once said, "The Stone Age did not end because we ran out of stones, and likewise the end of the Oil Age will not happen because we deplete all of the world's oil."

The FCV has the potential to act as a catalyst in the reform of our current energy system, but at the same time, this technology will not succeed unless there is a strong resolve to reform our energy system.

Development Team

Full-scale development of FCV technology has a very short history globally—it is a young technology with little more than 10 years behind it. Nissan fully entered into FCV development in 2001. Among the world's major automobile manufacturers, this was undoubtedly a late start. At that time there were almost no employees experienced in FCV development within the company.

Initially, everyone on the development team was an amateur, but now, with this group of pioneers at the core, the team is growing rapidly. Developing a new prototype each year between 2001 and 2003, everyone continues to learn and develop together as a team.

Many members of the FCV development team applied for it, almost all because they wanted to contribute to solving today's environmental problems. As one young engineer said, "The reason why I am glad that I transferred is because I now enjoy talking to my kids about what their father does at work."

FCV technology perhaps will not come into full bloom until our children's generation. But even so, it warms our hearts to know that we are grappling with important issues and leaving behind a legacy for the benefit of future generations.

Walking through the Plant: The Environmental Group

As members of the Environmental Group at the Nissan facility in Smyrna, Tennessee, walk through the plant, they respond with smiles and waves to frequent greetings and shouts of "Hey there!" and "Hi!" It's a common occurrence at the Smyrna plant.

At approximately 5.4 million ft² and employing over 8,600 employees and contractors, the Smyrna plant is one of the largest indoor automotive manufacturing facilities in the United States, with a production capacity of approximately 550,000 vehicles per year.

The Environmental Group, a team of employees from various levels of the organization, spends a lot of time making sure the plant is in compliance with the United States' strict air, water quality, and waste regulations.

"I've Been ISO'd!"

In 1999, Smyrna introduced an ISO 14001-based environmental management system, giving the plant a structured framework for dealing with its environmental issues. The system has also yielded an additional benefit: it has provided the structure and capability for the plant to step beyond mere compliance.

For example, the plant now invests heavily in training of employees in environmental awareness. Understanding the challenges in training so many people throughout the plant, the ISO training system takes full advantage of the plant-wide, closed-circuit TV network. At every shift start, employees discuss announcements and other issues before they begin work, and it is during this block of time that training videos are normally broadcast.

Individual employees are trained to be aware of the impact they have on the environment. Whether people are in or out of the plant, it is important that they understand that what they do affects the environment. The ISO system has helped that awareness become habit.

A good example, for instance, is the plastic bottle recycling program now in full swing in the plant. It was originally suggested by technicians to help minimize the impact of the one million-plus drink bottles the workers at the

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Smyrna plant consume annually. In addition, a newly instituted program to recycle the metal stems that come off car parts when they are installed on Altimas and Maximas is the result of the efforts of a Nissan technician. These achievements will be broadcast on the company-wide TV network to provide praise and recognition for the initiatives. Overall, the in-plant TV network has been a successful way of sharing information and encouraging other people to step up (and go beyond!).

The Environmental Group has also been instrumental in developing innovative ways to get more people in the plant involved in environmental issues. On any given day, a technician can be spotted wearing a bright "I've been ISO'd!" sticker. This is because anytime the Environmental Group talks to someone on the floor and they prove their knowledge of environmental issues or ISO 14001, they award these stickers. But employees do not get a sticker just for following regulations—they have to show a proactive attitude or develop good ideas that help the environment.

To Be the Best of the Best

"We have worked very hard to get where we are today. We have seen many positive steps taken—reducing our impact on the air and water, as well as reducing the amount of waste we produce—while still making the finest vehicles sold in the US. But what really stands out is the change in people's attitude and awareness regarding environmental issues."

The Environmental Group spends a lot of time in the plant, talking to employees from different departments with different perspectives, providing as much support as they can. "It is through this open communication that we build relationships based on trust. As a result, we have empowered everyone in the plant to be more proactive to come up with suggestions for improvements."

"Our intention is to be the best of the best in all aspects of our operations. We firmly believe that it is possible to manufacture the highest quality vehicles while being responsible and proactive in environmental issues."



Senior Counsel
Raymond L. Coss

Utilities & Environmental
Anjou Gerhardt

Environmental Engineer
Tracy L. Hooper, P.E., CHMM

Vice President,
Manufacturing Engineering
Mark Swenson

Senior Environmental
Engineer
John K. Boren,
P.E., CHMM

Nissan North America, Inc.

Continuous Improvement

-The Smyrna plant: aiming to be the best of the best-



"Our team is committed to continual improvement in quality, safety, profitability, and social responsibility. Environmental awareness and recycling are important aspects of our operations and are embodied in our corporate Environmental Policy and participation in ISO14001."

- Mark Swenson





Nissan's Perspective

Global environmental issues that surround the automobile are complex and diverse. In this section, we discuss Nissan's perspective on global environmental issues and our level of awareness in approaching these issues. Nissan's perspective is to look toward the future, aiming to attain a symbiosis of people, vehicles, and nature.



Nissan and Global Environmental Issues



The third-generation Sunny, ranked first in the US Environmental Protection Agency's 1973 test for fuel economy



The Bluebird Sylphy, the first vehicle in Japan to receive certification as a SU-LEV in 2003

Providing Cleaner Vehicles to More Customers

Our mission is to provide safe and comfortable mobility. At the same time, we cannot deny that vehicles have an impact on the environment. Given this, we at Nissan believe that we must steer the vehicle itself in a direction that is in better balance with the environment.

After careful consideration of how to address the environmental impact of automobiles, we chose to make more than 80% of our gasoline passenger vehicles sold in Japan ultra-low emission vehicles (U-LEV).

U-LEV is a low-emission vehicle that by definition has achieved emissions 75% below year 2000 emissions standards for nitrogen oxide (NOx) and hydrocarbon (HC). Achieving the U-LEV standard for 80% of our gasoline passenger vehicles would have almost the same effect regarding NOx and HC reduction as selling 400,000 zero emission vehicles, such as fuel cell vehicles or electric vehicles, every year in Japan.

We believe that Nissan's most effective means of solving environmental issues is through the rapid application of this highly effective technology, to provide more customers with clean energy vehicles at a more affordable price. Our continuous adoption of these types of realistic approaches is a dominant characteristic of Nissan's environmental management.

Finding solutions to present-day global environmental issues is of course important, but also we must look ahead to the future. Nissan is putting effort into the research and development of fuel cell vehicles, electric vehicles, hybrid electric vehicles, and natural gas vehicles.

While we cannot predict what the major trends in mobility will be for the coming generations, we believe that the future will be multifaceted. Therefore, we are determined to make technological advancements while visualizing every possible future scenario.

Nissan's Environmental Approach - From the Time of Rapid Growth and Onward

Nissan's environmental efforts date back to the company's period of rapid growth. It was during this time, from the 1960s to the 1970s, when pollution problems, the downside of rapid growth, began to come under close scrutiny.

In 1972, Nissan established an environmental management department at our head office and an environmental management division at each plant in order to manage the disposal of substances with an environmental impact.

In 1973, when the oil shocks swept across the globe, energy management and improvements in fuel economy inevitably became topics of concern. We made full use of our technological capabilities to improve the fuel efficiency of our cars and worked to improve the efficiency of our manufacturing systems.

After the 1992 UN Conference on Environment and Development (Rio Summit), we established an Environment Management Committee in 1993 and created a Mid-term Environmental Action Plan. We then established an Energy Conservation Committee and a Waste Reduction Committee, putting increased efforts into finding ways to tackle environmental issues.

In 1994, the United Nations University (Tokyo, Japan) launched the Zero Emissions Research Initiative. Zero emissions is not limited to the recycling and reuse of waste produced through business activities. This concept also captures the idea of infinitely bringing the amount of waste produced closer to zero by creating cycles between corporate sectors. Nissan has since adopted the concept of life cycle assessment (LCA).

In 1997, Japan made a commitment to reduce greenhouse gas emissions by 6% through the Kyoto Protocol adopted at the Third Conference of Parties to the UN Convention on Climate Change (COP3). For Nissan, curbing carbon dioxide (CO₂) emissions has become a top priority.

Within this history, a big challenge for Nissan came with the implementation of the exhaust emissions regulations that accompanied rapid motorization in the 1970s. Beginning in the US, followed by Japan, demands from society regarding exhaust emissions became increasingly strict.

In view of this major issue, Nissan gathered its technical capabilities and moved forward in developing technology to reduce exhaust emissions. In 1965, five years earlier than the government-mandated deadline, Nissan completed the production of a vehicle with an installed emissions reduction device.

Even more strict emissions regulations were established in the 1970 Muskie Act in the US and in the Japanese version of the Muskie Act, which is a 1976 regulation announced in Japan in 1975. How would Nissan satisfy the regulations criteria without diminishing performance? To meet this challenge, improvements were gradually made to engine and oxidation catalyst technology.

Through the accumulation of technology over the years, Nissan's clean exhaust technology has reached world-class levels. For instance, the 2000 Sentra CA sold in the US was the first gasoline vehicle to receive PZEV* certification by the California Air Resources Board (CARB).

Especially because social conditions are always changing, we have improved the technological capacities in the production of our vehicles and have continued to pursue voluntary initiatives in seeking the best road to take as an automobile manufacturer, while understanding the influence that our products have on society and the environment.

* PZEV: Partial Zero Emission Vehicle as established by CARB.



Three Key Issues

And now, in what is being called the "Environmental Century," we are reflecting upon our efforts to tackle environmental issues. There are many environmental issues that we must deal with as an automobile manufacturer; for instance, reducing vehicle noise or protecting the ozone layer through air-conditioner refrigerant emissions controls. In recognition of this, Nissan has identified three key issues which we regard with particular importance. They are: curbing global warming; protection of the air, water, and soil; and resources recycling.

Our focus is evolving: from better energy management triggered by the oil shocks to the "curbing of global warming" promoted by the ratification of the Kyoto Protocol; from efforts in meeting pollution measures as well as exhaust emissions regulations to the "protection of the air, water, and soil"; and from the concept of zero emissions, issues concerning locations for waste disposal, and the introduction of LCA to "resources recycling."

Starting on page 19 of this report, we attempt to convey Nissan's intentions regarding these three key issues.

Overcoming Dilemmas in Creating a Society with a Symbiosis of People, Vehicles, and Nature

Nissan is now faced with a new situation.

First of all, society is demanding a shift from conventional environmental management to consolidated environmental management, to include our consolidated subsidiaries. Furthermore, this is not only restricted to related companies, but Nissan must take responsibility for management practices at all points in the supply chain. As Nissan is moving toward global management, we are still coming to grips with the full scope of our responsibilities.

In addition, environmental issues affecting automobile manufacturers are much more diverse today than in the past. One example is the issue of biodiversity. Until now, we have taken ecological factors into consideration in the construction of our plants. However, how are we to handle the destruction of ecology during road construction, or accidents related to our vehicles coming into contact with animals? Nissan has not yet been able to come up with solutions to fully address these problems.

Out of the complex and continually more diverse environmental issues, we must identify those of particular importance to Nissan and then work toward their solution. To do this, Nissan has started two activities. One is a dialogue with our stakeholders. Another is our participation in the World Business Council for Sustainable Development (WBCSD).

For an automobile manufacturer, development of technology to control CO₂ emissions during vehicle use is crucial. At the same time, we believe that it is extremely important for our customers to be conscious about conserving energy when driving. We want to see automobile manufacturers, customers, and society as a whole come together in tackling environmental issues.

Nissan held the first stakeholder dialogue in 2003. Opinion leaders from various fields have given us insight into perspectives that are new to Nissan and have provided us with constructive feedback.

What will be expected of Nissan in the future? In what way will Nissan be expected to contribute to the development of future society? Nissan would like to learn and take in as much information as we can through stakeholder dialogues and apply the knowledge gained to our next challenges.

In addition, Nissan is a participant in the WBCSD Sustainable Mobility Project. Together with other member companies, we have been engaging in discussions regarding the future of mobility. The results of the discussions have been compiled into the report, "Mobility 2030: Meeting the Challenges to Sustainability," which proposes seven targets including the reduction of exhaust emissions and the control of greenhouse gas emissions.

Although sustainable mobility is beyond the scope of a single company, we realize that the role that technology plays is extremely important, and that one company also has a tremendous responsibility.

Nissan's stance on environmental issues is not pessimistic. We are facing unprecedented hardships, but these are also new, valuable opportunities to take on challenges of an unprecedented scale.

As we face global environmental issues, we will act with a sense of volition. We will turn every issue we face into a motivating force for improvement as we aspire for a society with a symbiosis of people, vehicles, and nature.

Key Issue I Curbing Global Warming



Our Greatest Technological Challenge: Reducing CO₂ Emissions from Vehicle Use

Nissan sees global warming as our most serious and important environmental issue.

The Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) makes the shocking prediction that by the end of this century, the average global temperature will rise between 1.4 and 5.8°C and that sea levels will rise between 9 and 88cm.

An accelerated increase in the atmospheric concentration of what are called greenhouse gases, including CO₂, methane, and dinitrogen monoxide and chlorofluorocarbons, triggers the global warming effect. It has been said that when weather conditions are altered on the global level, this causes a large-scale disturbance in the ecological system.

In Japan, about 20% of the CO₂ emissions by industry derive from the transportation sector, including ships, automobiles, and rail, and approximately 90% of that amount is attributed to automobiles. Also, according to Nissan's own research, 87% of the total CO₂ emitted during a car's lifecycle is from driving, followed by 6.8% from raw materials processing, 3.1% from manufacturing and assembly, and 2.2% from maintenance and repairs.

The greatest technological challenge that Nissan faces in the product development stage is how to address the control of CO₂ emissions during vehicle use.

Respective Approaches for the Car of the Future and the Car of the Present

In product development aimed at CO₂ emissions reduction, Nissan places importance on dealing with issues from two perspectives. One is focused on the future and on making strategic investments in the development of clean energy vehicle technology. Another is concentrated on the present, to introduce practical technology in an increasing number of our vehicles.

The fuel cell vehicle (FCV) is one of our clean energy vehicles. The greatest feature of the FCV is that the sole emission is water, produced through the generation of electric energy directly through the reaction of hydrogen and oxygen. Nissan embarked on FCV development in 1996, starting full-scale development in 2001. With the conclusion of public road testing inside and outside Japan, limited lease sales of the X-TRAIL FCV commenced in 2003. Additionally, we are currently working on the development of proprietary fuel cell stack (individual power-generating cells that are stacked together into a single package) technology.

However, underlying the development of the FCV are the remaining problems of durability, high cost, and practicality. More time is needed before this clean energy vehicle is available to a large customer base. For this reason, Nissan is also moving ahead with other technology developments that have potential, such as the hybrid electric vehicle.

Nissan is also focusing on technological improvements to current gasoline vehicles to reduce CO₂ emissions. Our efforts are concentrated mainly on improving fuel economy by boosting drivetrain efficiency through technologies such as the Continuously Variable Transmission (CVT). Another goal set by Nissan is to meet the 2010 Japanese government-mandated fuel economy standards by 2005.

In the future, we will work to attain even more advanced improvements in fuel economy through a combination of improvements to engine efficiency and CVT as well as through weight-saving techniques. In order to achieve a more lightweight vehicle, it is necessary to modify the materials and reduce the number of parts that we use. By asking for the participation of metal and resin manufacturers at the design stage, our target is to decrease the weight of our vehicles by 5-10% in five years.

Additionally, we are looking to methods that offset the amount of CO₂ emitted by our vehicles, such as through reforestation. Although we are investigating ways to solve this problem through our research laboratory and other investigations, at the moment we have not yet found an effective method.

Investing in future technology development is an imperative for companies. On the other hand, we believe that it is also extremely important to make improvements to each individual vehicle.

Advancements in Production Technology and Logistics

Even if the volume of CO₂ emissions is comparably low when looking at the lifecycle of a vehicle, we cannot ignore CO₂ emissions from production and logistics.

Through Nissan Production Way (NPW), we continue to work toward true Douki-Seisan—a build-to-order system schedule that is synchronized with the customer's needs, to provide a higher level of service, more individualized choice, and swifter product production and delivery. The streamlining and efficiency attained through Douki-Seisan promotes the reduction of CO₂. For logistics, we are implementing modal shifts, making a conversion to modes of transportation with lower CO₂ emissions by shifting from the use of trucks and trailers to railroad and marine systems.

Local production and local sales are also contributing to a reduction in CO₂ emissions. Nissan has been actively promoting localization.

Each Nissan location across the globe has begun to understand the extent of its CO₂ emissions on an individual level. However, globally, we do not yet have a full picture nor full management control of our total CO₂ emissions. In addition, we are still grappling with the question of how to reduce CO₂ emissions in the midst of a steady rise in production volumes.

We realize that global management of CO₂ will continue to be a crucial issue, and through trial and error, we continue to take on the challenge.

Key Issue II Protection of the Air, Water, and Soil



With Willingness as a Corporate Citizen

Japan experienced rapid economic growth in the 1960s and 1970s. Cities grew into metropolises as people poured in from the country, in the midst of a rush to build roads and buildings. But behind this unparalleled economic growth and prosperity was the growing societal problem of air, water, and soil pollution.

Over time, pollution has grown from localized problems into a global environmental issue. Under these circumstances, Nissan believes that as a global corporation, it is important to foresee what the future brings and take a proactive stance in finding solutions.

Based on our willingness as a corporation and as a citizen, we carry out product design and production while envisioning more serious situations and establishing increasingly strict self-regulation methods.

Achieving U-LEV Standards in 90% of Our Domestic Vehicles

Nissan has become a world-class company in terms of our efforts in clean exhaust emissions technology. Nissan embarked on U-LEV development in 1995. We believe that the clean emissions technology improvements that we have achieved were made possible because of our long history with catalyst development.

When Japan's Ministry of Land, Infrastructure and Transport established the rating system for U-LEV standards in 1999, Nissan vehicles were among the first to qualify. Nissan aims to provide our customers with a more environmentally friendly vehicle at a more affordable

price. Nissan also strives to meet or exceed the expectations of society by introducing clean exhaust emissions technology in as many vehicles as possible. This ambition is shown through the goal we set to make over 80% of our vehicles U-LEVs. We have achieved this goal and currently 90% of our vehicles sold domestically have achieved the U-LEV standard.

In 2000, we began sales of the Sentra CA in California (USA), the world's first gasoline vehicle to receive PZEV* certification by the California Air Resources Board (CARB).

That same year, we began sales in Japan of the Bluebird Sylphy, which is equipped with exhaust emission performance equal to the Sentra CA and with a further 50% reduction of exhaust emissions as compared with the U-LEV standard. Three years later in 2003, when the Ministry of Land, Infrastructure and Transport set the Japan super-ultra low emissions vehicle (SU-LEV) standard of a 75% reduction in exhaust emissions from the 2005 standards, the Bluebird Sylphy became the first vehicle in Japan to receive certification.

On the other hand, we are also concerned with the global effect of our efforts, especially in developing countries. Nissan believes that the spread of mobility is a necessity for economic development in developing countries. What contributions can we make so that all people can enjoy a prosperous future? We think the answer lies in applying the technology that we have developed over time.

* PZEV: Partial Zero Emission Vehicle as established by CARB.

Fulfilling our Responsibilities as a Global Corporation

In order to protect the air, water, and soil, Nissan must abide by all regulations while ensuring that environmental accidents do not occur. To do this, it is crucial to make constant improvements to our daily management system through a double and triple checking function. We believe that this is an unquestionable responsibility for companies to carry out.

To enhance environmental protection and reduce risk to human health, we believe it is an essential part of our corporate responsibility to reduce the use of substances with an environmental impact in our products. We are actively proceeding with global standards to reduce substances such as volatile organic compounds (VOCs) in vehicle interiors, lead, mercury, cadmium, hexavalent chromium, and brominated flame retardants.

During production, the painting process, which utilizes large amounts of chemical substances, requires the greatest attention. According to results from chemical management, VOCs, such as toluene and xylene, account for approximately 90% of all substances released to the environment. In light of this, we are pursuing a reduction of emissions through water-based paint use and paint thinner recovery.

Nissan works to reduce the volume of water used at our plants by actively pursuing in-process water reuse. We also perform advanced wastewater treatment before releasing water back into rivers and other water bodies. Also, we are taking measures such as installing water quality sensors on our storm drains so that harmful compounds do not flow out with the rainwater that falls on our plant sites.

Even prior to the establishment of drinking water standards for VOCs, each of our business sites has carried out regular groundwater testing. We have judged that independent environmental investigations of soil and groundwater are necessary and have been carrying out examinations of chemicals used in the past while also moving forward with a cleanup response.

From a global perspective, Nissan has been able to meet the regulations set by the countries where we have operations around the world. In the future, we plan to create a Global Nissan standard based on the management criteria of each of the countries in which we operate. We plan to organize our management into standardized criteria at the global level, as well as criteria that are region-specific.

In working toward resolving the issue of air, water, and soil pollution, we want to continue to fulfill our responsibilities as a global automobile company.

Key Issue III Resources Recycling



Thinking about Resources in Development, Production, Use, and Recycling

There was a time when we used the earth's resources as if they were infinite. We now find ourselves in an age where we must utilize our limited resources efficiently and are required to develop technology and take measures that will lead us to a sustainable society.

The automobiles that Nissan sells are also manufactured using the earth's finite natural resources. After the automobile has provided mobility that brings convenience and enrichment to the daily lives of all people, it comes to the end of its productive life.

At Nissan, we have introduced the concepts of "zero emissions"* and Life Cycle Assessment, and pursue product development that takes end of life vehicle recyclability into consideration.

* Reducing the volume of waste that goes directly from plants and business offices to landfills to less than 1.0% of the 1990 level.

Making Cars without Producing Waste, that Do Not End Up Becoming Waste

Nissan focuses strongly on two activities to improve recycling.

The first is our in-house dismantling research. We have been conducting research on dismantling and recycling end of life vehicles for 10 years. The experience gained through this research has now been linked to activities at the development stage of new vehicles. This process considers steps from the vehicle's design stage to its end of life and involves the participation of every department. This type of cross-departmental collaborative effort is an essential part of the recycling process, as is building partnerships with dismantlers.

Our second focus is energy recovery from automobile shredder residue (ASR). Currently in Japan, we have achieved a vehicle recovery rate of approximately 80%. The remaining 20% includes substances that cannot be separated or recycled, such as plastic and glass, which have been landfilled.

In 1997, prior to the establishment of the Automobile Recycling Law in Japan, Nissan started carrying out demonstration experiments to recycle ASR. We found technological solutions for parts that presented problems in energy recovery because of their high heat index. It was the first time it became possible to recycle resources through energy recovery.

Nissan believes that as part of our role as an automobile manufacturer, developing such methods to recycle resources goes side by side with developing materials that do not become ASR, or designing for easier materials separation.

Nissan's aim is to manufacture cars without producing waste and that do not end up becoming waste. Our recycling efforts have helped us achieve a recoverability rate of 95% for the March sold in Japan as early as 2002.

However, we face various issues in recycling. For one, there is a 10-year gap between the product development period and the recycling period. We therefore cannot ignore the possibility that changes in society may occur that we could not have predicted at the vehicle development stage.

In addition, while Nissan has introduced global concepts for recycling toward which we must aim, in implementation we must develop local approaches that conform to the laws, regulations, and industrial circumstances of each country in which we operate. In other words, we must examine to what extent Nissan can extend its recycling management to vehicles that have been shipped to islands or remote areas.

Both of these are important issues for Nissan. To resolve them, we are moving forward with activities based on the policy, "Design is global, implementation is local."

Circulation of Materials within a Closed Loop

As part of our business activities at Nissan, our way of thinking is to circulate materials within a closed loop of automobile manufacturing.

An increase in automobile production leads to an increase in waste production. In view of this reality, Nissan is promoting company-wide activities geared toward zero emissions of waste from our plants. As a result, Nissan has successfully attained zero landfill volume and a resource recycling rate of 99.2%. In addition, the exhaust heat generated by incinerators is also recovered and supplied back to the plants in the form of steam.

Nissan's zero emissions activities are limited to Japan. Europe has commenced with the recycling of sand used in production. Nissan is faced with the issue of how to find methods to re-circulate materials in a situation where each country presents different circumstances for recycling.

Nissan will also continue to explore ways to shift to reuse and recycling processes that require the least amount of energy possible.

Business Activities and Key Issues

Based on awareness of the key issues we face, the following chapters deal with Nissan's approach to finding solutions.

While we are pursuing a wide range of environmental efforts such as controlling the use of air conditioning refrigerants for ozone layer protection, reducing car noise, researching traffic flow-focused air quality improvements, and implementing "green office" activities, in this report we have chosen to focus on the following three areas: prevention of global warming; protection of the air, water, and soil; and resources recycling. Within these three areas, we report on efforts as listed below that we believe to be especially important.



	Development	Manufacturing	Logistics	Sales and Service	Use	Recycling End of Life Vehicles
Key Issues	Curbing Global Warming	Improving Fuel Economy Fuel Cell Vehicle (FCV) Development	Promoting Energy Conservation	Increasing the Loading Ratio Modal Shift		
	Protection of the Air, Water, and Soil	Cleaner Exhaust Emissions	Preventing Air, Water, and Soil Pollution Managing Chemical Substances	Partnership between Nissan and Our Dealers Nissan Green Shop Activities	Environmental Communication and Education with Customers	
	Resources Recycling	Design for Recycling	Waste Reduction	Reducing Containers and Packaging Materials		Recycling Automobile Shredder Residue Dismantling Research Sales of Reusable Parts Materials Recycling



Nissan's Challenges

Nissan is moving forward with environmental efforts at every stage of the vehicle's life cycle: from the development stage, to the production, logistics, sales and service stages, through the recycling of end of life vehicles. In this section, we report on Nissan's activities pertaining to each stage in the vehicle's life cycle. Nissan continues to take on the challenges in achieving Nissan's environmental philosophy, "Symbiosis of People, Vehicles, and Nature."



Technology Development

Reducing the environmental impact of vehicles through effective and realistic approaches

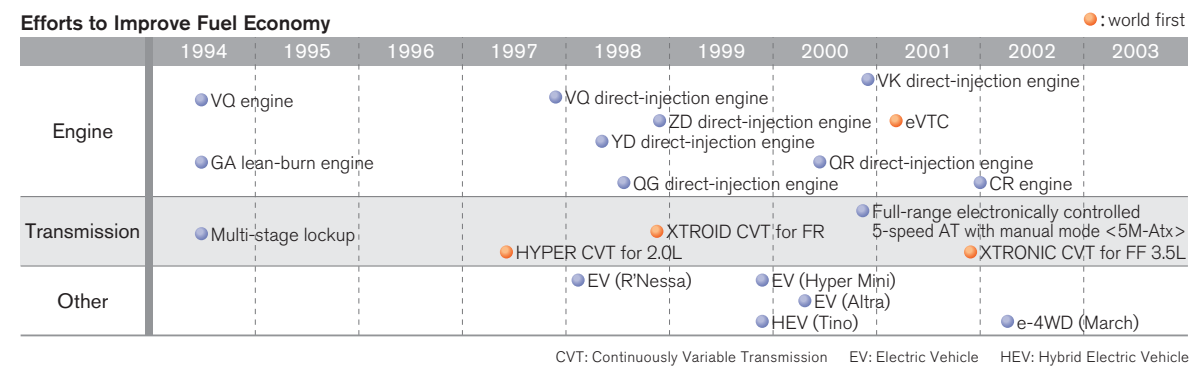
Nissan is proactively working to improve fuel economy, clean up exhaust emissions, and design recycling systems that reduce the environmental impact of vehicle use.



Presage

XTRONIC CVT

Improving Fuel Economy



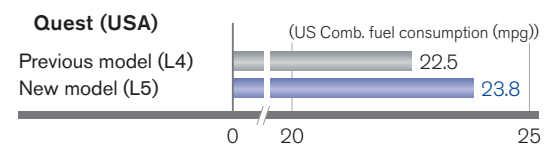
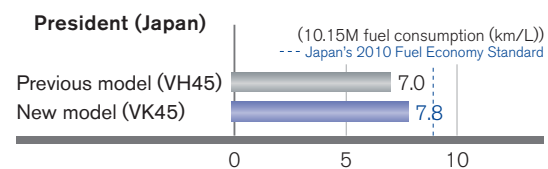
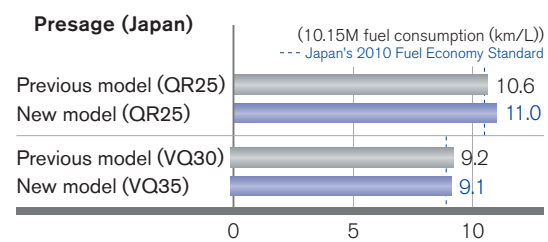
Technology development aimed at reducing carbon dioxide (CO₂) emissions during vehicle use is of prime importance to Nissan, and we have been developing and implementing technologies for improving fuel economy.

Nissan is carrying out comprehensive measures for all aspects of our vehicles, such as developing fuel-efficient engines and highly efficient transmissions, as well as developing vehicles that are lightweight and have lower driving resistance. We are also making progress in technological development for clean energy vehicles such as hybrid electric vehicles and compressed natural gas vehicles.

Currently in Japan, Nissan is working to attain Japan's 2010 fuel economy standards for gasoline vehicles by 2005, one of the primary objectives of the Nissan Green Program (NGP2005). In fiscal year 2003, Nissan achieved this goal also for the 1,016 - 1,265 kg vehicle weight category, and has so far attained the 2010 fuel economy standard in four out of the seven target vehicle weight categories. (See page 63 for data on average fuel economy in Japan.)

Fuel Economy of New 2003 Model Vehicles (comparison of new model to previous model)

Figures below show fuel economy improvement of some of our new model vehicles introduced in 2003.



Increased Engine Efficiency

From compact to full-size vehicles, we are continuously developing new gasoline engine models, such as the CR, QG, QR, VQ, and VK, that achieve better fuel economy through improved heat efficiency, reduced friction, and reduced weight. Furthermore, in striving for new possibilities, we developed the lean-burn engine in 1994 and the direct-injection engine in 1997. In 2001, we started adopting the world's first eVTC (electronically controlled continuously variable valve timing), which satisfies both high power output and low fuel consumption.

Increased Transmission Efficiency

► **Belt-type continuously variable transmission (XTRONIC CVT)**
This belt-type CVT that continuously varies the transmission ratio through the use of a pulley and steel belt was installed for the first time in the March in 1992. In 1997, acceleration was improved with the application of the torque converter and development of the world's first 2.0-liter class HYPERT CVT. Additionally, in fiscal year 2002, the Teana (Japan) and Murano (USA) featured the world's first 3.5-liter front-wheel drive adaptable XTRONIC CVT.

Development of e-4WD, the New 4WD System

A new lightweight and compact electric-type 4WD system, e-4WD, was developed and adopted in the March (September 2002) and the Cube (October 2002). The e-4WD is engineered around a front-wheel-drive configuration and uses a motor to drive the rear wheels only when 4WD capability is needed. When 2WD is selected, disengaging the electric clutch can reduce drive friction. The e-4WD achieved lower fuel consumption in comparison to conventional 4WD.

Hybrid Electric Vehicle Development

With low CO₂ emissions and clean exhaust emissions, the hybrid electric vehicle has superior environmental performance. Nissan has prioritized the development of hybrid technology as being the technology that will lead toward the realization of a future zero emissions society. As a first step, we developed the Neo Hybrid system and in April 2000, we released the Tino Hybrid. Also, in an aim to encourage the further spread of hybrid electric vehicles, in September 2002, Nissan signed a technological cooperation agreement with Toyota Motor Corporation. In June 2004, less than two years after signing the basic agreement, we built the Altima Hybrid (prototype). We will make further improvements based on this prototype and plan to start production of the Altima Hybrid in 2006.



Sentra CA



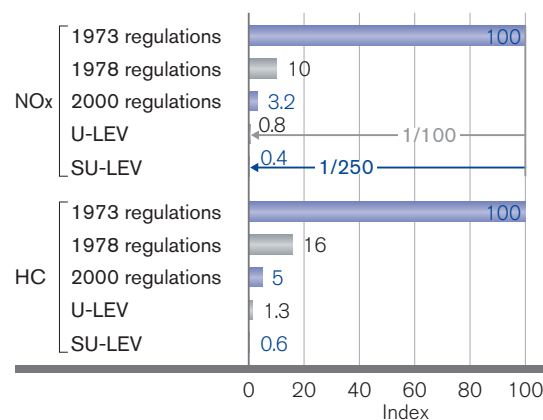
Running tests

Cleaner Exhaust Emissions

Measures Taken to Make Exhaust Emissions Cleaner

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Japan		Nissan LEV (company standard) Cube					G-LEV March, Cube Year 2000 regulations Cedric, Gloria U-LEV Sylphy			SU-LEV Sylphy (r)
USA			LEV Sentra				PZEV Sentra CA		PZEV Altima(r)	
Europe		Euro2 Almera		Euro3 Level Micra		Euro4 Level Primera				
Primary Technologies Adopted			Rear O ₂ Sensor		Electrically Controlled EGR Swirl Combustion Low heat mass catalyst HC trap catalyst		High-speed jet high swirl combustion Ultra low heat mass catalyst Highly precise air/fuel ratio control system 2-stage highly efficient HC trap catalyst system		Ultra low heat mass metal catalyst	

Starting in 1970 with compliance with the Muskie Act in the US, followed by the introduction of the first emissions regulations in Japan, we have been quick to respond in providing vehicles that comply with the latest regulations. Currently, our cleanest gasoline vehicle has reached emissions levels that are 1/100 to 1/250 of the levels originally called for by these regulations. We are working on a wide variety of technological developments, including technological improvements that allow for cleaner combustion and development of a catalyst that cleans exhaust emissions, as well as responses to gas evaporation from the fuel tank.



Development of the Cleanest Gasoline Car in the World

► California PZEV

In January 2000, Nissan began sales of the PZEV Sentra CA, which was certified by the California Air Resources Board (CARB) as the world's first PZEV*1 gasoline vehicle. To reach this level, Nissan has developed and adopted a number of technologies including the high-speed jet high swirl combustion, 2-stage highly efficient HC trap catalyst system, and the highly precise air/fuel ratio control system.

Additionally, in 2003, the 2.5L Altima was introduced to the market in California as a PZEV.

*1 PZEV: Partial Zero Emission Vehicle as established by CARB.

► SU-LEV development

Drastic improvements were made to the clean exhaust performance of the Bluebird Sylphy which went on sale in August 2000 as the first gasoline vehicle to receive certification by Japan's Ministry of Land, Infrastructure and Transport as an ultra-low emissions vehicle (U-LEV).*2

This vehicle achieved emission levels that were 50% lower than the U-LEV standard, the same clean exhaust emissions capability as the Sentra CA sold in California. In December 2003, the Bluebird Sylphy received certification as a super ultra-low emission vehicle (SU-LEV).*3 The Bluebird Sylphy also complies with the 2010 fuel economy standards, thereby receiving preferential treatment for tax reductions under the Green Tax Program.

*2 U-LEV: A vehicle that emits 75% fewer exhaust emissions of nitrogen oxide (NOx) and hydrocarbon (HC) than the level prescribed in the year 2000 exhaust emissions standards.

*3 SU-LEV: A vehicle that emits 75% fewer exhaust emissions of nitrogen oxide (NOx) and nonmethane hydrocarbon (NMHC) than the level prescribed in the year 2005 exhaust emissions standards.

Widespread Use of U-LEVs

We have continuously worked to achieve one of the objectives stated in NGP2005, which calls for us to achieve U-LEV certification for more than 80% of all Nissan passenger vehicles sold in Japan by the end of March 2003. If 80% of passenger vehicles sold in Japan were U-LEVs, this would have nearly the same effect in terms of NOx and HC emissions reductions as selling 400,000 (60% of annual sales in Japan) of electric or other zero emission vehicles. We achieved this objective ahead of time in February 2003, and as of March 2004, 90% of our vehicles sold in Japan had achieved the U-LEV standard.

For the future, we plan to further increase our efforts, and have set a new objective for March 2006 to make 80% of our gasoline vehicles sold in Japan certified as SU-LEVs.

Development of Clean Energy Vehicles

We are pursuing research and development of clean energy vehicles such as the high-performance compressed natural gas (CNG) vehicle. The Caravan CNG vehicle, developed in October 2003, uses a multi-point injection fuel system and has become more practical, through 10% increased output as compared to past CNG engines of the same model. The Caravan CNG is also in conformance with the U-LEV standard.

Forklifts

Preceding the 2001 CARB exhaust emissions regulations for gasoline/liquefied petroleum gas (LPG) engines, the first of their kind in the world, we started in December 1999 with clean emissions activities by adopting a feedback control of air-fuel ratio + ternary catalyst exhaust emissions reduction system for our gasoline/LPG engine forklifts geared toward the European market.

In Japan, we began selling the Agres (1.0-3.5 ton gasoline/LPG vehicle) in July 2003, which has cleared both CARB's 2004 emissions regulations, as well as the world's most strict emissions standards as proposed by the US Environmental Protection Agency (EPA). The Agres is installed with an electronic combustion control system (ECCS), and has approximately 99% fewer NOx emissions and 89% fewer HC emissions in comparison with conventional gasoline vehicles (ISO C2 mode, according to Nissan measurement).



Skyline



Altima Hybrid

Design for Recycling

Design for Recycling Activities

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Recoverability rate			Sunny, recoverability rate over 90%						March, recoverability rate over 95%	
Environment-impacting substances			Early attainment of lead elimination to under 1/3 (compared to 1996)				Early attainment of lead elimination to under 1/10 (as compared to 1996)			
Materials recycling			Lower variety of plastics (PP) (reduced from approximately 30 to 6 types)			Carpet composed completely of PET material	Parts to parts recycling (Hypermini)		Single material use (door trim, instrument panel)	
Designed to be easily dismantled			One-stage type airbag system			Separate structure for upper and lower parts (instrument panel)	Elimination of the number of fixing points (bumper)		Rear combination lamp	

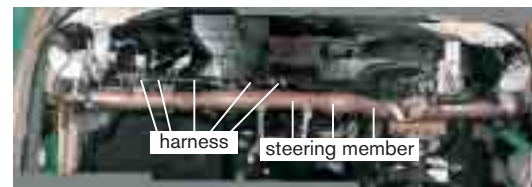
Nissan has implemented design for recycling activities to use natural resources effectively at every point during a vehicle's life cycle that considers the 3Rs (reduce, reuse, and recycle) at the new car development stage. We develop products with the goals of ease of recycling (recoverability rate), ease of dismantling at the end of life stage (dismantling efficiency), material identification markings for plastic parts (plastic parts marking rate), and reduction of environment-impacting substances.

Design for Recycling

Through the adoption of materials and structural developments, we achieved a more than 90%* recoverability rate for the 1998 model year Sunny, and we surpassed a 95% recoverability rate for the 2002 model year March.

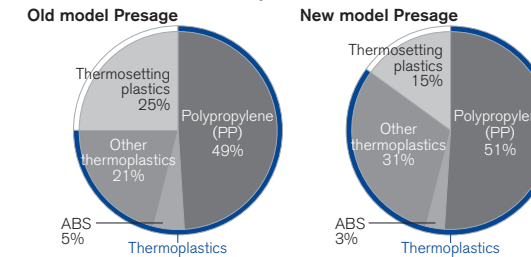
* Recoverability rate: This value is based on Nissan's own calculation standard

For ease of dismantling of end of life vehicles, we are adopting methods such as reduction in the number of fixing points and structural methods to make parts easier to remove. For example, through structural improvements to make the wire harness easier to remove during dismantling, we have increased our harness recovery rate from 50% up to 85%.



Also, to promote the recycling of plastics that currently are landfilled as ASR, we are switching to using thermoplastics, which are easier to recycle, and are developing other materials that are easier to recycle. In addition, we are promoting the simplification of material identification for plastic parts through material identification markings and designing parts that are made of a single material.

Plastics Use Rate Comparison



Life Cycle Assessment (LCA)

To efficiently develop products with a small impact on the environment at every stage of a vehicle's life cycle (from production through disposal), we use an LCA method. For example, the structure of the front-end module on the Skyline and the back door of the Stagea have less of an impact on the environment compared with the previous model's structure and materials used.

Reduction of Substances with an Environmental Impact

Nissan works toward and has set global targets for the reduction of substances with an environmental impact.

By adopting lead-free material in fuel tanks, electrodeposition paint, and wheel balance weights, our 2003 new model vehicles in Japan attained the industry goal of reducing the amount of lead used to less than 1/10 (compared to 1996 levels) before 2006, well ahead of schedule. Nissan is carrying out activities to reduce the use of substances with an environmental impact by understanding and managing the chemical substance content in products in accordance with Nissan chemical substances guidelines.

Future Issues and Direction

Creating High-level Environmental Technologies

With the further increase of environmental issues that surround the vehicle, Nissan will continue to be proactive in environmentally responsive product development to work toward attaining clean and sustainable mobility.

With the goal to ultimately eliminate the impact that vehicles have on the environment, Nissan is carrying out product development to significantly balance and improve important vehicle performance areas such as driving pleasure and safety, in addition to environmental concerns.

With priority placed on technology development centered on the SU-LEV, fuel cell vehicle, and hybrid electric vehicle, we are pursuing the development of environmentally friendly vehicles including the advancement of new power sources corresponding with shifts to fuels other than petroleum and the development of lightweight materials to reduce vehicle weight. Also, through advanced traffic flow control systems using ITS as an environmental technology for improving driving environments such as traffic jam alleviation, or operation support information services of advanced navigation systems as a way to reduce the environmental impact of car use, we are widening the possibilities of technology development. To take a comprehensive approach to the solution of such problems as global warming, environmental pollution, and the depletion of resources and energy, we will create high-level environmental technologies that are both practical and effective, and that will be widely received by our customers and the market.



2003 model X-TRAIL FCV

Fuel Cell Vehicle (FCV) Development

Automobile manufacturers around the world are in fierce competition to develop FCVs, the next-generation in low-emission vehicles. Nissan began development of FCVs in 1996 and launched limited lease sales of the X-TRAIL FCV in Japan in fiscal year 2003. Hereafter, we plan to continue our research and development efforts to support the promulgation and commercialization of FCVs.

Why Are FCVs Necessary?

Cars with conventional internal combustion engines have a considerable impact on the global environment, creating such problems as exhaust emissions, global warming, and an increased dependence on oil.

It is clear that fossil fuels are a limited resource. Because Nissan sees expansion in mobility as an inevitable part of economic development in developing countries, we believe the best way we can contribute is by harnessing the technological strengths that we have accumulated over the years.

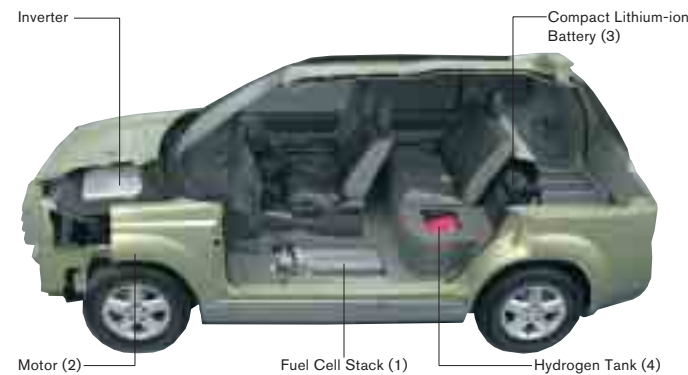
Currently, low-emission vehicles in practical use include electric vehicles, hybrid electric vehicles, and fuel-efficient certified low-emission vehicles.

FCVs are powered by electricity generated through a chemical reaction between hydrogen and oxygen. With pure water as their only emissions, FCVs are the ultimate eco-car.

How FCVs Work

In general terms, FCVs are composed of four main components:

1. Fuel cells for electricity generation
Typical fuel cells link together many individual cells to form a stack. Each fuel cell consists of an electrolyte film placed between positive and negative electrodes. The positive plate (oxygen) and negative plate (hydrogen) are etched with a number of grooves, along which the supplied oxygen and hydrogen flows, causing a chemical reaction.
2. Motor for turning the wheels
Generated electricity is supplied to the motor (2) to spin the front wheels. The battery (3) provides electricity to the motor during acceleration and stores electricity during deceleration as well as surplus electricity from the fuel cell stack.
3. Battery for storing electricity
4. Tank for storing hydrogen
Hydrogen supplied from the hydrogen tank (4) is fed into the fuel cell, where it generates electricity, and then combines with oxygen in the air and is converted into water. Generated electricity is supplied to the motor (2) to spin the front wheels. The battery (3) provides electricity to the motor during acceleration and stores electricity during deceleration as well as surplus electricity from the fuel cell stack.



Background of FCV Technology Development

Nissan took the first step toward the development of FCV technology in 1996. A methanol reforming-type FCV was completed in 1999. Testing of the R'nessa FCV began. In 2000, Nissan joined in the California Fuel Cell Partnership in the US. We have continuously carried out research and experiments on fuel cell technology and fuel supply infrastructure technology.

Full-scale development of FCV technology began in 2001. Nissan launched a five-year joint program for FCV development with Renault, with an investment of 85 billion yen. Public road testing of the XTERRA FCV was conducted in Sacramento, California, in April 2001. In Japan in July 2002, Nissan became a participant in the Japan Hydrogen & Fuel Cell Demonstration Project (JHFC). In December 2002, the X-TRAIL FCV, a high-pressure hydrogen-powered FCV, was certified by the Japan Minister of Land, Infrastructure and Transport, and public road testing began.

In December 2003, limited lease sales of the 2003 X-TRAIL FCV model was launched two years ahead of schedule, and in March 2004, Nissan delivered the first X-TRAIL FCV to Cosmo Oil Co., Ltd. The two companies have broadened their relationship beyond that of supplier and user of FCVs, undertaking joint research and development efforts on hydrogen fueling at the interface between hydrogen supply and use. In April 2004, X-TRAIL FCVs were delivered to Kanagawa Prefecture and the city of Yokohama. Kanagawa has six hydrogen fueling stations. The Prefecture has a variety of driving environments, from city streets and highways to mountain roads and byways. Nissan will continue research and

development efforts in cooperation with Kanagawa Prefecture and the city of Yokohama in obtaining driving data.

Challenges of Commercialization

FCVs are now on public roads although in limited numbers. However, we face a number of challenges in increasing the use of FCVs on a large-scale. Some of the major challenges include, first, how to lower cost. Current fuel cell vehicle systems are complex, heavy, use high-cost materials, and even if mass produced, there is no clear outlook of being able to produce them at the same cost as conventional vehicles. To find a solution to this problem, it is thought that reforming the electrode structure, the core technology of fuel cells, will play an important role. Another issue is how to improve durability and reliability. Automobile fuel cells must be so durable that they do not need replacement throughout the lifespan of a vehicle. Fuel cells that can last as long as the life of the car need to have a strong electrode structure that can endure repeated starts and stops. Also, how can we ensure commercial viability? One of the common challenges to commercialization of FCVs is the capability of starting up in sub-zero temperatures. If left in sub-zero temperatures for long periods, the water contained in a fuel cell system freezes. We are currently working out different approaches to solve these problems, but have not yet found a stable way to generate electricity while maintaining the durability of fuel cells.

Future Outlook

To realize the commercialization and widespread use of FCVs, Nissan will continue research and development efforts with the aim of developing a proprietary fuel cell stack, a key component of fuel cell vehicles.

Manufacturing

Environmentally friendly products manufactured at environmentally friendly plants



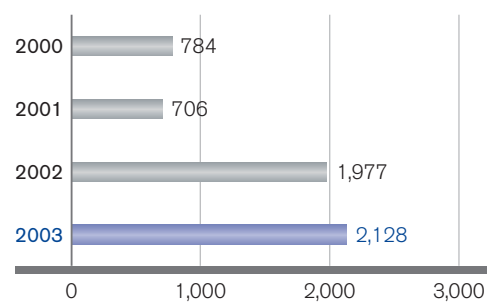
Tochigi plant

To increase production efficiency while reducing environmental impact, Nissan focuses its environmental efforts in manufacturing on CO₂ emissions reduction, waste reduction, prevention of air, water, and soil pollution, and management of chemical substances.

Reduction of CO₂ Emissions

CO₂ Emissions of Major Global Production Sites (12 Companies, 31 Plants)

CO₂ Emission Levels (1,000 t-CO₂)



	Japan	North America	Europe	General Overseas Market	Total
2000	784	NA	NA	NA	784
2001	706	NA	NA	NA	706
2002	1,225	485	171	96	1,977
2003	1,249	599	188	92	2,128

Please see page 68 for data including our consolidated subsidiaries
 NA: No aggregate data available
 Prior to 2001, data for Japan limited to Nissan Motor Co., Ltd. only

Automobile manufacturing processes require large amounts of energy. Most of this energy is currently generated by fossil fuels, which leads to emissions of CO₂. In order to reduce this energy use, Nissan is promoting energy conservation activities through both facilities improvements and operational procedures improvements.

and we are actively seeking ways to take advantage of such systems. Without counting cooling and heating systems used in the summer and winter, the automobile manufacturing process requires less heat compared with other industries. However, it uses more electricity in comparison. This is why engine-type cogeneration, which generates electricity more efficiently, allows us to use energy more efficiently at our plants.

Nissan has implemented cogeneration systems at the Oppama, Yokohama, Tochigi, and Kyushu plants in Japan. Gas-fueled engine-type systems are employed at the Oppama, Yokohama, and Kyushu plants, while a fuel oil system is used at the Tochigi plant.

► NESCO: Nissan's "Energy Service Company" initiative
 To achieve both facilities improvements and operational procedures improvements, each of our plants has organized special NESCO teams to promote energy

Steadily Moving Forward with Reduction Efforts

► Introduction of cogeneration systems

One effective way as part of facilities improvements is through the installation of cogeneration systems, which increase overall energy efficiency through the effective use of exhaust heat from power generation. Nissan believes that engine-type cogeneration systems are most suitable for our automobile manufacturing plants,

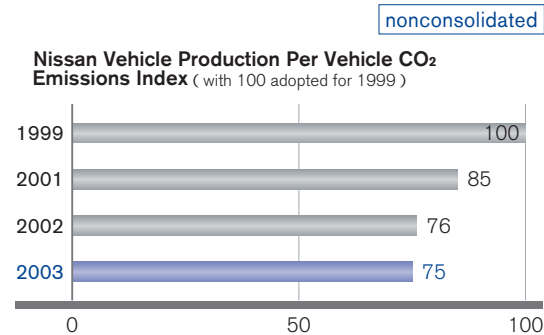
efficiency. Through NESCO (Nissan Energy Service Company), energy conservation measures at each plant are reviewed, and if any measure is found to be effective at one plant, it will be implemented at other plants as well, with an aim to effectively conserve energy at all of our facilities. The program also provides the department responsible for facility planning with information on energy-efficient equipment in order to promote energy conservation through the introduction of new equipment.

► Global Energy Benchmark Meeting

It has been a challenge for Nissan to build a global promotion and implementation system. Nissan has started to create a global structure because we believe that effective environmental initiatives should be implemented globally despite differences between countries in energy prices and legal requirements. We held our first Global Energy Benchmark Meeting in 2003 with officers from Japan and four major manufacturing bases in the US, UK, Spain, and Mexico, to share the latest information on energy conservation measures being employed in each country. We are planning to hold this meeting on a regular basis in the future.

Toward Global Implementation

Nissan Motor Co., Ltd. had set a goal to reduce total CO₂ emissions by more than 10% compared to 1999 levels by fiscal year 2005, but Nissan's actual CO₂ emissions in 2003 were down 12% in comparison with fiscal year 1999, totaling 730,000 tons (down 43% in comparison with fiscal year 1990), allowing us to achieve our goal for the second year in a row.



In the UK, per vehicle CO₂ emissions is 0.37 tons during production through the implementation of energy-saving equipment and employee awareness. A target of a 22% reduction (below 1999 levels) in per vehicle CO₂ emissions by 2005 has been set.

In the US, we have implemented a program for promoting and assessing energy conservation projects and have successfully reduced CO₂ emissions to 0.27 tons per automobile manufactured (excluding CO₂ emissions from purchased electricity generation). We aim for a 3% reduction in total energy and utilities usage for all US production facilities during the year 2004.

While taking a regional approach to CO₂ reduction, we also believe that our future challenge is to establish techniques for reducing CO₂ emissions while embracing a commonly shared global approach. As yearly production volumes increase, we regard the reduction of energy used per vehicle to be an important effort in the control of CO₂ emissions.



On-site incinerator now out of use



Recycling station



Wastewater treatment facility

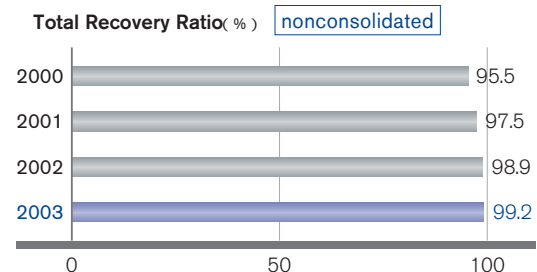
Waste Reduction

Recycling based on thorough sorting of waste materials and control of waste generation at the source is essential for encouraging waste reduction. Nissan promotes zero emissions in Japan to eliminate as much waste generated during manufacturing activities as possible.

3R Activities

In Japan, we achieved a total recycling rate* of 99.2% in fiscal year 2003, successfully achieving the objective set by the Nissan Green Program 2005 two years early. The program was implemented during fiscal year 2001 with the aim of maintaining a zero waste to landfill volume and reducing in-house incineration volume to less than 50% of the fiscal year 1999 level. Through these efforts, in-house incineration facilities at the Tochigi and Kyushu plants ceased operations at the end of fiscal year 2003.

* A percentage of recycled waste including heat recovery of the total amount of waste generated



► Reducing the amount of waste generated

A panel of experts was formed in fiscal year 2002 to study technical measures for controlling waste at the source. Nissan is involved in a number of activities including using returnable palettes, recycling cutting oil, investigating ways to bring our use of cutting oil to zero, and making investments in equipment to drastically reduce the amount of waste we produce.

► Reusing waste

We are controlling the amount of waste generated through such actions as reusing components and resources including protective component caps, which in the past were disposed of after a single use.

► Recycling waste

In fiscal year 2003, we recycled scrap metal, waste sand, waste plastic, and waste oil, etc., through materials sorting and reusable waste promotion in coordination with recyclers. Also, heat generated during incineration was recovered as steam.

► Global efforts

At our Smyrna plant in the US, we focus on reducing the waste disposal cost per each Nissan vehicle produced. Based on the advice of waste disposal and reduction experts, we have successfully achieved an annual cost reduction of approximately \$1 million since 2003. In the UK, we implemented a system for extracting and recycling aluminum from waste sand. Before, some 3,000 tons of waste sand containing aluminum had been sent to landfills every year. With the implementation of this recycling system, we now save around 80 tons of aluminum annually.

Prevention of Air, Water, and Soil Pollution

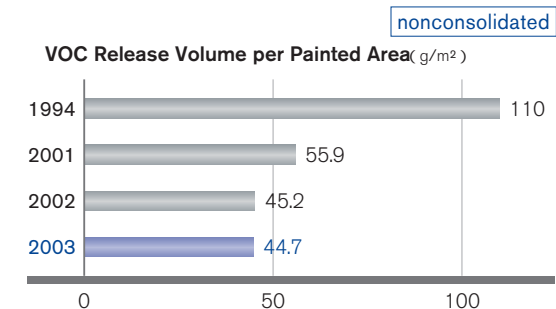
It is Nissan's responsibility to prevent air, water, and soil pollution from our production processes to avoid making a negative impact on surrounding areas and local residents. While complying with related laws and regulations, we take preventive measures and conduct training to prevent spills from leaving plant grounds in the event of an accident.

Going Beyond Legislation

► Air pollution prevention

Nissan is proceeding with strict measures for air pollutant emissions such as NOx and SOx generated from our plants, and compared to the 1970s we have reduced these emissions to approximately one-fourth. Nissan is working to reduce our use of volatile organic compounds (VOCs), which make up 90% of all chemical substances emitted during the automobile production process. Our aims are to eliminate offsite VOC emissions and reduce our actual use of VOCs. To reduce offsite VOC emissions, Nissan has promoted the recycling of used paint thinner. Further efforts to promote a switch to water-based paint, which generates lower volumes of VOCs, have also been made. The Kyushu plant maintains the industry's lowest VOC discharge level of less than 20g/m² from its water-based painting lines. Water-based paint has also been implemented at the Smyrna and Canton plants in the US. We will investigate the introduction of water-based painting systems in other plants as they update their equipment.

Regarding the reduction of dioxin emissions, Nissan achieved the goal of reducing levels to less than one-tenth of the regulated level at all of our plants in Japan. In addition, ceasing the operation of incinerators at the Kyushu and Tochigi plants will further contribute to even lower levels of dioxin emissions.



► Prevention of water pollution

We are working to reduce our water use, recycle water within production processes, and treat wastewater. The Tochigi plant employs a system that stops offsite drainage of storm water in the event oil and other spills are detected by a water quality sensor installed on the storm water outlet.

► Prevention of soil and groundwater pollution

Each of our places of business independently studies soil and groundwater and investigates the history of chemicals that have been used onsite. In the UK, spill response teams are ready to react the instance any spill is detected. In manufacturing processes in Japan, North America, and Europe, we do not use any VOCs regulated by environmental standards, including tetrachloroethylene, trichloroethylene, and 1.1.1 trichloroethylene.



Painting process



Cogeneration system

All soil cleanup at the former Murayama plant was completed during fiscal year 2003. We will continue to implement cleanup measures at the Tochigi plant as well as the Zama operation center and Yokohama plant in fiscal year 2004.

Toward Value-added Initiatives

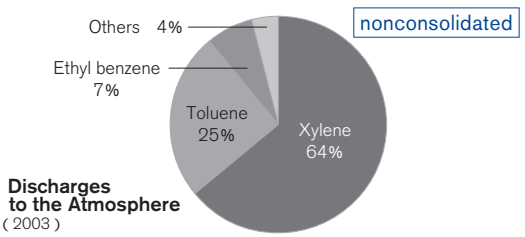
Each Nissan production plant is promoting preventive measures and countermeasures against possible environmental accidents in compliance with the laws and regulations of each country in which we operate. In the future, we need to develop Nissan global standards also for issues that are not regulated by law. We are exploring how to advance our efforts from merely reducing our negative impact on the environment, into positive efforts that create added value.

a calculation system where we input data on chemicals that are contained in the materials used in our production processes. We have linked this chemical calculation system with our purchasing management system, allowing for consolidated management. We are also actively working on efforts to reduce the use of VOCs, which account for 90% of emissions in our manufacturing processes.

In the US, we report releases and transfers of chemical substances based on the federal Toxics Release Inventory (TRI) Program. Information on some 4,000 chemicals is stored in a chemical tracking system. This control system manages information such as substance name, ingredients, control efficiency, destruction efficiency, location where the substance is used, density, gallons purchased, and inventory.

Toward the Development of Global Management Policies

Chemicals used in our products are classified into banned substances, controlled substances, and substances under warning, based on a global common standard to ensure environmental protection and the safety of our workers. We are promoting environmental initiatives for chemical substances in the manufacturing process that reflect the local laws and regulations in areas other than Japan and the US, and plan to develop a global management policy.



Management of Chemical Substances

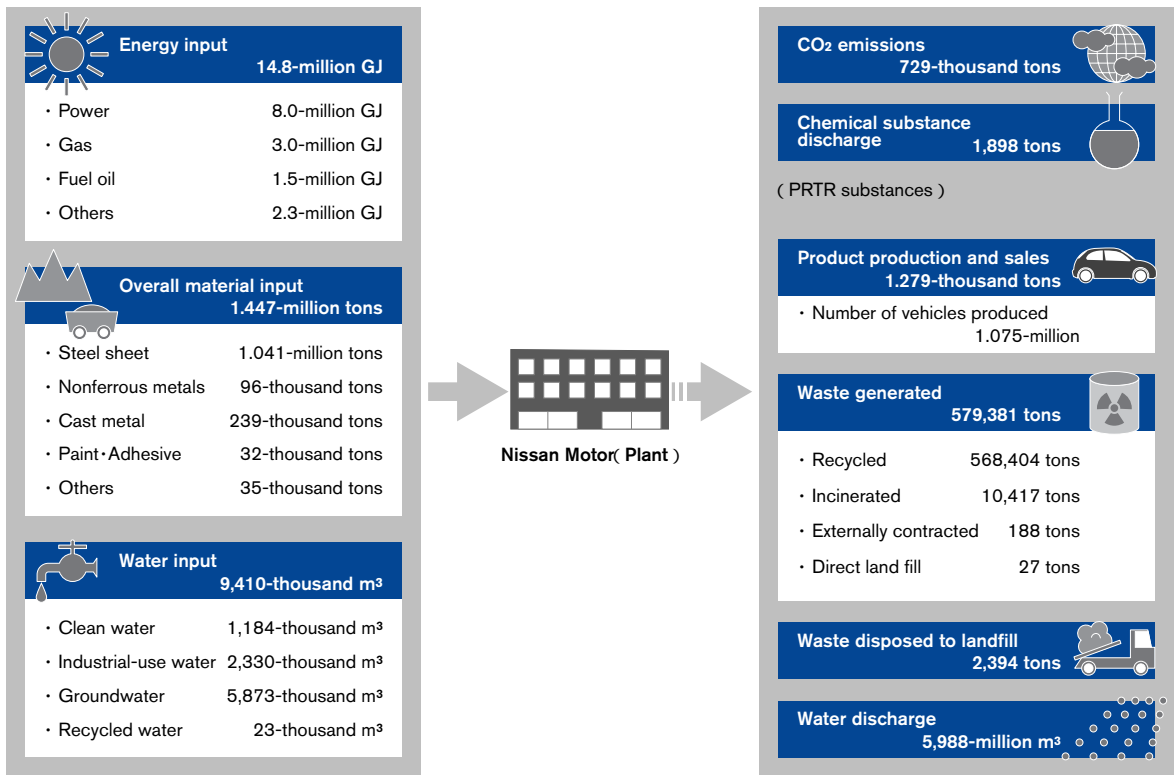
We pay particular attention to use and emissions requirements, as well as changes in each country's laws and regulations to reduce our use of substances such as oils and fats, chemical products, and paints.

Sound Measures for Managing Chemical Substances

Since the enactment of the Pollutant Release and Transfer Register (PRTR) Law in Japan, reporting on releases and transfers of 435 substances is now required as of 2002. We have been managing these substances since 1998. Additionally, we compile use and emissions data through

2003 Material Balance Sheet (intake and discharge of resources)

nonconsolidated



Logistics

Reducing environmental impact by promoting efficient, streamlined operations

Nissan promotes environmental conservation efforts in our logistical operations, which includes the transport of finished cars, production parts, and maintenance and repair parts, by working to reduce CO₂ emissions and improve transport containers.



Modal shift to rail



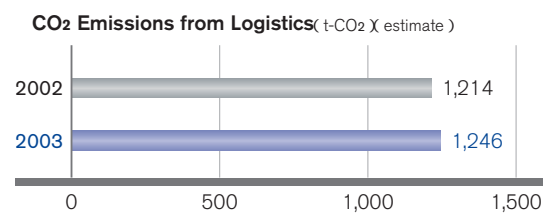
Modal shift to ferry transport

Reducing CO₂ Emissions

Since Nissan has production bases all over the world and operates in global markets, we believe that it is very important for us to establish an efficient logistics system, not just as part of our own production processes but also along the entire supply chain, including our parts suppliers. In addition, it is crucial for us to collaborate with related parties. Nissan actively adopts ideas on how to improve efficiency in logistics from suppliers and has established systems that allow us to share benefits such as cost reductions.

Nissan's fiscal year 2003 CO₂ emissions for logistics totaled approximately 125,000 tons. This amount includes all emissions from the transport of finished cars, production parts, and maintenance and repair parts within Japan, as well as marine transport between domestic and overseas ports (trade transport). We are currently moving forward with calculations to get a clear picture of the CO₂ emissions of domestic transport in our overseas markets.

To calculate our CO₂ emissions, we are using the Japan Ministry of the Environment Central Environment Council's "Source Measures for Carbon Dioxide Emissions in Cargo Transport" (April 2004). However, we have encountered problems in reflecting reductions in CO₂ emissions from increased loading efficiency in the measure of t-CO₂/t·km.



It has become an issue for us to examine source measures for logistics that reflect the effects of CO₂ emissions reduction efforts.

Increasing the Loading Ratio and Modal Shift

Nissan is working toward a modal shift, aiming to reduce CO₂ emissions through two approaches: reducing the number of trucks by increasing the loading ratio of each vehicle, and switching from trucks and trailers to ship and rail, which emit less CO₂.

► Increasing the loading ratio

Up until recently in Japan, parts suppliers generally delivered their products to the plants individually, using a dispatch method. Starting in 2000, Nissan became the first automobile manufacturer in Japan to change this dispatch method and begin using our own trucks to collect parts from suppliers, employing a "milk-run" receiving method where many stops are made to pick up a number of parts from different suppliers, which increased the loading ratio. At one time, nearly 2,500 10-ton trucks delivered components to Nissan every day, but now, about 2,200 are needed.

Containers that transport car parts are another factor that influences the loading ratio. Nissan has developed 55 different kinds of versatile, proprietary containers suited to the shape of the contents for more efficient loading. In addition, innovations such as folding containers, which can reduce the volume of cargo on return trips, have increased the loading ratio by roughly 10%. Also, 274 fewer trucks were needed in fiscal year 2003 for transporting production parts, as compared with a reduction

target of 145 trucks. Also, 37 fewer trucks were needed for transporting maintenance and repair parts, as compared with a reduction target of 26 trucks.

On the global level, components from all our widespread parts suppliers are consolidated and transported to our plants. Nissan, which has plants in the UK and Spain, has established a joint purchasing agreement with Renault, which has plants in France and Spain. In addition, we cooperate with Renault in ferry transport of finished cars between the UK and the European mainland. Nissan has also been cooperating with other manufacturers in the transport of finished cars between the UK and the European mainland since January 2004. When manufacturers send finished cars from Europe to the UK, the ships return empty. However, Nissan, which has plants in the UK, needs to ship in the opposite direction. Since both sides want to avoid empty return trips, we aligned interests to make this possible.

► Modal shift

In Japan, because of a move to marine transport for sending parts and finished cars to remote areas, the proportion of finished cars transported by ship increased to 51% in fiscal year 2003, while the transport of parts grew to 5%.

Nissan has been promoting marine transport, especially between Kanto and Kyushu, since 1983. As a result, ferries have been transporting 99% of the cargo between these regions. However, transporting cargo from inland parts suppliers to ferry ports remained a problem. Consequently, in fiscal year 2003, Nissan began using rail as an alternative mode of transport. We began consolidating components from various parts makers at the nearest rail terminals, moving the parts to

our Kyushu plant by rail. This has led to an even greater reduction in CO₂ emissions, since trains emit less than half the CO₂ of ferries. In Japan, we initially aim to shift 3% by transaction value and 0.5% by transaction volume to rail transport. This is expected to reduce CO₂ emissions for Kanto to Kyushu transport by about 70%.

Global Expansion

A modal shift in our transport system in Japan, especially for marine transport, has become quite well established. However, we also aim to actively promote our recent shift to rail as seen through our Kanto-Kansai route.

On the global level, we recognize that there are still many opportunities to increase the efficiency in our logistics, such as enhancing and promoting shared transport with Renault and other manufacturers, and implementing shared transport and increasing marine transport in China.

Reducing Waste

We transport parts by placing them in containers and stacking them on pallets. However, most pallets are made out of wood, and eventually are left over as waste at our plants. Early on, for the purpose of forest preservation, we began a switch to a returnable pallets system. Since 2001, we have promoted the establishment of systems that minimize the number of pallets and improve efficiency by sharing them with Renault. Also, we have almost completed our switch from wood pallets to pallets made of steel and plastic.

Sales and Service

Environmental protection activities in the place that is closest to our customers

Our dealers are the link between Nissan cars and our customers. As the closest point to the customer, our dealers understand their responsibility in caring for the environment.



Nissan Green Shop certification logo

Nissan Green Shop Activities

Within a business climate where individuals are becoming more concerned with the environment, our customers have come to take into account factors other than the car itself when they select vehicles for purchase. Even the shops where our vehicles are sold are evaluated. In order to win the trust and respect of our customers, we believe it is crucial for our dealers to be environmentally responsible.

To this end, starting in April 2000, Nissan introduced our own environmental management certification system, known as Nissan Green Shop, which is based on ISO 14001. By March 2002, all of our dealerships in Japan had been certified under this system. Representatives in charge of environmental issues have been appointed at each dealer and systems to enhance environmental activities have been established.

After being certified as a Nissan Green Shop, the dealer's activities continue to be regulated through internal audits and periodic surveillance performed by Nissan.

Dealerships with Nissan Green Shop certification promote responsible behavior including the appropriate handling of end of life vehicles as well as the processing and recycling of waste generated at dealerships as a result of service and repair activities. Through these activities, Nissan aims to minimize the impact of our dealers on the environment.

Recovery and Recycling Activities at Dealers

► Recovery and destruction of air-conditioning refrigerants

The Law concerning the Recovery and Destruction of Fluorocarbons (Fluorocarbons Recovery and Destruction Law) enacted in October 2001 in Japan regulates the following: the proper recovery and transfer of fluorocarbons; the burden on automobile owners to pay the cost of fluorocarbon destruction; the obligation to record operations in an operation record; and the obligation to pay recovery operators for the recovery and transfer of fluorocarbons. Nissan has entrusted the Japan Automobile Recycling Promotion Center with the task of recovering and destroying chlorofluorocarbon (CFC12) and hydro-fluorocarbon (HFC134a).

► Collecting and recycling bumpers

Nissan promotes the collection and recycling of used plastic bumpers accumulated during the repair and replacement of vehicle parts at dealers in Japan. The collected bumpers are recycled into new plastic parts for new vehicles. This initiative, originally implemented in



Bumpers recycled at dealers

1992, has now become firmly established and volumes are steadily increasing. The number of bumpers collected in fiscal year 2003 totaled 238,000.

► Recovery of flares

Nissan dealers throughout Japan have been recovering and recycling car flares since fiscal year 2003. A flare's performance guarantee is limited to five years, and predominantly flares are changed out during the vehicle's second inspection. Flares were previously treated as non-industrial waste, but because of the possibility of spontaneous combustion and risk of damaging incinerators when a large volume of flares is incinerated, Nissan established its own system to process flares safely. Dealers now send the flares to specialized recyclers.

► Response to the Automobile Recycling Law

Although Nissan dealers already follow a number of laws and regulations, their accountability to customers will be enforced by the Automobile Recycling Law, which will come into effect in January 2005. This law will require every dealer employee to thoroughly understand the substance of the new law, including the background of its formulation and the breakdown of fees.

We intend to hold our own explanatory meetings in fiscal year 2004 on the business response to the Automobile Recycling Law for each of our dealers. In these explanatory meetings, we will offer practical knowledge and skills on such topics as handling methods and other important information.

Closer Partnership between Nissan and Our Dealers

It appears that the world is moving toward the establishment of recycling-based societies. We believe this trend will lead to additional environmental laws and regulations. Our dealers must catch on quickly to this movement and strive to modify their management systems, internal manuals, and customer service as appropriate. Nissan believes it is also necessary to maintain close lines of communication with our dealers and reflect local input into the systems we build.

While all dealers in Japan have received Nissan Green Shop certification, the level of environmental activity varies among dealers and regions. We would like to establish a system for all of our dealers that acknowledges those who take initiative in implementing environmental actions.

Nissan also recognizes that the global promotion of our Nissan Green Shop certification system remains an important issue, since business styles and dealer operations differ in each country.

Recycling End of Life Vehicles (ELV)

ELV recycling made possible through cooperation

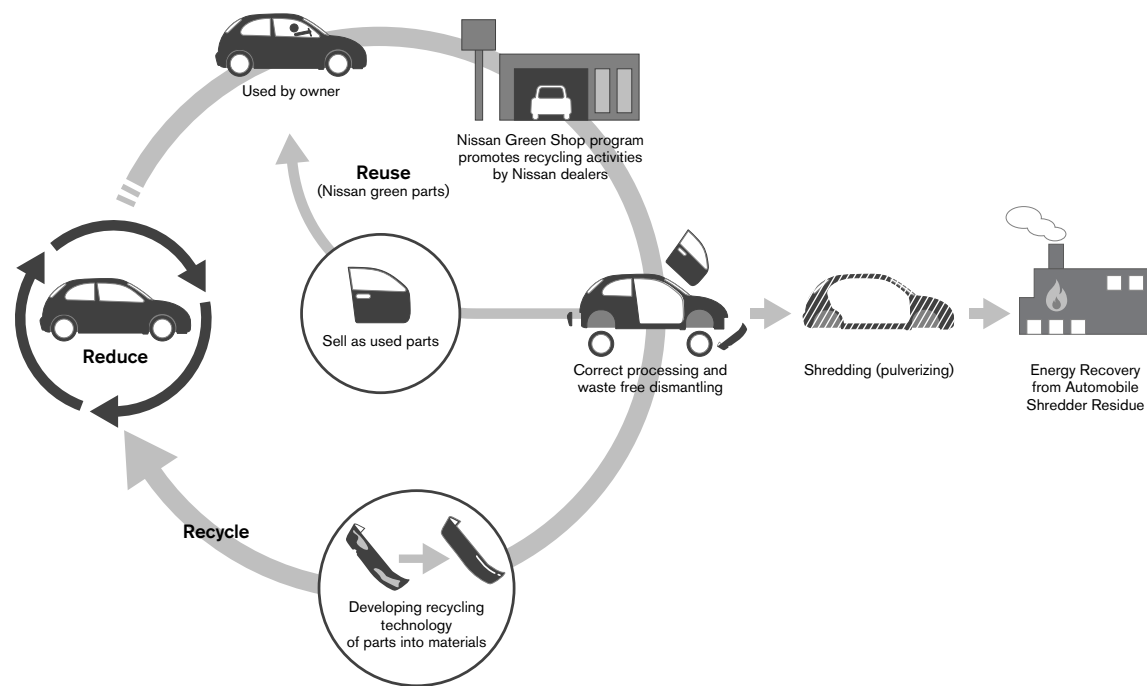
Nissan has been very successful in the way we have addressed each of the three Rs of "reduce, reuse, and recycle." Our Recycling Promotion Department is at the center of envisioning the most appropriate methods for handling recycling in the future, and is working to standardize recycling techniques to incorporate them at the design stage.

Approaches to recycling ELVs at Nissan can be divided into four main areas.

The first two happen at the new vehicle development stage. The first approach is to avoid using heavy metals, which have a serious impact on the environment, such as lead, mercury, cadmium, and hexavalent chromium.

The second is to design for ease of recyclability and try to improve products. Nissan has been performing dismantling research for these reasons, and has put forward new proposals to our design team.

The third approach is to reduce waste at the manufacturing stage. And finally, the fourth approach is to recycle without downcycling, or without losing any material quality. Conventionally, high-value resources such as precious metals have been recycled. Nissan goes one step further. We continue to recycle iron, aluminum, and lead, but there has been a problem with quality because these materials get mixed with impurities. Even if they are recycled, they end up being used as lower-value materials. In response, through careful separation and collection of aluminum road wheels, we have been able to reuse these once highly pure, high value-added materials.



The amount of ASR generated from a single March vehicle (previous model)

Recycling through Cross-functional Efforts

► Collaboration with the design department

In May 1996, Nissan became the first automobile manufacturer in Japan to establish a Recycling Promotion Department. We initiated dismantling research in recognition of the importance of understanding the actual conditions under which vehicles are dismantled. The ideas gained through this research for improving recycling efficiency have been developed into Design Guidelines, the framework for Nissan's recycling system, which introduces recycling issues at the vehicle design stage.

► Collaboration with the dismantler

It is not only crucial to cooperate within Nissan, but it is also a necessity to form partnerships with external recyclers to process ELVs appropriately.

Nissan Green Parts is one successful example of Nissan working in cooperation with dismantlers. Through this program, dismantlers carefully collect, separate, and remove parts from Nissan cars, which we then resell. It is a win-win relationship for dismantlers, customers, and Nissan: dismantlers see reduced costs in parts processing, customers can purchase parts for one-third to one-fifth the price of new parts, and Nissan can offer our customers a number of alternatives. Through this business model, we have created a network of dismantlers, allowing information exchange on logistics and other issues. The knowledge gained over the years and through trial and error have led us to improvements and as a result, we have reduced the amount of waste by 210 tons.

Another example of a win-win relationship is in aluminum recycling. We are working with dismantlers all over Japan who collect and separate the aluminum road wheels from ELVs to recycle them at Nissan's plants. Our original monthly recycling target was set at five tons in 2001, the year that the project was launched. But in fiscal year 2003, as a result of our collaboration with dismantlers, Nissan was able to collect an average of 200 tons per month. Aluminum road wheels are made from high-cost aluminum that can be reused for parts such as suspensions after it is collected, separated, and recycled. One result of our efforts to establish management and logistical networks that collect and separate Nissan's aluminum road wheels is that we have been able to reduce our use of virgin raw materials.

► Collaboration with Renault

Nissan collaborates with Renault in the area of recycling as well. Renault and Nissan jointly developed a recycling simulation system called OPERA, which was launched in 2003. By entering data such as component materials and dismantling time, OPERA can simulate the recovery rate and costs of recycling ELVs during the early stage of vehicle design. This enables us to design vehicles that are efficiently recycled. Nissan has started applying OPERA to some car models, but we plan to make full use of OPERA in the near future.

Dismantling Research and Recycling ASR

In order to move forward with ELV recycling, Nissan's basic belief is that it is important to design and manufacture vehicles that are easily dismantled. But in addition to this, we are aware of the problem of how to



ASR recycling facility



Recycling simulation system, "OPERA"



manage automobile shredder residue (ASR), or in other words, what is left over after reusable parts and recyclable materials have been removed. It has become necessary to develop ways to recycle ASR in preparation for the Automobile Recycling Law that will come into effect in Japan in January 2005.

► **Dismantling research**

Nissan is researching efficient ways to dismantle ELVs in order to effectively recycle materials and reuse parts.

The research until now has focused on ways to manage substances that have an impact on the environment, such as waste oils, effluent, and lead. But for the last few years, we have been researching ways to increase the recovery rate, with a focus on the reuse of high value-added materials. In particular, we have examined methods of efficiently dismantling the wire harness, as well as the recycling of aluminum, plastics, and glass.

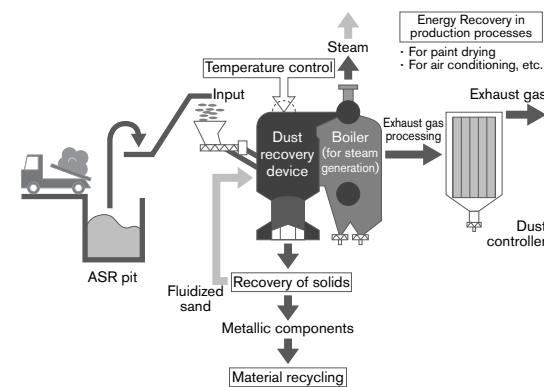
The results of this research are reflected in our actual recycling operations. Because of technological developments, for example, we have reduced the time needed to drain liquids from the vehicle (such as water from radiators, window washing fluid, and oil) from 40 minutes to within seven minutes. This is the result of our efforts to improve dismantling technology while at the same time providing feedback from our research to the development department, which is then reflected in materials selection and vehicle design for easier dismantling.

► **Recycling ASR**

Recovery rates have increased every year to the point where more than 80% of ELVs are currently recycled and reused. The remaining 20% is in the form of ASR, and is usually landfilled.

At our Oppama plant, we launched a program in the fall of 2003 to recover energy from ASR, through which we modified a portion of the energy recovery facility for processing industrial waste. ASR has a very high heat index when incinerated and controlling temperature during incineration had proven difficult. In addition, there were other problems, such as the adhesion of products to the inside of the furnace, the boiler's evaporation pipes, and other components. However, optimum temperature control has now alleviated these problems, and steam produced by the boiler is now recovered and used in providing humidity for the plant's pre-painting process.

Japan's Automobile Recycling Law, coming into effect in January 2005, requires the implementation of ASR recycling. To encourage efforts within the automobile industry, Nissan has entered into an alliance with 10 other automobile companies called the Automobile Shredder Residue Recycling Promotion Team (ART). ART has a collaborative role in planning operations and examining operational efficiency in the succession of operations involving ASR, from take-back and recycling through management. Nissan has taken a leadership role in ART, promoting activities while applying our know-how from past experience.



Promoting the Use of Reusable Parts

Reusable parts taken from ELVs are sold under the name Nissan Green Parts. Nissan Green Parts are available as reusable and rebuilt parts. Reusable parts are those that are reusable after washing and performing a quality check, while rebuilt parts are those that are dismantled, washed, inspected, and fitted with replacement parts.

There are 31 different reusable parts, including headlights, combination lights, and other front and back vehicle components that are prone to damage in accidents and collisions.

Eleven items are available as rebuilt parts, including engines and automatic transmissions.

Fifteen Nissan parts dealers nationwide manage the inventory of Nissan Green Parts, while 31 Nissan parts dealers in seven regions in Japan supply them.

Sales of Nissan Green Parts in fiscal years 1998-99, when they were first made available, amounted to two million yen. However, sales grew to more than one billion yen by fiscal year 2002, and 1.3 billion yen in fiscal year 2003, proving that customers recognize Nissan Green Parts as a viable option when making repairs. In cooperation with our dismantlers, we intend to do even better in the future at matching parts to the needs of our customers.

A Global Approach

Differences in the laws and infrastructures of various regions and countries pose a challenge to efforts to recycle ELVs on the global level. Materials considered valuable in one country may be treated as waste in another. For that reason, Nissan considers it necessary to develop systems appropriate to the characteristics of each region. As a result, Nissan promotes recycling based on the principle of "Making products globally, treating ELVs locally." While using common design standards, we have decided on using management methods for ELVs that are appropriate to each country and region in which we operate.

In recent years, awareness of automobile recycling has increased, as has the rapid introduction of legislation. This is happening not only in areas with well-established recycling efforts such as Japan and Europe, but also in Asia, such as in China and Taiwan. Nissan believes that our main issue for the future is to meet standards set forth by law without falling behind the current trends, while continuing to promote recycling objectives and activities that go above and beyond the regulations.






Nissan Green Parts

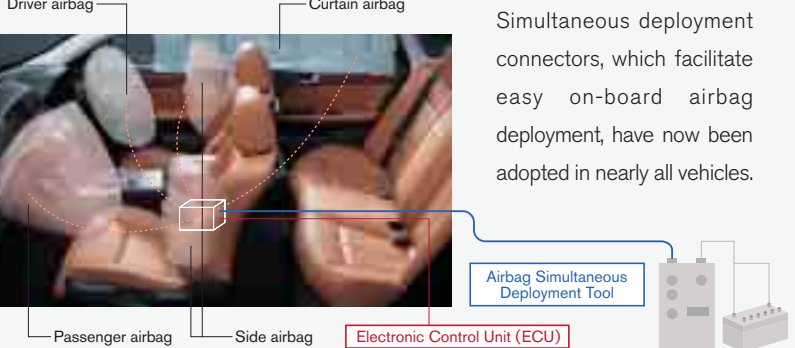

Response to the Japan Automobile Recycling Law

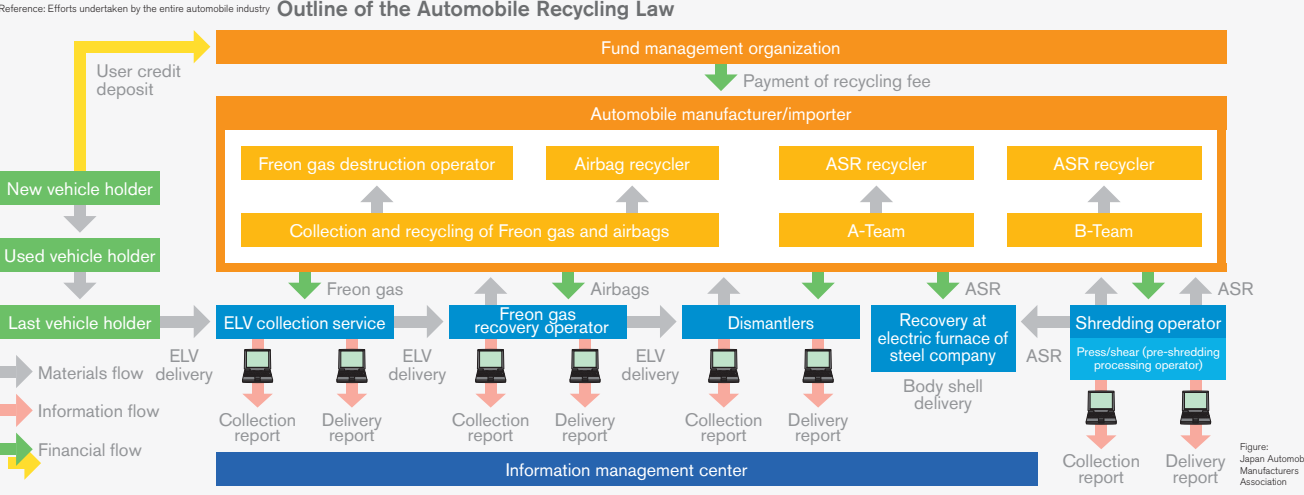

The role of automobile manufacturers regarding the Automobile Recycling Law, which will take effect in January 2005, is to collect and properly recycle Freon gas, airbags, and automobile shredder residue (ASR) generated from end of life vehicles (ELVs).

Nissan is pursuing ways to recycle Freon gas, airbags, and ASR by: participating in the formation of a center to collect Freon gas and airbags; participating in ART, a recycling promotion team; and through vehicle design and development to improve the recyclability of ELVs.

Measures for Three Mandatory Items to be Recycled by Automobile Manufacturers

	Airbags	Freon Gas	ASR
Subject Items	 <p>Appropriate treatment of unused airbags in ELVs is required.</p> <p>Airbag</p>	 <p>Since specified CFCs cause ozone layer depletion and HFC substitutes produce a global warming effect, recovery and destruction of CFCs and HFCs are required.</p> <p>Recovery cylinder for HFCs</p>	 <p>As the rate of illegal dumping and inappropriate treatment of ASR increases due to limited capacity at landfill sites, collecting and treating ASR appropriately is required.</p> <p>ASR (Residue from a shredded vehicle)</p>

Technology	 <p>Driver airbag, Curtain airbag, Passenger airbag, Side airbag, Electronic Control Unit (ECU)</p> <p>Airbag Simultaneous Deployment Tool</p> <p>Simultaneous deployment connectors, which facilitate easy on-board airbag deployment, have now been adopted in nearly all vehicles.</p>	 <p>X-TRAIL FCV</p> <p>The X-TRAIL FCV is equipped with an air conditioning system that uses carbon dioxide (CO₂) as the refrigerant. Because CO₂ refrigerant produces less of a global warming effect compared to the previously used HFC substitute, research and development is in progress with the aim of installing CO₂ air conditioning systems on gasoline-powered vehicles.</p>	 <p>ASR recycling facility at the Oppama plant</p> <p>To carry out ASR recycling, Nissan has modified the waste incinerator at the Oppama plant and has begun energy recovery from ASR. Collected data is analyzed and will help in making design improvements to new model vehicles.</p>
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Management	<p>Reference: Efforts undertaken by the entire automobile industry</p> <h3>Outline of the Automobile Recycling Law</h3>  <p>The flowchart details the process from vehicle holder to recycling. It shows the flow of materials (grey arrows), information (red arrows), and financials (green arrows). Key entities include the Fund management organization, Automobile manufacturer/importer, ELV collection service, Freon gas recovery operator, Dismantlers, Recovery at electric furnace of steel company, and Shredding operator. Reports are generated at various stages.</p>			<p>To carry out appropriate and efficient collection and recycling (destruction) of airbags and Freon gas, Nissan has joined other automakers and import traders in creating the Japan Automobile Recycling Partnership (JARP), which acts as a common take-back center. Through collaborative efforts, we have achieved economies of scale, which has led to a reduction in recycling costs as well as increased smoothness in business operations.</p>
	 <p>Automobile Shredder Residue Recycling Promotion Team</p>		<p>Stemming from the importance of creating a system to properly, smoothly, and efficiently implement ASR recycling, Nissan has been part of establishing the Automobile Shredder Residue Recycling Promotion Team (ART) with 10 other automobile manufacturers. While complying with legal requirements, this organization ensures transparency in all activities while working to attain improvements in the recovery rate and recycling efficiency.</p> <p>ART</p>	



Management

Through the Nissan Green Program, we work toward attaining the Nissan environmental philosophy, "Symbiosis of People, Vehicles, and Nature." In this section, we report on the environmental management system that provides the framework through which we pursue our environmental efforts at Nissan.



Environmental Philosophy, Policies, and Organization

The foundation of Nissan's environmental protection initiatives

Based on our environmental philosophy and policies, Nissan's environmental initiatives work toward the creation of a sustainable society. To this end, Nissan is developing environmental systems and structures that serve as the foundation for our global environmental initiatives.

Nissan's Environmental Philosophy and Policies

At Nissan, we developed our vision and mission in 2002 with the goal of sharing our mid- to long-term vision of the ideal company with all employees, which we are now sharing with all Nissan group companies worldwide. Our vision, "Enriching People's Lives," demonstrates one of our longstanding corporate values, while our mission demonstrates the role the company should play in pursuing it. Furthermore, we established guiding principles to help our employees understand the actions and behaviors

they should take in pursuit of our mission. Nissan works to create a corporate culture that inspires the entire company to join together in meeting common goals based on our vision, mission, and guiding principles. (Please refer to page 2 for our vision, mission, and guiding principles.)

To realize one of our guiding principles, to be "customer focused and environmentally friendly," we developed our environmental philosophy and environmental policy. We believe it is our social mission to conduct our business based on our philosophy and guiding principles to help build a sustainable and recycling-based society.

Nissan's Environmental Philosophy

Symbiosis of people, vehicles and nature

It is our view that the basis of environmental protection lies in the human capacity to show kindness and concern. Along with striving to understand the environment better, all of us at Nissan bring a shared concern for people, society, nature and the Earth to bear on our activities.

This commitment and concern are embodied in every Nissan product and throughout all of the company's operations as the driving forces of Nissan's ongoing contributions to the advancement and enrichment of society.

Action Policy

1. To promote creative activities
2. To advance comprehensive activities
3. To foster cooperative activities

Environmental Policy

Nissan is taking the initiative to promote wide-ranging activities aimed at improving the environment both globally and locally in line with the guidelines noted here. These efforts are being pursued in all areas of the company's operations, including product development, manufacturing, sales and service, in order to make Nissan's Environmental Philosophy a reality.

1. Achieving a cleaner automotive society

Nissan aims to reduce the environmental impact at every stage of the vehicle life cycle, namely product development, manufacturing, use and disposal, in order to create a cleaner living environment.

Besides working to improve vehicles themselves, Nissan also contributes to the improvement of social systems involving vehicle use.

2. Conserving natural resources and energy

Because the earth's natural resources and energy supplies are finite, Nissan is advancing efforts to minimize their consumption at every stage of the vehicle life cycle.

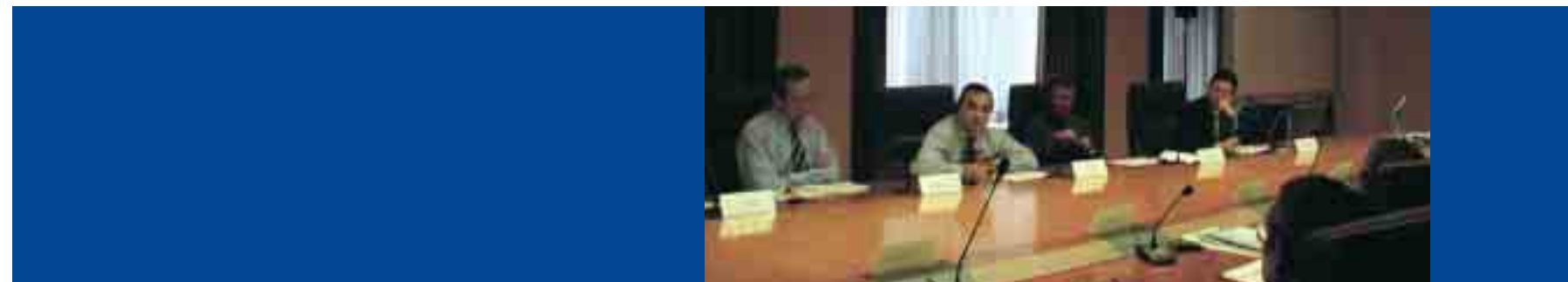
3. Expanding and continuously improving Nissan's environmental management system

Nissan is implementing an in-house environmental management system that conforms to the environmental management system standard formulated by the International Organization for Standardization (ISO).

- (1) Preventing environmental issues in the first place and observing laws and regulations
- (2) Cultivating a corporate culture dedicated to environmental protection
- (3) Undertaking cooperative activities with subsidiaries and affiliates
- (4) Strengthening communications and cooperation with customers

4. Issuing reports on environmental activities

Nissan regularly issues announcements and publications explaining the company's efforts to address environmental concerns.



First meeting of the Global Environment Management Committee

The Global Environment Management Committee

In 1993, we established an Environment Management Committee. Chaired by the executive vice president, the committee has developed company-wide policies and goals and has assessed our progress toward meeting these goals. Environment Management Committees have also been established in Europe and the US.

In 2003, we formed the Global Environment Management Committee (G-EMC), chaired by the CEO, with the goal of developing a global system to address environmental issues. Aiming to achieve the goals set by our mid-term environmental action plan, the Nissan Green Program 2005, the G-EMC's first meeting was held in October 2003 to discuss Nissan's future direction.

We have also expanded the scope of our environmental management system. Until recently, Nissan's management has only covered our four main subsidiaries in Japan and our four major production bases overseas, but we are working to expand our efforts to all Nissan Motor Co., Ltd. offices and overseas affiliated companies. We will continue to put our efforts into widening the focus of our environmental activities, including areas other than Japan, North America, and Europe.

Environmental Promotion System within Each Department

► Environmental management in the product development department

At the Technical Center where product development takes place, we maintain a system for environmental management chaired by the senior vice president of the technical development department. The department is

moving ahead with initiatives to reduce environmental impact with the aim to promote increased efficiency and optimization in product development and business activities.

As part of the Technical Center's product development, we address six important environmental responses: improvement of fuel efficiency, cleaning of exhaust emissions, reduction of vehicle noise, control of air-conditioner refrigerant emissions, reduction in the use of substances that impact the environment, and promotion of design for recycling. With the Product Environmental Committee as a base, each area has set up individual subcommittees to address the achievement of area-specific environmental goals. Within this structure, operational procedures were developed for the control of air-conditioning refrigerants and were successfully implemented in the operations line. As a result, the subcommittee for addressing this area was dissolved in 2003.

► Environmental management in the Manufacturing Division

In 1972, the manufacturing division established a specialized structure of environmental representatives at headquarters and at each plant. Since then, the division has continued to take preventive measures regarding environmental issues.

As part of our management system, the Manufacturing Environment Energy Committee, chaired by the senior vice president of the manufacturing division, was established under the Global Environment Management Committee to make continuous improvements in addressing environmental issues. The Manufacturing Environment Energy Committee is comprised of representatives from production management, logistics, manufacturing technology, and plant and business operations. Decisions made by the committee have been implemented in operations.

Environmental Management

For the continuation and improvement of our environmental activities



The Smyrna plant

Nissan's mid-term environmental action plan, the Nissan Green Program, is the foundation of our environmental activities. To increase the level of transparency and fairness associated with these activities, we were quick to obtain ISO 14001 environmental management system certification.

Operation and Auditing of the Environmental Management System

Nissan performs internal environmental audits and third-party external audits to confirm whether the policies, objectives, and targets based on the Nissan Green Program are being properly implemented and whether the system is being continuously improved.

All Nissan Motor, Ltd. plants have attained ISO 14001 certification starting with the Oppama plant in May 1997.

Internal environmental auditors appointed independently of their business responsibilities carry out internal audits from the standpoint of a third-party organization. Both auditing of the environmental management system to monitor its operation and environmental performance auditing to ensure system efficiency are conducted. In addition, external auditing is carried out on an annual basis. Although there have been some minor recommendations or observations at our sites regarding operations or management, none was considered a nonconformance. Nissan's environmental management system has been evaluated to be effectively maintained and continuously striving for improvement. Furthermore, annual management reviews are conducted at each site and improvements are made in areas deemed necessary to review or continue to address.

► **Environmental management system: Nissan Technical Center**
Nissan obtained ISO 14001 certification in the area of product development in March 1999. A system was developed to incorporate concepts and specifications that address the reduction of environmental impact of all stages of product development, from product planning

through the design stage. In October 2002, after the certification audit, ISO certification was extended to cover all business operations to encourage environmental awareness to take hold in daily business activities. One observation made by our external auditors during our fiscal year 2003 audit (December 2003) noted, "We recognize the environmental management system is functioning effectively," ensuring the legitimacy of continued certification under ISO 14001.

► **Environmental management system: Europe**

At NMUK, which obtained ISO 14001 certification in September 1998, environmental management has been implemented as a core aspect of total quality management (TQM). TQM seeks quality improvements in the products themselves, and in production processes and the provision of services. Suggestions for ways to make improvements to meet TQM objectives as frequently proposed by our employees often address a number of environmental issues.

► **Environmental management system: North America**

The NNA Smyrna plant obtained ISO 14001 certification in December 1999. Both internal and external audits are conducted twice annually to maintain and improve on environmental efforts. During NNA's initial certification audit, four findings were discovered, which decreased to two in the first surveillance audit, and has been down to zero findings during other audits. The external auditors observed that it is amazing for a facility of this size and complexity to have as few findings as it does. The Smyrna plant has also established Nissan Energy Management and Control (NEMAC), a program for promoting energy conservation, and is implementing energy saving measures.

Risk Management

At Nissan, each department and division has its own system to manage all relevant laws and regulations. We observe codes of regional governments and industry associations in Japan. We always pay attention to the most up-to-date information and future trends so that we can take immediate action in response to new developments.

We work to improve communication with local residents of the areas surrounding Nissan offices and plants to ensure an understanding of our business activities and risk management system. For example, we invite residents of the areas near our plants to briefings on our environmental activities.

► **Emergency response**

We take all possible measures to ensure we can respond to any environmental accidents and other emergencies by providing training on source prevention based on our emergency manuals and by ensuring that all employees are familiar with the procedures for reporting to the appropriate authorities.

In fiscal year 2003, we conducted environmental emergency drills based on possible emergency situations such as the accidental release of oil or chemicals at a water treatment facility or leaks at fueling stations.

Plants in North America utilize a spill report database. Once a spill is reported, all environmental engineers are immediately contacted by email or pager to ensure around-the-clock response and recording of the event.

► **Environmental accidents**

There was one environment-related product recall in fiscal year 2003. Because of the inadequacy of the materials used for the catalyst carrier anchoring wire mesh in the catalytic converter in the Caravan, we notified the Ministry of Land, Infrastructure and Transport and carried out the recall in February 2004.

There were no environmental accidents at our plants or places of business during fiscal year 2003. We examined the cause of an accident that took place during fiscal year 2002, made improvements to our facilities, and improved maintenance and controls. In the future, we will continue to be thorough in our risk management to prevent environmental accidents from occurring.



Workshop on reading environmental reports

Green Procurement

Environmental consideration of each and every component is necessary to reduce the environmental impact of our products. At Nissan, we globally manage substances with an environmental impact in products based on technical standards. Additionally, we have requested our suppliers of products geared toward the Japanese market to develop a structure for voluntary environmental management and to follow a plan-do-check-act (PDCA) cycle.

► Reporting on substances with an environmental impact

For parts and materials (oils, paints, and chemicals), we ensure that our suppliers conform to procedures based on Nissan technical standards for the management of substances that have an environmental impact. As part of green procurement, banned substances are not in use and the amount of substances used that Nissan has voluntarily judged as cautionary substances are identified at the development stage, which leads to the development of substitute technologies at an early stage.

► Establishment of environmental management systems

In Japan, we have requested our suppliers to: 1) develop an environmental management system by March 2003, and 2) obtain ISO14001 certification by March 2005. All suppliers have met the first requirement, and 89.4% of suppliers have obtained certification either under ISO14001 or Eco Action 21, an environmental activity assessment program set up by the Japan Ministry of the Environment.

► Environmental representative identification

We ask our suppliers to make clear who their environmental representatives are to ensure that responsibility is taken for examining and reporting substances with an environmental impact and in building an environmental management system.

We strive for two-way, mutual communication with our suppliers by providing information on Nissan's environmental protection activities and on the environmental impact of products.

Environmental Education

Nissan continues to host lectures by key figures in the environmental field on environmental issues for all of our employees. Environmental education for environmental representatives and relevant personnel is also provided to increase their knowledge base regarding technical information.

Again in fiscal year 2003, we provided environmental education to all 570 new Nissan employees and 300 newly appointed management-level employees. We also continued the development of Nissan's own curriculum through such activities as inviting university professors to hold elective, discussion-style environmental classes.

We are carrying out environmental education programs in each of the regions in which we operate, but as of yet we have not globally systematized our efforts. We regard this as a major challenge for the future for Nissan. We believe that in order to ensure our environmental protection activities spread through the company and reach all employees, it is essential to foster environmental awareness and the ability to think and act in all of our employees. In the future, we plan to make additional improvements and new developments to the content of our environmental education.

► Conveying information through the company newsletter

In Japan, we have created an environmental section as part of the company newsletter, Nissan News, to convey environmental information to our employees and their families, including employees of affiliated companies and retired Nissan employees.

Environmental Communication

We actively promote environmental communication with various stakeholders through our environmental report, website, automobile exhibitions, and test-drive events, and we always welcome feedback through phone calls and faxes to our Customer Support Center.

► Information disclosure

Nissan has published an environmental report every year since 1998. Since 2001, we have published site environmental reports to hand out to visitors at all of our production plants in Japan. In 2004, we began planning the subsequent publication of site reports at our overseas plants. In addition, we publish a short summary report of our environmental report, which we provide to visitors of our plants and participants at our many different exhibitions.

► Educational activities

In Japan, we include environmental information by car model in our complete catalogue of vehicle models to try to deepen awareness of our environmental efforts. Since fiscal year 2002, with the introduction of "integrated study time" at elementary schools in Japan, we have been collaborating with elementary schools in the trial implementation of electric car (Hypermini) special lessons.

In addition, every year many people participate in an environmental facility observation course at the Oppama plant.

► Environmental and social reports workshop

Once again, Nissan and Sompo Japan Insurance Inc. jointly held a workshop in March 2004 on reading environmental and social reports. Through discussions

with interested stakeholders using the environmental reports of the two companies as a starting point, this workshop provides a unique opportunity to discuss the topic of appropriate corporate environmental information disclosure.

Fifty-three stakeholders participated in the workshop and were able to engage in active discussions. We received many comments regarding the Nissan environmental report, including, "There is an abundance of information in the report, but at the same time, I do not understand the point you are trying to convey" and "There is too much information." We referred to this feedback in the creation of this year's report.

We will continue to host such workshops in the future, seeking to increase communication with all of our stakeholders and raise the quality of the information disclosed in our environmental reports. At present, this activity is limited only to Japan, but in the future we believe it will be necessary to hold similar sessions in other parts of the world.

Environmental Accounting

Environmental accounting for fiscal year 2003 was carried out based on the guidelines set forth in the Ministry of the Environment's Environmental Accounting Guidebook. The total cost for environmental protection during fiscal year 2003 was 134.4 billion yen (an increase of 21.8 billion yen from fiscal year 2002). Within this figure, 120.9 billion yen went toward research and development (an increase of 25.3 billion yen from fiscal year 2002). One of the reasons for this increase is because of increased costs involved in FCV development.

Nissan Green Program 2005 Progress and Results

To realize Nissan's philosophy of "Symbiosis of People, Vehicles, and Nature," we are promoting the Nissan Green Program throughout the entire company. We continue to move forward with actions to meet our 2005 goals as outlined in our mid-term environmental action plan, the Nissan Green Program 2005.



95% recyclability achieved for March, Cube, and Cube Cubic models



March



Cube

Nissan Green Program 2005: FY2003 Environmental Action Plan Progress and Results

Area	Item	Objectives and Activities up to 2005
Product Development	Improvement of fuel economy (curbing global warming)	Early attainment of Japan's 2010 fuel economy standards for gasoline vehicles and 2005 standards for diesel vehicles [Objective] Attainment of the new standards by 2005 target date
	Reduction of exhaust emissions	Gasoline vehicles: Steady expansion of Nissan's ultra-low emission vehicle (U-LEV) lineup, starting with the 2000 launch of the Bluebird Sylphy [Objective] Achieve U-LEV certification for more than 80% of all Nissan passenger cars sold in Japan by end of March 2003 Diesel vehicles: early release of vehicles complying with the latest exhaust emission regulations
	Development of clean-energy vehicles (CEVs)	Fuel cell vehicles (FCVs) • Projecting the year 2005 as our technical development goal for practical use • Participation in domestic testing program for FCVs under the auspices of the Japanese government in 2002 Other CEVs • Research, development, and market introduction of electric vehicles (EVs), compressed natural gas vehicles (CNGVs), hybrid electric vehicles (HEVs), and other CEVs
	Promotion of design for recycling and management/ Reduction of environment-impacting substances	Advancing the recycling of new models Attainment of a recoverability rate of 95% or higher* by weight for new models by 2005 (*based on Nissan's in-house calculation standards) Reduction of environment-impacting substances Banning the use of mercury and cadmium with some partial exceptions Reducing the use of lead (to be largely phased out by the end of 2002) and hexavalent chromium (to be reduced to one-half of 1996 levels by 2005)
	Reduction of vehicle noise	Compliance by all models with voluntary standards for vehicle noise that are tougher than regulatory noise limits
	Control of air-conditioner refrigerant emissions	Attainment of Nissan's voluntary targets for reduced use of the HFC-143a refrigerant.
Manufacturing	Promotion of energy savings (curbing global warming)	Reduction of total CO ₂ emissions by more than 10% from FY1999 levels by FY2005
	Reduction of waste and promotion of recycling	All plants eliminated direct landfill disposal of waste by FY2001 Reduction of amount of waste incinerated by more than 50% from FY1999 levels by FY2005 (All plants initiated a zero emission program during FY2001)
	Improved management of chemical substances	Installation in FY2002 of a model paint line that reduces volatile organic compounds (VOC) emissions to 20 g/m ² and promotion of efforts to reduce substances subject to the Pollution Release and Transfer Register (PRTR) system
	Environmental protection in logistics operations	Reduction of total CO ₂ emissions by more than 10% from FY1999 levels by FY2005
Sales and Service	Environmental management at dealers	Thorough the Nissan Green Shop Dealer Certification System, implementation and improvement of environmental management • Establish system of implementation of appropriate treatment of end of life vehicles (ELVs) at domestic dealers • Improvement of dealers' ability to cope with coming Japan's Automobile Recycling Law (execution of responsibility for taking back ELVs)
Recycling	Appropriate treatment and recycling of ELVs	Continued Preparation for Japan's Automobile Recycling Law • Design for recycling • Development and deployment of new technologies for appropriate treatment of ELVs • Continued expansion of the Nissan Green Parts program
Environmental Management	Environmental management system (EMS)	Implementation, operation, and improvement of EMS in line with ISO 14001 (ongoing) Construction of a global EMS encompassing major consolidated subsidiaries Prevention of environmental issues and improvement of risk management
	Environmental communications	Publication of an annual environmental report and improvement of content Continued release of environmental communications whenever appropriate Participation in and organization of environment-related lectures and exhibitions Issuing and improvement of environmental communications to local communities
	Green procurement	Thorough management of environment-impacting substances and requests to suppliers to acquire ISO 14001 certification by March 2005
	Employee education and training	Continued implementation and improvement of Nissan's employee education system and regular educational efforts through in-house publications and other activities
	Environmental protection in Nissan offices (Green Office Program)	Reduction of paper consumption, reuse of resources, and promotion of energy savings Examining and promoting ways of reducing emissions from company-owned vehicles

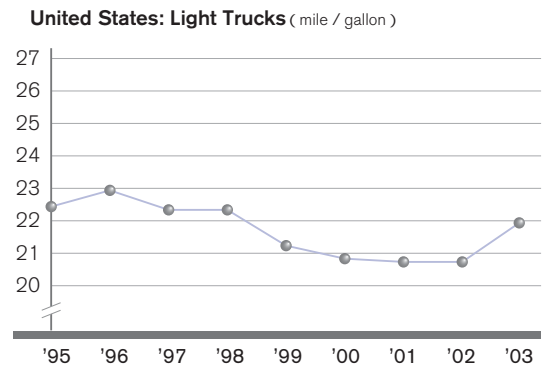
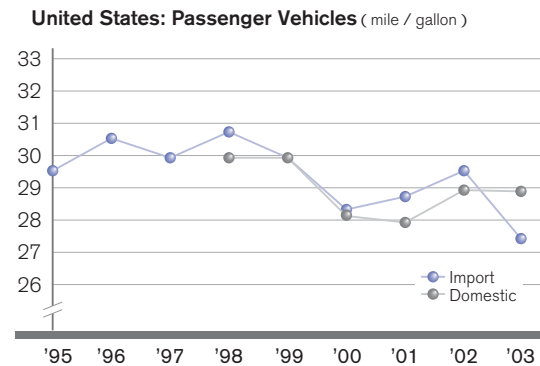
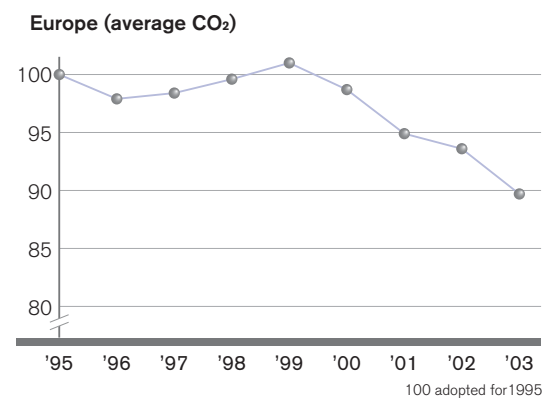
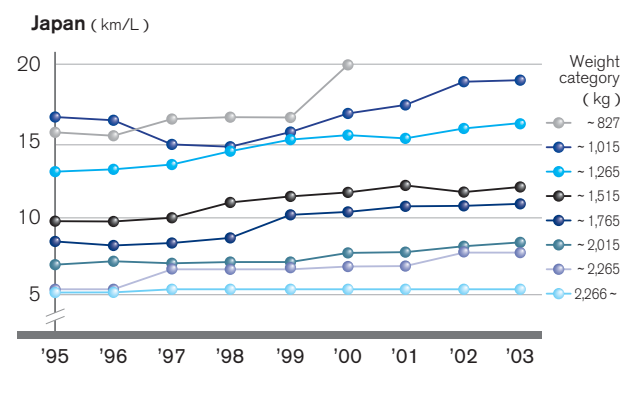
Major Results in FY2003

Achieved FY2010 gasoline passenger vehicle fuel economy standard for four of the target weight classes and for all target weight classes for gasoline trucks Achieved FY2005 diesel vehicle fuel economy standard in all target weight classes
U-LEV successfully expanded to more than 90% of all gasoline passenger vehicles Bluebird Sylphy the first car in Japan to receive SU-LEV certification
Certification granted by the Ministry of Land, Infrastructure and Transport for the 2003 model X-TRAIL FCV, limited lease sales commenced Sales of the Caravan CNG (compressed natural gas vehicle)
95% recyclability achieved for March, Cube, and Cube Cubic models Materials of reduced use: lead – reduction to less than 1/10 from 1996 levels achieved for all new models
Voluntary standard values (acceleration running noise: lower than 75dB (A)) Passenger vehicles: achieved for all models Commercial vehicles: achieved for all models Voluntary targets achieved for 23 models
CO ₂ emission levels reduced by 12% from FY1999 levels (Target achieved even with an increase in production volume) Zero direct waste to landfill achieved in FY2001 Waste incineration volumes reduced by 63% from 1999 levels
Finished installation of FY2002 model line In the process of installing a separate water-based paint line CO ₂ emission levels reduced by 11% from 1999 levels
Audits completed for all (218) dealers in Japan (among which 15 were re-certification audits)
Began use of Renault-Nissan jointly developed OPERA product recycling evaluation system starting with a subset of car models Began energy recovery from automobile shredder residue (ASR) at the Oppama plant Formed ART, an ASR recycling promotion team with 10 automobile manufacturers Transaction of Nissan Green Parts exceeded 1.3 billion
Operation and continuous improvement of ISO 14001 at all production facilities Reexamination of facilities improvements, maintenance, management enhancements
Published environmental and social report for fiscal year ending March 2003 Held workshop on reading environmental and social reports Participation in many FCV exhibitions and test-ride events Response to related environmental questionnaires, data collection
Finished investigating two new vehicle models 89.4% of suppliers ISO 14001 certified
Implementation of in-house educational curriculum Ongoing education through in-house publication (Nissan News)
Introduction of low-emission vehicles for use as company cars

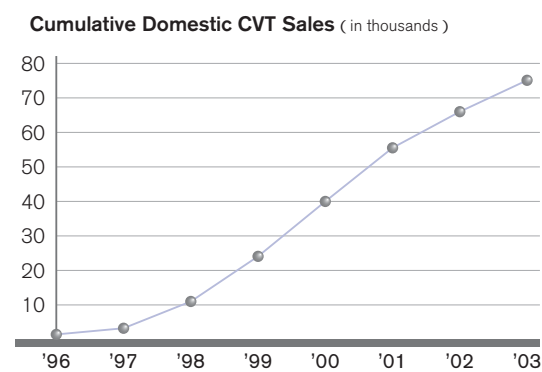
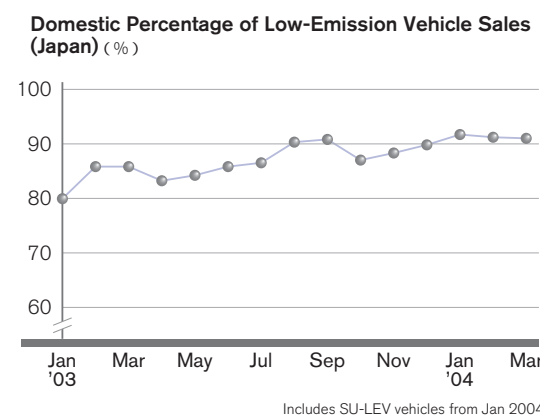
Environmental Data: Products

Here we report on the change in average fuel economy for all Nissan vehicles in Japan, North America, and Europe (Europe: change in average CO₂ emissions) as well as the environmental performance of all new Nissan vehicle models sold during fiscal year 2003.

Corporate Average Fuel Economy



Number of Sales



Environmental Data of New Vehicles for FY 2003

Japan

Specifications	Nissan Presage	Nissan Cube ³	Nissan President	Nissan FairladyZ Roadster	Nissan Clipper Van	Nissan Clipper Truck	
Vehicle type	UA-TU31	UA-BGZ11	UA-PGF50	UA-HZ33	LE-U71V	LE-U72T	
Drive system	2WD	2WD	2WD	2WD	2WD	4WD	
Transmission	4AT	CVT	5AT	6MT	4AT	4AT	
Weight [kg]	1,690	1,170	1,870	1,550	860	810	
Type	QR25DE	CR14DE	VK45DE	VQ35DE	3G83	3G83	
Engine Displacement [L]	2.488	1.386	4.494	3.498	0.657	0.657	
Fuel	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	
Conformity to 2000 passenger vehicle regulations	U-LEV	U-LEV	U-LEV	U-LEV	E-LEV	E-LEV	
Exhaust emissions	Low-emission vehicle certification 8 local governments/ 6 prefectural governments						
Fuel economy	10-15 mode fuel consumption [km/L]	11.0	16.8	7.8	9.3	15.0	15.6
CO ₂ emissions [g/km]		214	140	302	254	157	151
Air conditioner refrigerant	HFC refrigerant use HFC134a [g]	900	450	600	550	415	410
Noise	Compliance with regulations (acceleration noise) [dB]	76 (1999 passenger vehicle regulations)	76 (1999 passenger vehicle regulations)	76 (1998 passenger vehicle regulations)	76 (1998 passenger vehicle regulations)	76 (2000 passenger vehicle regulations)	76 (2000 passenger vehicle regulations)
Substances with environmental impact	Lead usage	FY 2006 target of JAMA (1/10 of '96)	FY 2006 target of JAMA (1/10 of '96)	FY 2006 target of JAMA (1/10 of '96)	FY 2006 target of JAMA (1/10 of '96)	FY 2005 target of JAMA (1/3 of '96)	FY 2005 target of JAMA (1/3 of '96)
Recycling	Recyclability (Nissan calculation values. volume-based.)	More than 90%	More than 95%	More than 90%	More than 90%	-	-

United States

Specifications	Nissan Quest	Nissan 350Z Roadster	Nissan Armada	Nissan Titan	Infiniti QX56	
Vehicle code	V42	Z33	A60	A60	A60	
Drive system	2WD	2WD	2WD	2WD	2WD	
Transmission	L4	M6	L5	L5	L5	
Type	VQ35DE	VQ35DE	VK56DE	VK56DE	VK56DE	
Engine Displacement [L]	3.498	3.498	5.552	5.552	5.552	
Fuel	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	
City [mpg]	19	20	13	14	13	
Highway [mpg]	26	26	19	19	19	
Combined [mpg]	21	22	16	16	15	
Exhaust emissions conforming to regulations	Federal (except California)	Tier2 Bin5	Tier2 Bin5	Non-Tier2 Bin8	Non-Tier2 Bin10	Non-Tier2 Bin8
	California	LEV2 LEV	LEV2 LEV	LEV1 ULEV	LEV1 LEV	LEV1 ULEV

Europe

Specifications	Nissan 350Z	Nissan Kubistar
Vehicle code	Z33	X76
Drive system	2WD	2WD
Transmission	MT	MT
Type	VQ35	K9K
Engine Displacement [L]	3.498	1.5
Fuel	Gasoline	Diesel
Urban [L/100km]	16.1	6.0
Extra-urban [L/100km]	8.7	4.7
Combine [L/100km]	11.4	5.2
CO ₂ emissions [g/km]	273	139
Exhaust emissions conforming to regulations	E3 incentive	E3

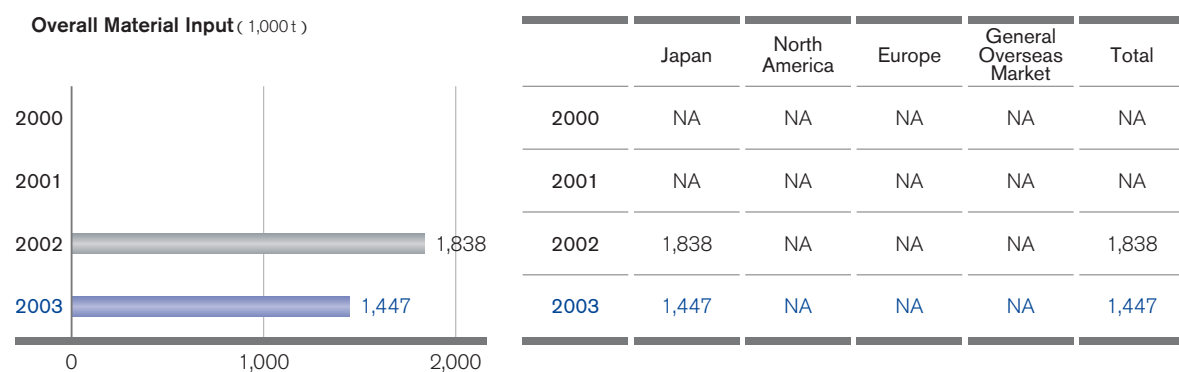
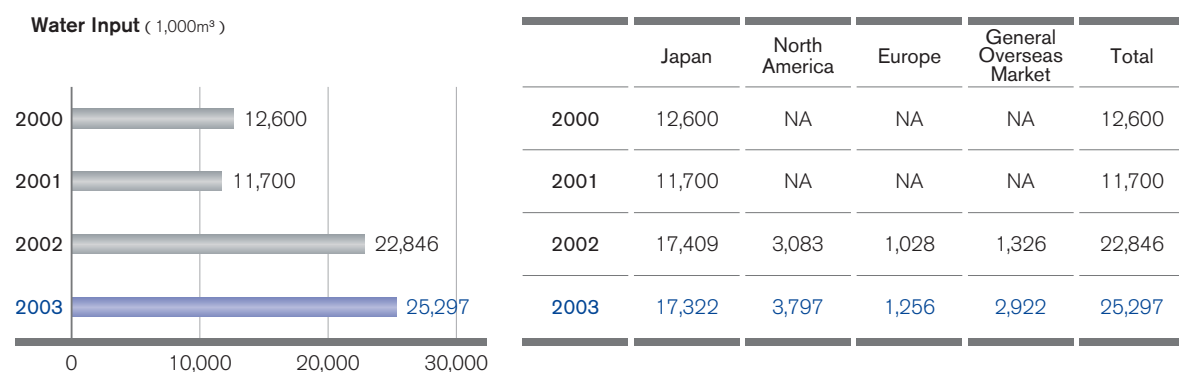
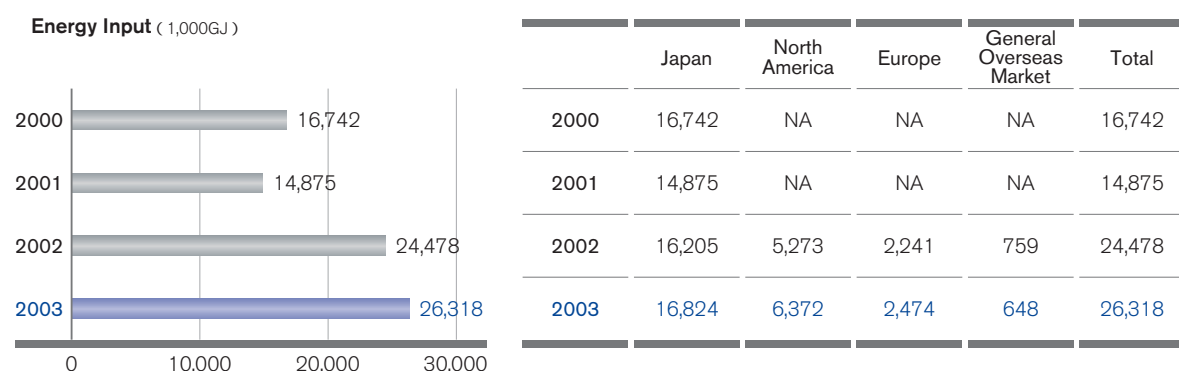
Environmental Data: Business Activities

Here we report on the environmental impact of Nissan's business activities, including data from our consolidated subsidiaries across the globe. Since fiscal year 2003, we began in earnest to manage and understand the whole picture of our global environmental impact, including consolidated subsidiaries, but we are still in the early stages and have not gotten a complete picture. Shown on page 68 are the companies we have been able to include in fiscal year 2003 data, which

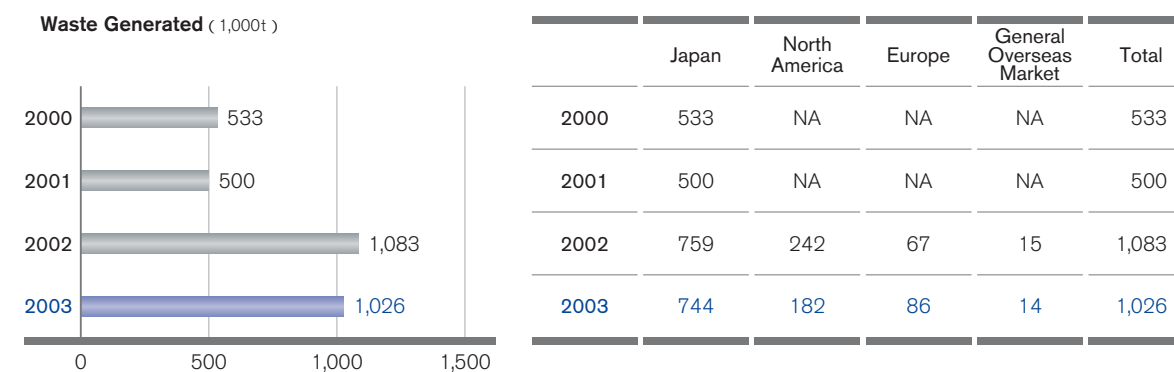
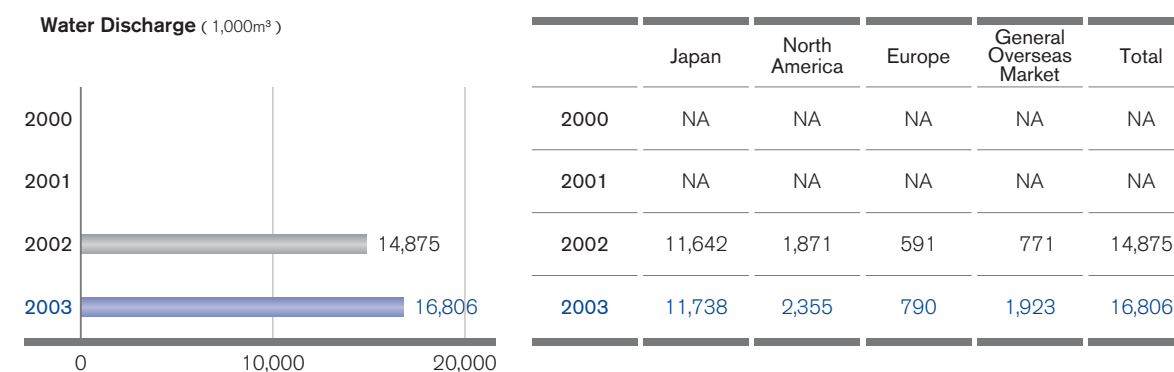
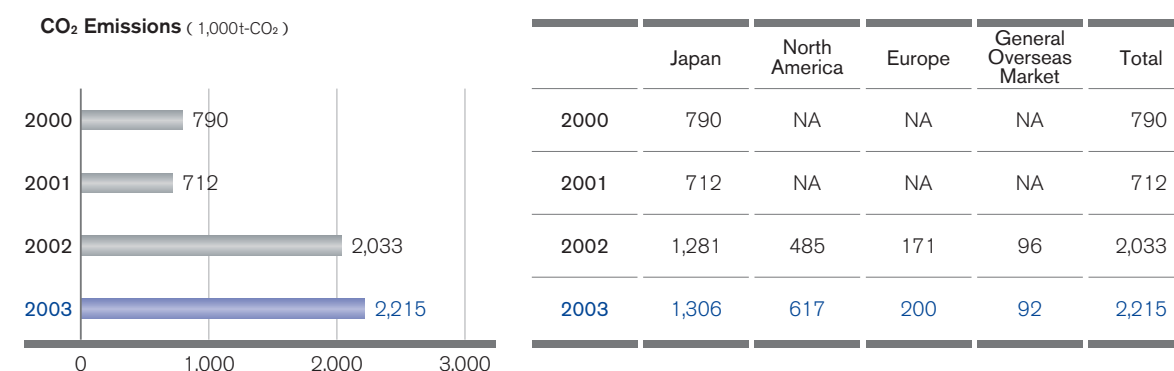
make up 67% of our consolidated net sales. Graphs or charts that only include Nissan Motor Co., Ltd. data are so marked in the upper right corner ("nonconsolidated"). In addition, the data listed below includes umbrella companies, production sites, research and development sites, and dealers, among others.

* Because the values have been rounded off to the first decimal place, there are some cases where the aggregated amount for each item does not agree with the sum total
 * NA: No aggregate data available

Resource Input



Emissions



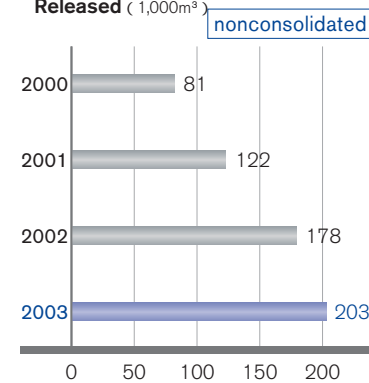
Energy Input Breakdown (1,000GJ)

	Gasoline	Kerosene	Diesel fuel	Heavy oil	Electricity	LPG	Natural gas	Hydrogen rich-gas	Coke
Japan	258	1,621	73	1,654	6,433	1,258	4,783	0	744
North America	61	0	1	0	2,987	147	2,650	0	526
Europe	6	0	34	0	1,100	2	1,331	0	0
General Overseas Market	2	0	13	0	212	21	0	105	297
Total	326	1,621	122	1,654	10,731	1,428	8,764	105	1,566

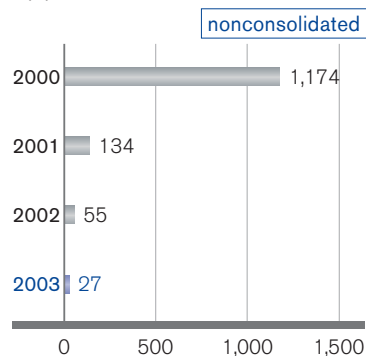
Water Input Breakdown (1,000m³)

	Water supply	Industrial use water	Underground water	Recycled water
Japan	2,484	6,827	7,871	140
North America	1,510	2,287	0	0
Europe	75	1,175	6	0
General Overseas Market	0	1,290	1,633	0
Total	4,069	11,578	9,510	140

Amount of Sulfur Oxide (SOx) Released (1,000m³)

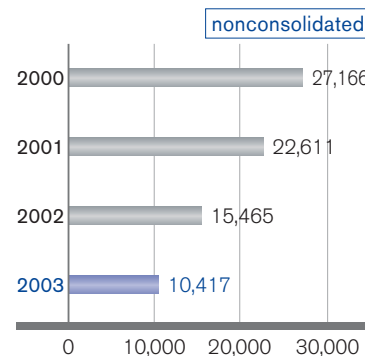


Waste Disposed Directly to Landfill* (t)



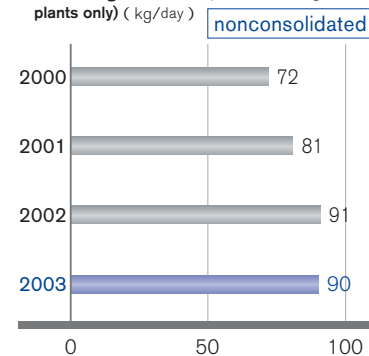
* Shows the volume of waste that goes directly into landfills from plants and business offices.

Volume of Incinerated Waste at Nissan (t)



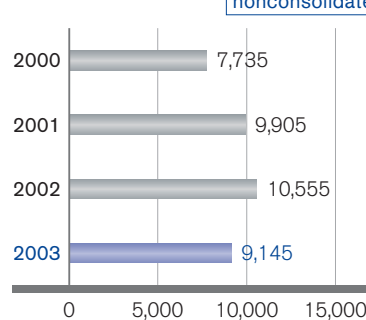
* Set 14,000t as FY 2005 target

COD* Contamination Impact in Discharged Water (for volume-regulated plants only) (kg/day)



* Chemical oxygen demand

Amount Handled of PRTR* Substances (t/year)



* PRTR: Pollutant Release and Transfer Register

	Amount handled	Air	Water	Waste	Buried by Nissan	Recycled	Chemically changed	Product	Removal
2000	7,735	2,233	2	29	—	1,301	—	3,440	730
2001	9,905	2,024	4	20	6	2,021	1,121	4,709	—
2002	10,555	2,146	5	18	12	2,440	1,397	4,538	—
2003	9,145	1,869	2	15	12	2,204	1,278	3,765	—

Scope of the Report

Period Covered: April 2003 - March 2004 (including one part from before and after this time period)

Target Companies: Nissan Motor Co., Ltd. and its consolidated subsidiaries (including a portion of unaffiliated companies and dealers)

Data included for Nissan Motor Co., Ltd., 20 consolidated subsidiaries (67% of consolidated net sales), 1 affiliated company accounted for using the equity method, 1 affiliated company

Region	Company	Function	
Japan	Nissan Motor Co., Ltd.	Headquarters	
	Oppama Plant	Production	
	Tochigi Plant	Production	
	Kyushu Plant	Production	
	Yokohama Plant	Production	
	Iwaki Plant	Production	
	Zama Operations Center	Production	
	Sagamihara Parts Center	Production	
	Technical Center	R&D	
	Research Center	R&D	
	Corporate Quality Assurance and Customer Service Division	Other	
	Nissan Service Development Center	Other	
	Nissan Business College	Other	
	Nissan Institute of Mechanic and Business	Other	
	Aichi Machine Industry Co., Ltd.	Production	
	Nissan Kohki Co., Ltd.	Production	
	Nissan Shatai Co., Ltd.	Production	
	JATCO Ltd.	Production	
	North America	Nissan North America, Inc.	Regional Headquarters
		Smyrna	Production
Decherd		Production	
Canton		Production	
Nissan Technical Center North America, Inc.		R&D	
Nissan Mexicana, S.A. de C.V.		Regional Company	
Aguascalientes		Production	
Cuernavaca		Production	
Lerma		Production	
Europe		Nissan Europe S.A.S. (France)	Regional Headquarters
	Nissan Motor Manufacturing (UK) Ltd.	Production	
	Nissan Motor Iberica, S.A.	Production	
	Barcelona	Production	
	Madrid	Production	
	Montcada	Production	
	Nissan Technical Centre Europe, Ltd.	R&D	
	Nissan Technical Centre Europe (Spain), S.A.	R&D	
	Nissan Motor (GB) Ltd.	Sales	
	Nissan France S.A.	Sales	
	Nissan Italia S.p.A.	Sales	
	Nissan Motor Espana S.A.	Sales	
	Reicomsa, S.A.	Sales	
Nissan Motor Parts Espana, S.A.	Sales		
Aprite (Gb) Ltd.	Sales		
General Overseas Market	Nissan Motor Company South Africa (Proprietary) Ltd.	Production	
	Siam Nissan Automobile Co., Ltd.	Production/Sales	
	Zhengzhou Nissan Automobile Co., Ltd.	Production	

Third-Party Review

In the future, using the AA1000 assurance standard developed by the UK-based non-profit organization, AccountAbility, to serve as a foundation for our own thinking, and through ongoing collaboration with AccountAbility, we are looking into developing a method for credibility assurance that gains the trust of all of our readers and leads to improved performance.

Environmental Information Disclosure

In this report, we report on Nissan's present position regarding world environmental issues and our performance results from fiscal year 2003. At the same time, to ensure the completeness of our environmental information disclosure and meet the requests of our stakeholders, we continue to pursue systematic environmental information disclosure through the publication of site environmental reports and technical notes.

Content not included in this report and through last year is being released on an ongoing basis at the following website.
Environmental efforts <http://www.nissan-global.com/JP/ENVIRONMENTAL/>

<Environmental Library>

<http://www.nissan-global.com/EN/ENVIRONMENT/LIBRARY/>

- Environmental Report
- Environmental Digest
- Site Environmental Reports
- Technical Notes

<Vehicle Environmental Information>

(in Japanese only)

<http://www.nissan.co.jp/INFO/CLEAN/LINEUP/>

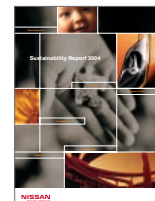
- Environmental Information by Vehicle Model (Environmental Notes)
- Green Purchasing Law-conforming Vehicle List
- Low-emission Vehicle Shipment Volume Results

<Environmental Information of Business Activities>

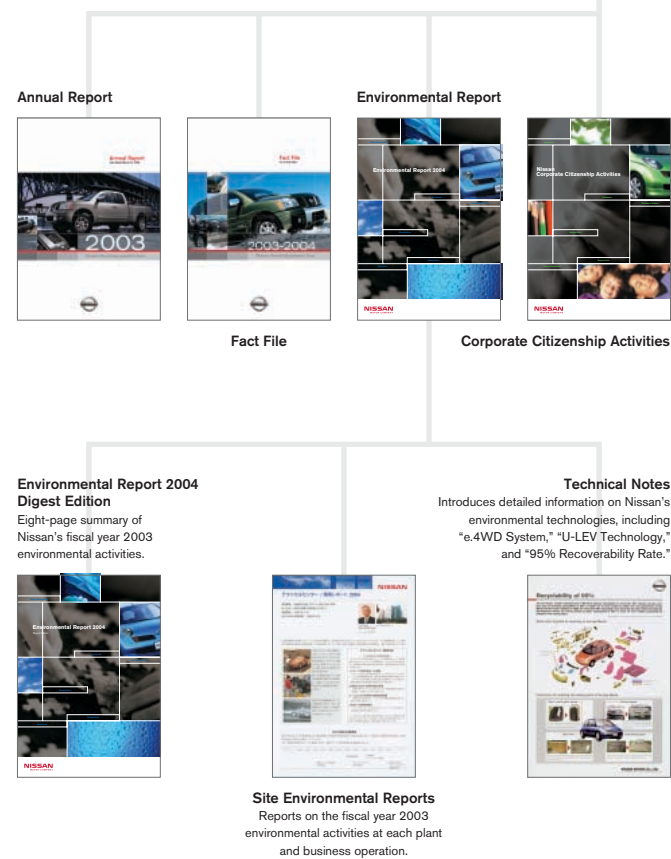
http://www.nissan-global.com/EN/ENVIRONMENT/GREEN_PROGRAM/DATA/MAIN_PLANTS/
Air/Water Quality Data
PRTR Data

Related Corporate Reports

This Sustainability Report describes Nissan's activities in the three areas of sustainability: economic, environmental, and social, placing emphasis on our philosophy and basic approach. For more detailed economic, environmental, and social data, please see the following reports. These reports are also available on our website.



Sustainability Report



[Published by]

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Global Communications and Investor Relations Division
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Thank you for reading Nissan's Environmental Report 2004.

We hope to receive opinions and comments from our readers
with the aim of continuous improvement and to reexamine the content of future reports.

Therefore, we would appreciate if you could please fill out
and send us the questionnaire on the reverse with your honest opinions and comments.

<Regarding the Use of Personal Information>

We will not use the personal information provided for any purpose other than to send the Environmental Report.

We will disclose the results of any statistical analysis performed,
but not in any way that will reveal the identity of respondents to our questionnaire.

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What is your general impression of the Nissan 2004 Environmental Report?

Good Average Poor

How good is your understanding of Nissan's position and awareness regarding global environmental problems?

Good Average Poor

Do you feel the information that Nissan reports is all-encompassing?

Agree Average Disagree

If you disagree, what additional information should we be reporting?

Please let us know if you have any other opinions or suggestions.

Which of the following sections did you find interesting?

CEO Statement

1 Global Features

Europe _Coexistence with the Community-

Japan _Challenge for the Future-

North America _Continuous Improvement-

2 Nissan's Perspective

Nissan and Global Environmental Issues

Key Issues

3 Nissan's Challenges

Technology Development

Manufacturing

Logistics

Sales and Service

Recycling ELVs

4 Management

Environmental Philosophy, Mission, and Policies

Environmental Management

Environmental Data: Products

Environmental Data: Business Activities

Thank you for your cooperation. Please fill out the information below (optional).

Name Sex Female Male Age

Address Occupation (Place of Employment, School Name, etc.)

Home

Work

Have you read any of Nissan's environmental reports from previous years? Yes No

Do you plan to read our next Environmental Report? Yes No