

# Environmental and Social Report

Year Ended March 31, 2003



# 2002

**Nissan: Enriching People's Lives**



## Contents

2	<b>Vision &amp; Mission</b>
3	<b>Corporate Overview and Scope</b>
4	<b>Messages from Management</b>
6	<b>Approach to Sustainable Development</b>
<b>1 Environmental Management</b>	
7	<b>Nissan's Environmental Philosophy and Policies</b>
8	<b>Assessment of the Environmental Impacts of Vehicles and Business Activities</b>
9	<b>Environmental Management System</b>
11	<b>Environmental Management Program</b>
14	<b>Environmental Accounting</b>
15	<b>Environmental Risk Management</b>
15	<b>Environmental Education</b>
16	<b>Environmental Communication</b>
<b>2 Environmental Performance</b>	
17	<b>Product Development</b>
25	<b>Manufacturing</b>
31	<b>Sales and Service</b>
33	<b>Recycling</b>
39	<b>Others</b>
<b>3 Social Performance</b>	
43	<b>Compliance</b>
44	<b>Communication with Customers</b>
45	<b>Corporate Citizenship</b>
49	<b>Health and Safety</b>
51	<b>Policy for Employees</b>
<b>4 Data and Reference</b>	
52	<b>Environmental Data of Main Plants</b>
56	<b>Important Plant Environmental Data for Consolidated Subsidiaries</b>
57	<b>Environmental Data for Overseas Subsidiaries</b>
58	<b>Main Environmental Data of New Vehicles</b>
59	<b>Others</b>



For more detailed information, please visit either of the following homepages.  
<http://www.nissan-global.com>  
<http://www.nissan.co.jp>

Cover photograph: The Nissan Cube (an ultra-low emission vehicle as certified by the Land, Infrastructure and Transportation Ministry)

## Vision

**Nissan: Enriching people's lives**

## Mission

Nissan provides unique and innovative automotive products and services that deliver superior measurable values to all stakeholders in alliance with Renault.

Note: Our stakeholders include customers, shareholders, employees, dealers, suppliers, as well as the communities where we work and operate.

## SUCCESS

**Seeking Profitable Growth**

**Unique and Innovative: "Bold and Thoughtful"**

**Customer-Focused and Environmental Friendly**

**Cross-Functional and Global**

**Earnings and Profit Driven**

**Speed**

**Stretch**

At this company, we strive to achieve sustainable reporting as proposed by GRI, and since 1999, Nissan's environmental and social performance has been detailed in the environmental version of our annual report. This year's report provides a description of the actions taken to realize a sustainable society characterized by mobility, to strive for thorough reinforcement of our social performance, and to add new compliance. Furthermore, in order that each and every one of our stakeholders may develop an appreciation for the Nissan approach, we have also published a digest version of this document and a supplementary report.

In addition to our environmental and social report, Nissan also publishes an annual report and fact files. As a company firmly focused on the realization of sustainable development, it is our sincere hope that this provision of information will allow Nissan's Triple Bottom Line, as characterized by the environment, society, and the economy, to be understood by all.

No specific method has been established for third-party review, and although we consider this to be lacking with regard to the assurance of our future aim of greater reliability in environmental reporting, no decision to implement such a procedure has yet been made.

Nevertheless, we do recognize the importance of ensuring reliability through the objective verification and assurance of credibility, and it is our intention to cooperate with all stakeholders and other readers of this report in order to establish a suitable method.

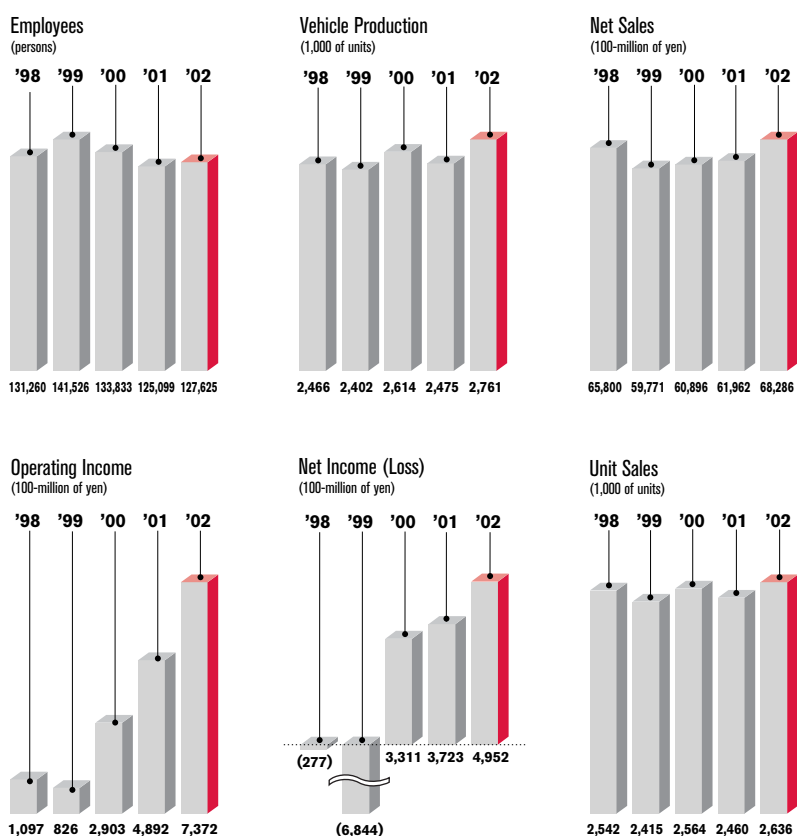
Although published in FY 2003, this report deals with issues relating to FY 2002; accordingly, it has been given the title "Nissan Environmental and Social Report 2002."

## Corporate Overview (as of March 2003)

### Nissan Motor Co., Ltd.

Established: December 26th, 1933  
 Headquarters: 2, Takara-cho, Kanagawa-ku, Yokohama, Kanagawa, Japan 220-8623  
 Head Office: 6-17-1 Ginza, Chuo-ku, Tokyo, Japan 104-8023  
 Telephone: (+81) 3-3543-5523

Paid-in Capital: 605.813-billion yen  
 Number of employees: 127,625 consolidated (31,128 unconsolidated)  
 Consolidated subsidiaries: 234  
 Business Field: Development, manufacturing, purchase, sales, leasing and service of automobiles, industrial vehicles and other transportation equipment, parts and other related materials.



## Scope of the Environmental and Social Report

The purpose of this report is to present information on Nissan's environmental and social performance to a large number of stakeholders including our customers. It is our intention that data relevant to factors beyond the scope of this report will also be organized and presented in the future.

Target year	FY 2002
Principal applicable period	April 2002 through March 2003 (Certain data from before and after this period is also included.)
Regional and geographical scope	This report covers the entire Nissan Group including overseas operations (i.e., Nissan and consolidated subsidiaries). In addition, plant-specific environment data is presented for domestic and overseas automobile or component manufacturers characterized by a particularly large indirect environmental effect by automobiles.
Scope of business operations	This report details the environmental protection and social performance as relevant to all product and business-related activities.
Scope of environmental effects	Focusing on environmental loads that are conceivable based on product and business-related activities, this report describes environmental effects throughout all stages of our products' lifecycles and on both local and global scales.

# Messages from Management

One guiding principle of Nissan's corporate vision is that our company is customer focused and environmentally friendly. Those two thoughts are closely aligned, complementary ideals. As a global car manufacturer, all of us at Nissan believe that as we produce attractive cars and trucks that will satisfy our customers' needs, we can do so in a manner that is friendly both to the earth we live on and to the people with whom we share it.

How do we honor the principle to be sensitive to our environment? Our efforts address the car's entire life cycle – from development to production, from sales and service to recycling.

Development activities give careful attention to items such as fuel consumption, emissions, noise, refrigerants, vehicle weight or recycling possibilities. Nissan is investing significantly in clean-energy technologies for the future, such as electrical and hybrid technologies, natural gas and fuel cells. For example, in March 2003, 85% of our passenger vehicles sold in Japan were certified as ultra-low emission vehicles. This pragmatic, forward-thinking technology provides a highly effective environmental solution that customers can afford today.

At Nissan, we take a proactive approach in all aspects of our operations. We are proud of the efforts we have made to demonstrate our environmental approach in our major manufacturing operations and our service facilities, through environmental management systems such as ISO14001 certification or the Nissan Green Shop. Our commitment to conserve resources and protect the environment is a priority we honor every day. Sound environmental policies are, and will continue to be, at the core of our business of designing, assembling and selling attractive and competitive Nissan vehicles.

“Enriching people's lives” – Nissan's vision – encompasses the symbiosis of people, vehicles and nature. As a responsible member of the world society, Nissan is determined to do its best to preserve and protect the global environment.



**Carlos Ghosn**  
President and Chief Executive Officer  
Nissan Motor Co., Ltd.



「お客様志向と環境志向」。これは、私たち日産自動車が、企業ビジョンを追求していく為に掲げた指針のひとつです。両者は非常に密接に関係しており、いずれも両立しなければならないものです。グローバルな自動車メーカーとして、私たち日産自動車は、世界中のお客様の御要望を満たしていかなければなりません。同時に、私たちが住む地球そのものとそれらを分かち合う全ての人々にとって優しい、魅力ある自動車づくりが求められます。私たち日産自動車は、それらが可能であると確信しています。

私たちは「お客さま志向と環境志向」という指針に基づき、クルマのライフサイクル全体、すなわち開発段階から生産、販売・サービス、リサイクルに至るまで、一貫した環境保全の取り組みを続けています。

商品開発段階においては、燃費及び排出ガス、車外騒音、環境負荷のより低い冷却剤への転換、車両重量軽減、リサイクル可能性など、様々な項目に配慮しています。電気自動車やハイブリッド車、天然ガス自動車、燃料電池車といった、将来に向けた様々なクリーンエネルギー車技術開発についても、積極的な投資を行っています。例えばその成果の一つとして、2003年3月に国内で販売された日産車の85%は超・低排出ガス車として認定されています。お客さまが手に入れやすいこの先進的な技術は、非常に高い環境保全効果を発揮するものと考えております。

日産自動車は事業のあらゆる側面において積極的な環境保全の取り組みを進めております。私たちはこれまでにISO14001認証取得や日産グリーン・ショップ認定制度等による環境マネジメント・システムを通じて、主要生産拠点やサービス拠点における活動を実践してまいりました。資源の節約と環境の保護は、私たちの日常における最優先課題として位置付けています。魅力的な自動車を開発・生産し、販売するという私たちのビジネスにおいて、環境への取り組みは今後もますます重要な役割になると考えます。

日産自動車の企業ビジョン「人々の生活を豊かに」は、人とクルマ、そして自然との共生を意味しています。グローバル社会の責任ある一員として、日産は今後とも世界環境の保護・保全にベストを尽くす所存です。

**カルロス ゴーン**  
取締役社長 兼 最高経営責任者  
日産自動車株式会社

Nissan is committed to sustainability reporting, as promoted by the Global Reporting Initiative (GRI), and last year the company started publishing an annual Nissan Environmental & Social Report. This current report is for our activities in 2002.

Nissan is actively engaged in environmental protection activities in accordance with the Nissan Green Program 2005, a medium-term action plan published in January 2002. We are pleased to report that last year we made great strides with this program. Our most important success has been the fact that in January of this year over 80% of the gasoline-powered Nissan passenger cars sold in Japan qualified as U-LEV (ultra-low emission vehicles). It is very gratifying to see that both customers and markets approve of the environmental protection technologies we are developing; they are practical, highly effective, and can be widely adopted.

Another highlight of 2002 was the approval by the Japanese Minister of Land, Infrastructure and Transportation of Nissan's X-TRAIL FCV, which is powered by a fuel cell. The X-TRAIL FCV is also part of the Japan Hydrogen & Fuel Cell Demonstration Project (JHFC Project) under the Ministry of Economy, Trade and Industry.

In addition, we are making steady progress in the field of sustainable development. From 2001 we have been taking part in the World Business Council for Sustainable Development (WBCSD), and in 2002 we held the 1st Nissan Stakeholders' Dialog. Our business is to supply mobility, and at this event we were able to hear the opinions of stakeholders from sectors regarding the future direction that Nissan should take. We plan to continue this multi-stakeholder dialog so as to make further progress toward offering customers sustainable mobility.

Last year's Nissan Environmental & Social Report won the Award for Excellence in the 6th Environmental Report Awards, and also the Award for Merit in the 6th Green Reporting Award. It is very encouraging to see this level of recognition for openness in communications between a commercial enterprise and society. As was the case last year, this environmental report complies with the guidelines set forth by Japan's Ministry for the Environment. It represents just one part of our ongoing efforts to fulfill our civic responsibility by ensuring transparency and trustworthiness in the information we supply about Nissan and its activities.

Finally, in keeping with our policy of continuous improvement and aiming to enhance the quality and effectiveness of our future activities, Nissan welcomes your candid opinions, comments and impressions.

大久保 宣夫

**Nobuo Okubo**  
**Executive Vice President and**  
**Environmental Officer**  
**Nissan Motor Co., Ltd.**



本報告書は、2002年度における日産の環境の取り組みおよび社会との係わりについての実績を報告しています。当社ではGRIが提唱する持続可能性報告を目指し、昨年度より環境・社会報告書として発行しています。

当社は昨年1月に発表した中期環境行動計画「ニッサン・グリーンプログラム2005」に基づき環境保全活動に取り組んでいます。2002年度はこのプログラムの大きな成果があらわれた一年となりました。その中でも最大の成果は今年1月に当社が国内で販売するガソリン乗用車の80%以上を超え低排出ガス車としたことです。これは私たちが目指している広く普及できる、現実的で実効性の高い環境保全技術がお客さま、マーケットに受け入れられた証として大変喜ばしく思っています。燃料電池車X-TRAIL FCVは国土交通大臣認定を取得しました。X-TRAIL FCVは経済産業省の水素・燃料電池実証プロジェクトに参加しています。

さらに持続可能な発展に向けた取り組みも着実に進めています。一昨年より持続可能な発展のための経済人会議（WBCSD）に参画していますが、2002年度はこれに加え第1回日産ステークホルダー・ダイアログを開催いたしました。このダイアログではモビリティを提供する当社が今後進むべき方向性について、様々なセクターのステークホルダーからご意見をいただきました。今後も引き続きマルチステークホルダーとの対話を通じ、持続可能なモビリティの提供を進めていきたいと考えています。

昨年発行した環境・社会報告書は第6回環境レポート大賞優秀賞および第6回環境報告書賞優良賞をいただきました。社会への透明性が評価いただけたことを大変嬉しく思っています。昨年度版に引き続き本報告書も環境省の環境報告書ガイドラインに準拠し、アカウントビリティとして情報開示の透明性・信頼性の確保に努めています。

最後に、今後の活動の質と実効性を高め、継続的改善を図っていくためにも、皆様から率直なご意見、ご指摘、ご感想等をお寄せいただきたく存じます。

大久保 宣夫  
副社長（環境担当役員）  
日産自動車株式会社



## Approach to Sustainable Development

At the World Summit on Sustainable Development held last August in Johannesburg, South Africa, businesses and companies were requested to play a more active role in all stages of environmental protection from conception through to execution. Nissan is now moving forward step by step towards the realization of sustainable development.

### Participation in WBCSD Sustainable Mobility Project

According to the third assessment report of the Intergovernmental Panel on Climate Change (IPCC), an increase in the global temperature of up to 5.8°C is expected to occur by 2100 if no preventative action is taken.

The World Business Council for Sustainable Development (WBCSD) proposes action plans for sustainable development by the industry, and Nissan is participating in its Sustainable Mobility Project. In cooperation with British Petroleum, Daimler Chrysler, Ford Motor Company, General Motors, Honda, Michelin, Norsk Hydro, Royal Dutch Shell, Renault, Toyota Motor Corporation, and Volkswagen, we are debating strategies to ensure that the mobility will be sustainable in 2030 and maintained thereafter.

It is intended to publish the results of these activities in the Mobility 2030 report in December of this year.



World Business Council for Sustainable Development

### World Business Council for Sustainable Development

### Organization of the Nissan Stakeholders Dialogue

As increased focus is directed at corporate social responsibility, there is greater need for management practices with higher levels of transparency and accountability.

In February of this year, we brought together key Japanese figures in environmental fields and held the First Nissan Stakeholder Dialogue. We received praise from our esteemed participants regarding the organization of this gathering, and our faithful stance got across to them. However, it was also made clear that much is being expected to Nissan as a future leader in the associated fields.

We are now giving serious consideration to all of the opinions and recommendations received at the dialogue and are implementing this wisdom in efforts to achieve Nissan's vision of Enriching people's lives. Furthermore, these opinions and recommendations have also allowed us to discuss the way in which Nissan is expected by both ourselves and others to be sustainable in the future.

### First Nissan Stakeholders Dialogue

Date	February 12th and 13th, 2003
Location	FORUM 246 (Atsugi City, Kanagawa Prefecture)
Participants	Twenty experts in environmental fields from media organizations, NPOs, governmental authorities, universities and research bodies, companies, and consumers' groups, in addition to Nissan directors and employees.
Theme	Corporate Environmental Management in 2010 aiming at sustainable society in 2030.
Format	Overall and group discussions



Introductory address from Executive Vice President, Mr. Nobuo Okubo

# 1 | Environmental Management

## 1 | Nissan's Environmental Philosophy and Policies

Under Nissan's vision & mission, we have set the following environmental philosophy and environmental policy toward realizing its "Customer-Focused and Environmental Friendly" guideline.

Nissan's mission in society is to foster the attainment of sustainable development and the formation of the recycling-based society and economy by pursuing business based on these philosophies.

### 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

- Observing laws and regulations is the first step toward environmental protection. Nissan's environmental measures go far beyond simple compliance with legal and regulatory requirements to address the actual environmental circumstances of the local area.
- Prior environmental impact assessments are conducted when mapping our new plans for product development projects or manufacturing processes. In this way, every effort is made to prevent environmental issues in the first place.

##### (2) Cultivating a corporate culture dedicated to environmental protection

- Extensive educational activities are conducted in-house with the aim of cultivating a corporate culture in which everyone from senior management on down is positively committed to the resolution of environmental concerns.

##### (3) Undertaking cooperative activities with subsidiaries and affiliates

- Nissan works closely with its subsidiaries and affiliates at home and abroad on ways to address environmental issues.

##### (4) Strengthening communications and cooperation with customers

- The cooperation of customers is indispensable to environmental protection at the stage where Nissan products are used. In line with this understanding, Nissan provides information and undertakes educational activities as part of its efforts to work closely with customers on protecting the environment.

#### 4. Issuing reports on environmental activities

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

**2 | Assessment of the Environmental Impacts of Vehicles and Business Activities**

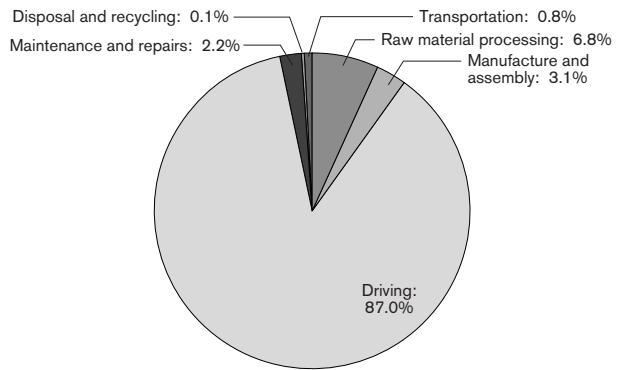
It is of considerable importance in terms of the advancement of environmental measures to fully understand the way in which the environment is affected by automobiles and by business activities.

It is also crucial that we recognize how automobile-related environmental issues have expanded into a much wider range than that associated simply with fuel efficiency and exhaust gas issues. Furthermore, an appreciation of the fact that these effects now extend as far as all stages of an automobile's lifecycle is also demanded.

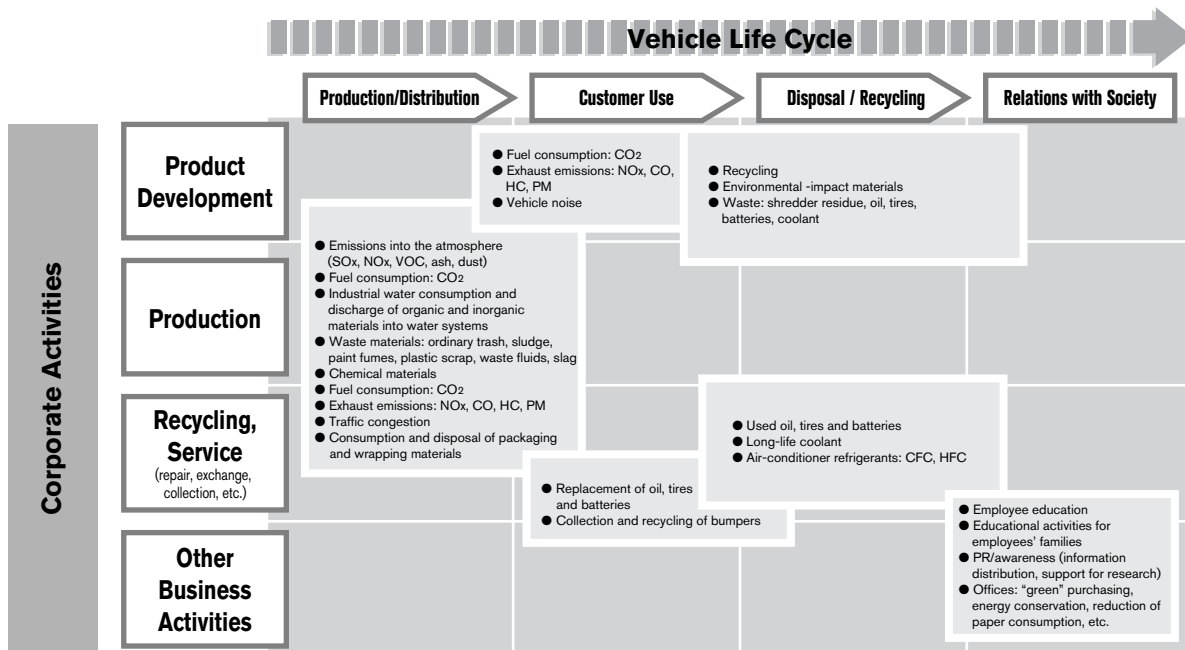
**Environmental Impacts Through the Vehicle Life Cycle**

If we consider CO<sub>2</sub> emission levels, for example, it can be seen that emission during usage of an automobile (i.e., during driving) accounts for approximately 90% of that over its entire service life. It is, therefore, important to carry out product design with the environment in mind in order that environmental loads corresponding to the usage stage may be reduced. In light of this understanding, we have identified the effect that automobiles and business activities exert on the environment, and by specifying a priority sequence with regard to the corresponding environmental factors that can be managed by Nissan, we are now capable of implementing continuous countermeasures in an independent manner. In addition, we are also promoting the introduction of life cycle assessment (LCA) and carrying out quantitative analysis and evaluation of the environmental effect of automobiles.

**CO<sub>2</sub> Emission in the Vehicle Life Cycle**



\*Results of internally conducted LCA examination (1,500-cc passenger vehicle)





### 3 Environmental Management System

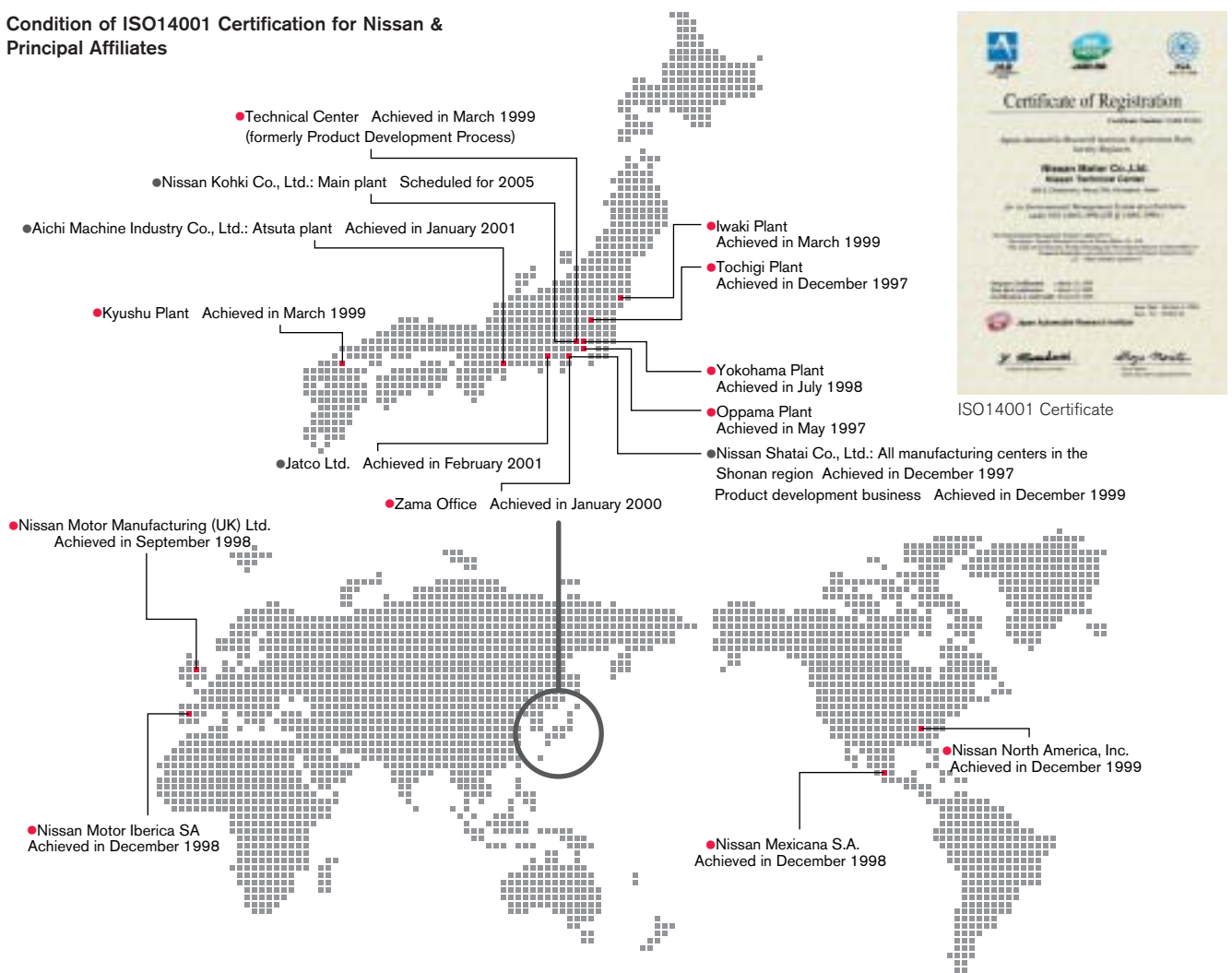
By providing people with freedom of movement and a wide range of other conveniences, the automobile experienced remarkable expansion and development in the 20th century, and it is now an indispensable element of civilized society. Nevertheless, it cannot be ignored that the automobile also contributes to global warming and other environmental damage. In addition to further boosting the convenience of the automobile, we have considered how Nissan may — in the capacity of an automobile manufacturer — make worthwhile contributions in terms of the full range of company activities dealing with environmental issues, and as a result, we are now promoting environmental improvement activities that target the realization of a sustainable society.

We have established company-wide policies and targets based on appreciation of the environment in terms of the Nissan Green Program — a mid-term environmental action plan encompassing product development, manufacturing, sales, servicing, and all other spheres of company activity — and we are currently involved in promoting its implementation. Furthermore, in order to increase the levels of transparency and equality associated with these activities, every effort is being made in obtaining ISO14001 certification — the global standard for environmental management systems.

Although ISO14001 certification for the product development process was achieved in fiscal 1998, the decision was taken to extend the certification range to all business activities in FY 2002, and this expanded ISO14001 certification for all consolidated activities has already been achieved in terms of the Technical Center — our global center for product development. (Accordingly, the registered certification name was changed from “Product Development Process” to “Technical Center.”)

ISO14001 certification has also been achieved by affiliated companies; furthermore, the Nissan Green Shop Certification System has been established based on ISO14001 as an independent environmental certification system more in line with the day to day business of dealers, and this has now been fully implemented in all of our dealerships within Japan. Through these activities, it has been possible to reinforce the continuing efforts within the Nissan Group aimed at improvement of the environment.

#### Condition of ISO14001 Certification for Nissan & Principal Affiliates



**1. Environmental Management System & Responsibilities**

Since 1993, policies and targets have been setup in a company-wide manner, and efforts were subsequently made in the establishment of an Executive Environmental Committee with capabilities for evaluation and confirmation of the state of progress thereof. The 19th meeting of this committee was held in 2002. Of those issues handled by the Executive Environmental Committee, problems of particular importance are reported to the Executive Committee for further deliberation. Moreover, executive environmental committees have also been setup in Europe and the United States, thus ensuring that problems relating to protection of the environment can be tackled both on a global and a regional level.



The 19th Environmental Management Committee

**2. Operation & Auditing of the Environmental Management System**

Internal environmental auditing and external auditing by third party organizations are used to confirm whether the policies, aims, and targets based on the Environmental Management System are being properly implemented and whether a system for improvement is functioning in a sustainable manner.

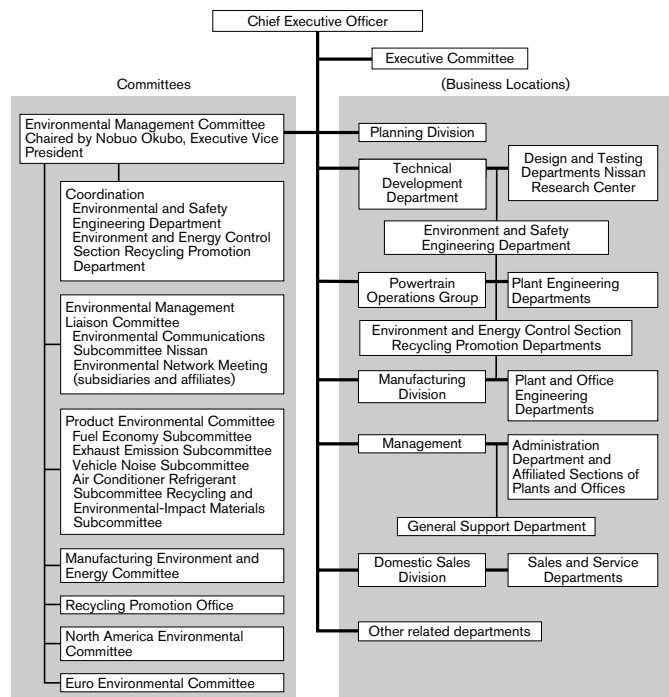
Within this internal environmental auditing, monitoring of the state of operation of the Environmental Management System is augmented by environmental performance auditing that places importance on monitoring and measurement conditions; furthermore, auditing teams each comprising a group of internal environmental auditors appointed by the company carry out monitoring from the point of view of third party organizations.

The number of suggestions made in line with external auditing in fiscal 2002 is presented in the table below, and it can be seen that all of these constitute minor recommendations or observations dealing with operation or management; accordingly, the Environmental Management System has been evaluated as effectively striving for improvement in a proper and sustainable manner.

**Results of Activities in 2002** ●: Internal environmental auditing ○: Management review ■: Surveillance by external organizations □: Review surveillance by external organizations ▲: Expanded surveillance by external organizations

	Certification Received	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Results of external surveillance
Technical Center (formerly Product Development Process)	Mar. 1999		●				▲			●	○	■		3 observed items
Yokohama Plant	July 1998			■							●		○	3 observed items
Oppama Plant	May 1997						●			■			○	2 observed items
Tochigi Plant	Dec. 1997						●		●■				○	2 observed items
Kyushu Plant	Mar. 1999										●	□■	○●	3 observed items
Iwaki Plant	Mar. 1999								●			■	○	4 observed items
Zama Office	Jan. 2000				●					■			○	4 observed items

**Environmental Management System**



Furthermore, environmental management in the Technical Center, which integrates product development and business activities, was subjected to this company's first surveillance by an external auditing organization, and as a result, it was confirmed that full effort is being made with regard to the appropriate operation, maintenance, and improvement of the system.

The results of external auditing, management auditing, and internal auditing are to be reflected into sustainable improvements of the system and enhancement of the activities for environmental performance in the fiscal year of 2003.

Furthermore, the Nissan Green Shop Certification System has been established for dealers, and in accordance with this system, regular



External Organization Surveillance (Technical Center)

auditing of all domestic dealers was carried out in 2002.

## 4 Environmental Management Program

Implemented as a means of achieving this company's environmental concept —namely, co-existence of man, the automobile, and the environment —the Nissan Green Program promotes activities not only in development and manufacturing departments associated with the production of automobiles, but also in sales, servicing, and all other departments company-wide. In specific terms, this program ensures that environmental action plans are formulated, that targets and aims relating to business activities and associated indirectly with the environment are set for mid-term, long-term, and yearly periods, and that every possible effort is made to achieve sustainable improvement.



### The Nissan Green Program: an ongoing program for the future.

The program mark symbolizes Nissan's hopes for more green on the Earth.

#### 1. Mid-Term Environmental Action Plan (Nissan Green Program 2005)

Area	Item	Objectives and Activities
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 a target date of 2005.
	Reduction of exhaust emissions	Gasoline vehicles: Steady expansion of Nissan's ultra-low emission vehicle (U-LEV) lineup that starting from the Bluebird Sylphy launched in 2000 Objective: Achieve U-LEV certification for more than 80% of all Diesel vehicles: Early release of vehicles complying with the latest exhaust emission regulations
	Development of clean-energy vehicles	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 marked introduction of EVs, CNGVs (compressed natural gas vehicles), HEVs (hybrid electric vehicles) and other CEVs
	Promotion of design for recycling and management	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	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's level by 2005)
	Reduction of vehicle noise	Compliance by all models with in-house vehicle noise targets that are tougher than regulatory noise limits.
	Control of air-conditioner refrigerant emissions	Attainment of Nissan's self-initiated targets for reduced use of the HFC-143a refrigerant promotion of efforts
Manufacturing	Promotion of energy savings (curbing global warming)	Reduction of total CO <sub>2</sub> emissions by more than 10% from FY 1999's level by FY 2005
	Reduction of waste and promotion of recycling	All plants eliminated direct landfill disposal of waste by FY 2001 Reduction of amount of waste incinerated by more than 50% from FY1999's level by FY 2005 (All plants initiated a zero-emission program during FY 2001.)
	Improved management of chemical substances	Installation in FY 2002 of a model paint line that reduces volatile organic compounds (VOC) emissions to 20g/m <sup>2</sup> 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 <sub>2</sub> emissions by more than 10% from FY 1999's level by FY 2005
Sales and service	Environmental management at dealers	Thorough Dealer Certification System named "Nissan Green Shop", implementation and improvement of the Environmental Management Establish the system of implementation of appropriate treatment of ELVs at domestic dealers (end-of-life vehicles) Improvement of dealers' ability to cope with coming Japan's vehicle recycling law (execution of responsibility for taking back ELVs)
Recycling	Promotion of appropriate treatment and recycling of ELVs	Efficient preparation for coming Japan's vehicle recycling law Development and deployment of new technologies for appropriate treatment of ELVs Design for recycling Continued expansion of the Nissan Green Parts program
Environmental management	Environmental Management System	Implementation, operation and improvement of EMS in line with ISO14001 (ongoing activity) Construction of a global EMS encompassing major consolidated subsidiaries Prevention of environmental issues and improvement of risk management
	Environmental Communication	Issuing of an annual environmental report and improving of the 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 ISO14001 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

**2. Progress Results on FY 2001 Environmental Action Plan**

**(1) Product development**

Item	Objectives and Activities up to 2005	Main results in FY 2002	See page
Improvement of fuel economy (curbing global warming)	<p>Early attainment of Japan's 2010 fuel economy standards for gasoline vehicles and 2005 standards for diesel vehicles.</p> <p>Objective Attainment of the new standards by target date of 2005.</p>	<p>Normal and compact gasoline passenger vehicles: March, Wingroad, Cube, Sunny, Bluebird Sylphy, Avenir, Tino, Primera, Skyline, Stagea, Cedric, Gloria, Presage, Liberty, Serena, Teana, Bassara, Elgrand, and Cima.</p> <p>Normal and compact gasoline cargo vehicles: AD Van, Expert, and Datsun</p> <p>Normal and compact diesel passenger vehicles: Sunny, Crew, Cedric, Terrano Reglus, Elgrand, and Safari</p> <p>Normal and compact diesel cargo vehicles: AD Van and Expert</p>	20
Reduction of exhaust emissions	<p>Gasoline vehicles: Steady expansion of Nissan's ultra-low emission vehicle (U-LEV) lineup that starting from the Bluebird Sylphy launched in 2000</p> <p>Objective Achieve U-LEV certification for more than 80% of all Nissan passenger Vehicles sold in Japan by end-March 2003</p> <p>Diesel vehicles: Early release of vehicles complying with the latest exhaust emission regulations</p>	<p>U-LEV successfully expanded to more than 80% of all gasoline passenger vehicles.</p> <p>U-LEVs expanded in 2002: Moco, Sunny, Elgrand, 300 ZX, Avenir, Expert, AD Van, Liberty, Cube, Tino, Wingroad, Skyline Coupe, and Teana</p>	18
Development of clean-energy vehicles	<p>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</p> <p>Other CEVs Research, development and market introduction of EVs, CNGVs (compressed natural gas vehicles), HEVs (hybrid electric vehicles) and other CEVs</p>	<p>X-TRAIL FCV: Certification granted by the Minister of Land, Infrastructure, and Transportation.</p> <p>Participation in the Japan Hydrogen &amp; Fuel Cell Demonstration Project (JHFC Project) under the auspices of the Ministry of Economy, Trade and Industry.</p> <p>Sales of 1,000 AD Van CNGVs achieved in Japan.</p>	22
Promotion of design for recycling and management/Reduction of environment-impacting substances	<p>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)</p> <p>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's level by 2005)</p>	<p>Vehicles for which 95% recyclability has been achieved: March and Cube</p> <p>Reduced-usage materials: Lead — Reduction to less than 1/3rd from 1996 levels achieved for all new models.</p>	34
Reduction of vehicle noise	<p>Compliance by all models with in-house vehicle noise targets that are tougher than regulatory noise limits.</p>	<p>Voluntary standard values (acceleration running noise: 75 dB(A))</p> <p>Passenger vehicles: Achieved for all models</p> <p>Commercial vehicles: Achieved for all models</p>	24
Control of air-conditioner refrigerant emissions	<p>Attainment of Nissan's self-initiated targets for reduced use of the HFC-143a refrigerant</p>	<p>Independent targets achieved for 22 models.</p>	24

## (2) Manufacturing

Item	Objectives and Activities up to 2005	Main Results in FY 2002	See page
Promotion of energy savings (curbing global warming)	Reduction of total CO <sub>2</sub> emissions by more than 10% from FY 1999's level by FY 2005	CO <sub>2</sub> emission levels reduced by 11% from 1999 levels. (Target achieved with increase in manufacturing volume also included.)	26
Reduction of waste and promotion of recycling	All plants eliminated direct landfill disposal of waste by FY 2001 Reduction of amount of waste incinerated by more than 50% from FY 1999's level by FY 2005 (All plants initiated a zero-emission program during FY 2001.)	Zero direct land-filling achieved Waste-material incineration volumes reduced by 44% from 1999 levels.	27
Improved management of chemical substances	Installation in FY 2002 of a model paint line that reduces volatile organic compounds (VOC) emissions to 20 g/m <sup>2</sup> and promotion of efforts to reduce substances subject to the Pollution Release and Transfer Register (PRTR) system	Establishment of the model line has been completed and 20 g/m <sup>2</sup> has been achieved.	28
Environmental protection in logistics operations	Reduction of total CO <sub>2</sub> emissions by more than 10% from FY 1999's level by FY 2005	CO <sub>2</sub> emission levels reduced by 8.6% from 1999 levels.	30

## (3) Sales and Service

Item	Objectives and Activities up to 2005	Main Results in FY 2002	See page
Environmental management at dealers	Thorough Dealer Certification System named Nissan "Green Shop", implementation and improvement of the Environmental Management Establish the system of implementation of appropriate treatment of ELVs at domestic dealers (end-of-life vehicles) Improvement of dealers' ability to cope with coming Japan's vehicle recycling law (execution of responsibility for taking back ELVs)	Surveillance completed at all dealerships (i.e., 226 in total).	31

## (4) Recycling

Item	Objectives and Activities up to 2005	Main Results in FY 2002	See page
Promotion of appropriate treatment and recycling of ELVs	Efficient preparation for coming Japan's vehicle recycling law Development and deployment of new technologies for appropriate treatment of ELVs Design for recycling Continued expansion of the Nissan Green Parts program	Joint development of the recycling simulation system OPERA with Renault. Suppliers to reduce the usage of materials with an environmental impact substances and to report the current state of activities.	33

## (5) Environmental Management

Item	Objectives and Activities up to 2005	Main Results in FY 2002	See page
Environmental Management System	Implementation, operation and improvement of EMS in line with ISO14001 (ongoing activity) Construction of a global EMS encompassing major consolidated subsidiaries Prevention of environmental issues and improvement of risk management	Operation and sustainable improvement of ISO14001 achieved at all manufacturing centers. Review carried out with regard to equipment improvement, maintenance management, and reinforcement management.	9
Environmental Communication	Issuing of an annual environmental report and improving of the 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	Issuance of an environmental and social report in March 2003. Awarded for Excellence at the 6th Environmental Report Award Awarded for Merit at the 6th Green Reporting Award. Participation in a range of fuel-cell vehicle exhibitions and test-ride events Provided support for environmental questionnaires and data collection	16
Green Procurement	Thorough management of environment-impacting substances and requests to suppliers to acquire ISO14001 certification by March 2005	Successful acquisition of ISO14001 certification by 79% of suppliers	39
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	Successful implementation of an in-company education curriculum Sustainable promotion of awareness achieved through the Nissan News — an in-house publication.	15
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	Introduction of low-emission vehicles in the capacity of company cars.	41



## 5 | Environmental Accounting

Since its introduction in 1998, environmental accounting has been continually implemented as a means of enabling wide-scale disclosure of environmental accounting information and enhancing the understanding of the company's environmental protection activities; furthermore, this practice is also intended to support efficient execution of environment-related R&D and other measures. Environmental accounting for FY 2002 was carried out based on the guidelines set forth in the Ministry of the Environment's Environmental Accounting Guidebook (2002 edition).

### 1. Environmental Preservation Cost

Preservation of the environment generates direct and indirect expenses associated with reduction of the environmental impacts caused by business activities, and the total cost of environmental protection during FY 2002 was 126.62-billion yen. This figure was calculated based on the costs of various activities in each category, and calculation focused on primary factors for environmental preservation; in addition, consideration was also given to secondary and tertiary aims.

This total represents an increase of just over 30% with respect to the previous year's figure, and an increase was also seen in the R&D costs that make up a considerable portion of the overall figure. The main cause of these increases resides in the large amount of investment made in advanced development projects for future technologies, and the development of fuel-cell vehicles is a typical example of one such project. In addition, the cost of environmental-related measures also increased for overall automobile development. In terms of manufacturing, Nissan invested 700-million yen in the improvement of water processing capabilities in order that water pollution may be prevented, and a further 400-million yen was invested with the aim of conserving energy.

In addition, other related costs included expenditure for environmental advertising that used the lineup of ultra-low emission vehicles (U-LEVs) successively market launched since last year.

#### Breakdown of Environmental Preservation Costs for FY 2002

General classification	Category	Contents	Amount (100-million yen)
Environmental management	Management activity costs	ISO14001 certification, environmental management, education, environmental advertising, etc. Green countermeasures, environmental activity support, etc.	32.6
	Social activity costs		
Research and development	R&D costs	Costs of research and development into the reduction of environmental impact of automobiles	956.2
Manufacturing	Business area costs	Prevention of air, water, and soil pollution. Energy conservation, prevention of global warming, environmental protection, etc. Effective use of resources, reduction of waste materials and water, reuse, etc.	Breakdown 48.0 39.9 36.2 Subtotal 124.1
	Prevention of pollution		
	Global environmental costs		
	Resource circulation costs		
Recycling	Upstream/downstream costs	Recycling technologies, recovery, and processing of automobiles and components	1.5
Other activities	Environmental restoration costs	Elimination of soil pollution, allocation funds for injury	9.0
<b>Total</b>			<b>1,126.2</b>

#### Effect of Cost Reduction for Environmental Protection Countermeasures (100-million yen)

Cost reduction due to energy conservation	18.0
Reduction of waste processing costs	0.34
Reduction of wastewater processing costs	-0.02
<b>Total</b>	<b>18.3</b>

#### Amount of Environmental Impact Substances Reduced

CO <sub>2</sub>	(ton-CO <sub>2</sub> )	-28,521
Disposed waste material processing	(ton)	7,535
Disposed waste water processing	(1,000 m <sup>3</sup> )	541

### 2. Benefits of Environmental Preservation

Direct and indirect benefits are brought about by investment and expenditure for the purpose of environmental preservation. The benefit generated in 2002 was calculated with respect to the corresponding figure for 2001, and based on reduced costs associated with energy conservation, waste material processing, and waste water processing, this benefit was found to be 1.83 billion yen. Furthermore, a reduction in the volume of the principal environmental load materials associated with the manufacturing process was also recorded.

### 3. Future Activities

At Nissan, we intend to continue in our environmental protection efforts, aiming to develop deeper understanding of the actual state of activities individually.

Environmental and economic activities must both be realized in a mutually compatible feature in order that we may achieve sustainable development; furthermore, the beneficial quantification of benefits is also crucial in terms of the comparative evaluation of costs.

Accordingly, it is our intention to realize environmental accounting that is fully integrated into the heart of company activities and deeply intertwined with management, financial accounting, and all other types of Nissan promotional measures. We will endeavor to ensure that our introduction of critical management resources for the assurance of sustainable development will serve as a guide to others.

#### Calculation Details:

- The calculation period is from April 1st, 2002 until March 31st, 2003.
- Although personal expenses were previously calculated as management activity costs, calculation is not now carried out for each classification in accordance with the 2002 Ministry of the Environment Guidelines.
- In terms of research and development, those costs related to the reduction of environmental impact were calculated; however, costs that could not be separated were multiplied by a proportional division ratio before being summed.
- Water disposal costs increased by 8.8% as a result of investments aimed at the reduction of environmental risk. (502.91-million yen → 547.022-million yen)
- The results of the reduction of costs associated with environmental protection countermeasures and volume reductions for environmental load materials were determined based on Nissan Motor calculations. The differences between FY 2001 and FY 2002 are shown, and these figures were calculated with respect to the previous year's figures using the per-production volume and cost.
- The total CO<sub>2</sub> emission volume rose by 4.1% with respect to the previous year's level as a result of increased manufacturing loads; however, in terms of both manufacturing-price and manufacturing-volume units, emission levels fell. (Manufacturing-price units: 45 tons of CO<sub>2</sub> / 100-million yen → 41.17 tons of CO<sub>2</sub> / 100-million yen — Reduction) (Manufacturing-volume units: 0.767 tons of CO<sub>2</sub> / automobile → 0.692 tons of CO<sub>2</sub> / automobile — Reduction)



## 6 Environmental Risk Management

In terms of regulations and laws dealing with the environment, each department and division has its own system to manage. Furthermore, we have bound ourselves to strictly observe not only Japanese law, but also all regulations enforced by regional government and the rules of industrial associations of which Nissan is a member. This company has also established a system for the collection of data on a global scale, and by determining future trends and confirming the most up-to-date information using this system, we can take immediate action to respond to new applications.

### Emergency Measures

In order to provide full and reliable protection against regional or global scale environmental problems resulting from accidents in manufacturing processes or the like, we have implemented a wide range of programs such as advance countermeasures at potential accident sites and thorough education using emergency manuals. In 2002, we initiated simulation-based training for accidents indirectly affecting the environment, for oil spills, and for other similar situations at centralized processing plants for industrial waste; furthermore, measures to respond to precipitation-related emergencies have also been reinforced. We will continue to promote these activities in the future as a means of preventing the occurrence of environmental problems.

### Environmental Accidents

At the Iwaki Plant in 2002, there was a single incident where plant waste water failed to comply with the legal limits for pH and COD. (Specifically, the legally permitted range for pH is 5.8 to 8.6, and the recorded value was 4.9; the maximum permitted value for COD is 16, the recorded value, 39.) The cause of this problem was determined to be a combination of factors relating to mistakes in the operation of

equipment and to equipment malfunction. Immediately after the event, we implemented prompt and appropriate action in cooperation with the relevant local authorities, and in doing so, prevented direct damage from occurring outside the company. Furthermore, wastewater processing facilities were reviewed on a company-wide level in order to prevent the occurrence of similar incidents in the future, and we also enhanced management capabilities with respect to personnel, property, and facilities.

No product recalls associated with environmental issues occurred over the year in question, and in terms of environment-related law suits, a single case dealing with automobile exhaust gas is currently being heard.

### Environmental Survey

In order to prevent soil and groundwater pollution, environmental studies are being carried out at each plant and business center, and any required countermeasures are executed using the results thereof. Details of these countermeasures are presented later in this report. In addition, the results obtained from environmental studies and investigations at the old sites of the former Murayama Plant and Kurihama Plant are regularly used in PR materials.

## 7 Environmental Education

In addition to providing the necessary education to environmental officers and relevant persons, courses and the like are implemented whenever required in order that all staff members may be educated accordingly. Furthermore, information made available via company newsletters; in-company events reported in monthly publications dealing with the environment, 3R promotion, and energy conservation; and support for independent activities allow us to deepening the awareness of our employees and their families with regard to environmental protection issues. In addition to continuing this approach in the future, we at Nissan will endeavor to realize a higher level of environmental-related education.

### Educating Employees through Our Company

An environment-related page entitled Nissan Green Program 2005 has been added to the Nissan News, and through this media, environmental information is delivered to all employees of this and affiliated companies.



Nissan News

Providing the most up-to-date environmental information in this way allows us to emphasize the importance of global environmental issues; furthermore, it also gives us an opportunity to hear how our customers feel about Nissan's environmental protection activities, thus assisting in the development of our own understanding of environmental issues from a wide range of different social viewpoints.

Release	Details
April	Holding of the Nissan Environment Meeting. Promise to tackle environmental issues in a continuous fashion.
May	I Love, We Love, U-LEV.
June	Completion of Nissan Green Shop certification for all dealerships.
July/August	Adoption of water-based paints for automobiles. Release of the 2001 Site Report.
September	Awarded by the Kanto Bureau of Economy, Trade, and Industry for a 10-million yen yearly reduction in power consumption.
October	Nissan's CVT is Global No. 1 — Invitation to help prevent global warming
November	Nissan Green Parts, evermore recyclable components
December	The challenge for zero emissions
January/February	Special environmental report: The X-Trail FCV in your town
March	Achievement of 80% for U-LEV... 2 months early!

### Project Formed in Environmental Month

In addition to in-company broadcasting, the distribution of flyers, the use of posters, and other similar activities, a wide range of events are held in order to increase our employees' levels of awareness. Over the last year, study groups for managers and general employees were setup at plant waste-water treatment facilities, in-company industrial waste processing centers, and recycling plants; furthermore, various different courses dealing with issues such as environmental management conditions at zero-emission plants and recent legal trends have been held for pollution prevention managers, engineers, managers, and affiliated company employees. In addition, over 200 employees also took part in seminars, workshops, exhibitions, and other events organized by regional authorities



Emergency response training for oil discharge accidents

8 | Environmental Communication

At Nissan, we continue to accelerate our environmental communication activities in cooperation with our customers and all other stakeholders. The opinions and suggestions that we have received through our Customer Desk and via the questionnaire at the end of the Environmental and Social Report are enthusiastically used in the enhancement of environmental protection activities. In order that we may receive a higher level of such feedback in FY 2003, we plan to realize an elevated level of two-way communication.

**Disclosing Information**

Every year since 1998, Nissan has published an environmental report. Last year's report — of which 15,000 copies were released (13,000 in Japanese; 2,000 in English) — was awarded for Excellence at the 6th Environmental Report Award organized by Global Environmental Forum, and was awarded for Merit at the 6th Green Reporting Award as organized jointly by Toyo Keizai Incorporated and Green Reporting Forum. In each of these cases, the report was praised for the way in which it organized and clearly presented both Nissan's principles and approach, and also the effect of business activities and the automobile on our environment.

Moreover, we have made available a wide range of environmental communication tools through paper and electronic media such as the Internet, and this has also allowed us to respond suitably to questionnaires and other survey materials from the government of Japan, private companies, and educational institutions.



Communication Tools

**Activities for Educating Customers on the Environment**

In order that our customers could understand Nissan's approach to environmental preservation, we distribute a wide range of environment-related pamphlets, PR materials, and videos, as well as the catalog for each specific automobile model introducing the environmental performance relevant to that particular model. Outside the company also, we participate in awareness promoting activities through our contribution to lecture courses and specialist journals. Furthermore, in accordance with the introduction of general study time to elementary schools all over Japan in 2002,



Special electric car lesson (at an elementary school in Tokyo's Minato ward)

Nissan will continue cooperating with these schools in the trial implementation of special electric car (Hypermini) lessons.

**Exhibitions and Test-Ride Events**

Nissan has energetically organized and participated in exhibitions and test-ride events for the fuel cell vehicle (or FCV) — a vehicle hoped by many to become the ultimate eco-car. (Page 59 for more details.) In addition, similar exhibitions and test-ride events are held daily at dealerships nationwide for the ultra-low emission vehicle (or U-LEV), which represents an eco-car suited to practical applications.

Continuing in 2003, we intend to further enhance our level of activity with regard to this type of environmental-related action.



Nagoya International Exhibition — a gathering dealing with transportation and the environment

**Involvement with Regional Society**

We have undertaken a diverse range of activities with the aim of realizing efficient communication with people living near Nissan plants and business centers — for example, we have held open day events at our plants, cleaned up commuting routes, participated in visits to environmental facilities by local residents' associations, and supported the Kanagawa Prefecture Environmental Campaign. Furthermore, Nissan has also established an environmental-facility observation course at the Oppama Plant, and a total of 60 persons in six different groups visited in 2002.

**TOPICS Stakeholder Meeting for Environmental and Social Reports**

With Mr. Hideto Kawakita (Chief Executive Officer of IHOE, the International Institute for Human, Organizations and Earth) and Mr. Masayuki Aoki (planner at Workshop Mu Ltd.) as coordinators, Nissan and Sompō Japan Insurance Incorporated have cooperated in the establishment of a workshop for the reading of environmental and social reports, for posing of relevant questions, and for interacting with the publishers. With environmental and social reports created by Nissan and Sompō Japan as subject matter, a total of 53 participants engaged in lively discussions regarding the environmental and social activities.

In terms of the environmental report, we were informed by certain participants that because of the fine print used for characters and numbers, it became difficult to comprehend the information presented, and also that although individual approaches were presented in detail, the overall image could not easily be visualized. A number of questions were posed with regard to social information — for example, one participant wanted to know more about employees' levels of comprehension and awareness in terms of activities benefiting the community. We place a high level of value on the opinions forwarded at this workshop, and this wisdom will be used reports for further improvements in our report to be published after 2003.



Stakeholder Meeting for environmental and social reports

# 2 | Environmental Performance

## 1 | Product Development

In order that we can achieve a cleaner automotive society, we are promoting both the ongoing development of environmental technologies in our products, and the use of efficient, optimized product development in achieving a reduction in the environmental impact of all our business activities. In addition, we are contributing towards the realization of a sustainable and recycling-based society.



Hiroyasu Kan  
Senior Vice President, Technical Center Environmental Management  
Sub-Administrator, Director in Charge of Environmental and Safety Engineering Dept.

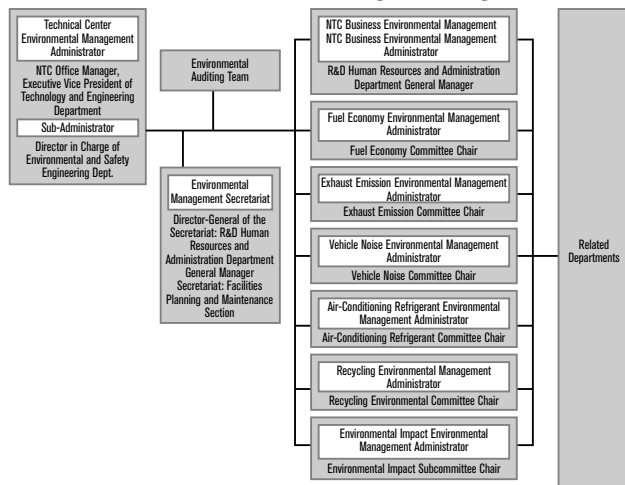
### 1. Environmental Management in Product Development

#### Environmental Management Organization for the Technical Center

Overall Technical Center Environmental Management is the responsibility of the Executive Vice President of the Technology and Engineering Department, who promotes comprehensive environmental improvement activities covering both products and business activities.

First of all, in order to reduce the impact of products that may impose a high impact on the environment, Nissan has a departmental structure overseen by the product environment committee that specifies important environmental measures, based on six environmental impact evaluation categories. These are fuel consumption (CO<sub>2</sub>), emissions gas, external noise, air conditioner refrigerant, environmental impact substances, and recycling. Each Environmental Management Administrator determines and promotes environmental objectives based upon the product environment committee, and the coordination of all related vehicle development projects means we have made steady progress in both enhancing performance and achieving goals. Secondly, from the FY 2002, the area of responsibility for activities such as resources and energy savings, and for environmental risk management throughout the Technical Center

#### Technical Center Environmental Management Organization



has been expanded. This is being promoted on a per-department level, and lies with Environmental Management Administrators. In each department, we are working to attain our goals through the use of environmental improvement activities that include shortening of the product development period and optimization of development testing materials.

In the FY 2003, we are aiming to create world class, environmentally friendly technology and environmental performance, and on a regional level, we are aiming to reduce the environmental impact. In addition, we are promoting continued improvement in environmental management, with all employees working towards contributing to the environment when carrying out their own business activities.

#### Environmental Policy in the Technical Center

Accompanying the expansion of environmental management for the Technical Center into a unified products and business activities system, we have reformed our environmental policies.

#### “Symbiosis of People, Vehicles and Nature”

As the global R&D operation in Nissan Motor CO., Ltd, we utilize top-level environmental technologies and make the most of initiative of individuals, address continuous environmental improvement activities and contribute to the realization of the sustainable society to protect our global environment.

##### 1. Our efforts toward clean production

To realize a clean automobile society, we will assess environmental impact in all stages of a vehicle life cycle and continuously develop environmental technology.

We will especially focus our efforts on making improvements in important environmental fields, including enhanced fuel efficiency (reduction in CO<sub>2</sub> emissions), which will contribute to curbing global warming.

##### 2. The promotion of business activities symbiosis with the environment

All business activities will be rationalized and made suitable, in order to minimize the pressure towards the environment, and to contribute to the symbiosis.

##### 3. Individual voluntarily activation to improve the environment

Through environment education and enlightenment, we hope to deepen the individual awareness of improving the environment so it will relate to voluntary actions.

##### 4. Maintain Transparency to the Society

We will promote two-way communication with our stakeholders so that our corporate activity should remain transparent to the society.

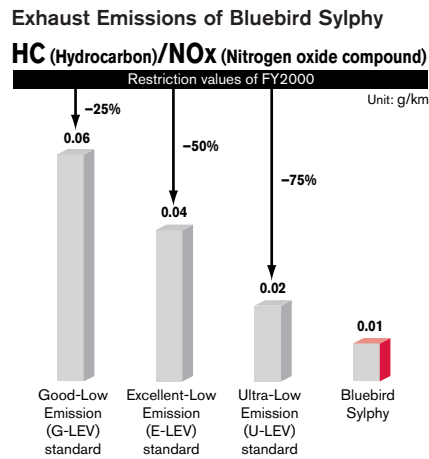
In order to execute all of the above-mentioned, we will surely conform ourselves to laws, ordinances and other regulations. We will also set our specific targets and continue systematic efforts in preventing environmental issues.

**2. Reduction of Exhaust Emissions**

Nissan established the Exhaust Emission Committee in December of 1990 to actively promote the research and commercialization of technologies to purify automobile exhaust emissions, such as engine modifications, improvements in control technology and catalyst systems, and other post-discharge cleaning systems.

**Low Emission Technology of Gasoline Engines**

Super Ultra Low Emission Vehicle (SULEV) certified Sentra CA (Clean Air), sold in the United States since February 2000, is the world's first gasoline Vehicle to receive Zero Emission Vehicle credit from the California Air Resources Board (CARB) as it met all other requirements including zero evaporative emission from the fuel system and the on-board diagnosis level 2(OBD-II). From the 2003 MY (model year), we are increasing in the number of Nissan vehicles that support these requirements. In Japan, we have further improved the technology used in the Sentra CA and introduced the Bluebird Sylphy, with a more than 50% reduction of emissions from the Japanese "Ultra-Low Emission Vehicle (U-LEV)" standard, set by the Ministry of Land, Infrastructure and Transport.



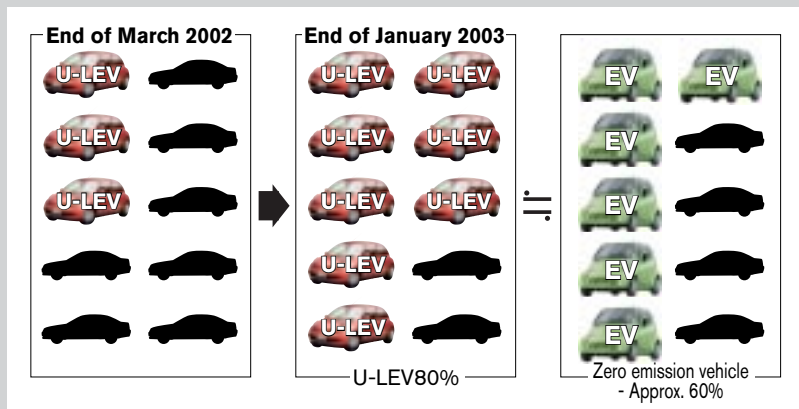
Bluebird Sylphy

**TOPICS Increasing Ultra-Low Emission Vehicles (U-LEV)**

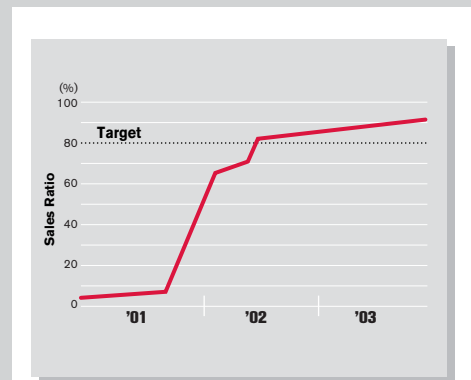
U-LEV is an environmentally friendly vehicle with exhaust emissions as clean as about one-fourth of the level of NOx and HC of cars certified for 2000 Japanese exhaust emission standards. Introducing 80% of U-LEV passenger cars annually in Japan has the equivalent effect, in terms of reducing NOx and HC, to disseminating 400,000 vehicles zero emission cars, such as fuel cell vehicles and electric vehicles, annually. Our priority is to employ practical technology that enables us to realize a wide dissemination of U-LEVs at affordable prices to make an immediate contribution to environmental preservation.

In January 2002, Nissan announced the "Nissan Green Program 2005", mid-term environmental action plan, which covers comprehensive environmental preservation activities, including products, technology, and recycling. The company has been promoting the increased usage of U-LEV passenger cars sold in Japan, and sales for the year ending January 2003 exceeded 80% of all vehicles sold, meaning the target of the plan was reached 2 months ahead of schedule.

**Benefit of increasing Ultra-Low Emission Vehicles (U-LEV)**



**U-LEV Sales Ratio in Japan**





**U-LEVs sold in FY 2002**



Fairlady Z



Cube



Elgrand



Skyline Coupe



Teana



Moco

**Low Emission Technology of Diesel Engines**

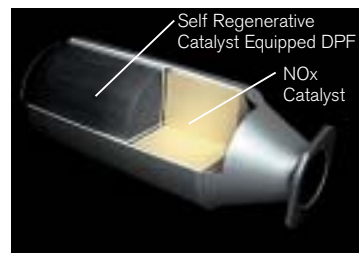
Compared to gasoline engines, diesel engines have a number of unique advantages—lower CO<sub>2</sub> emissions, better fuel economy, higher torque performance and greater energy conservation. Nissan is working to make its diesel engines even more cleaner and more efficient. Nissan uses direct injection and the new Nissan Modulated Fire (M-Fire\*) combustion technology to both reduce CO<sub>2</sub> emissions, and to realize previously unattainable minimum levels of noise, NO<sub>x</sub>, and smoke emissions.



Caravan

In particular, the "Caravan," our flagship commercial vehicle, was quick to comply with the demands of the "Automotive NO<sub>x</sub> and PM Law" enacted in October 2002, and in addition to being the only vehicle in its class to meet these stringent emissions standards, its economic efficiency and practical, powerful engine have met the demands of a wide number of customers. We are taking an active role in working towards the future, by way of such activities as holding a reference exhibit at a motor show of the self regenerative DPF (Diesel Particulate Filter). This uses a catalyst, and is one of our diesel emissions gas reduction technologies.

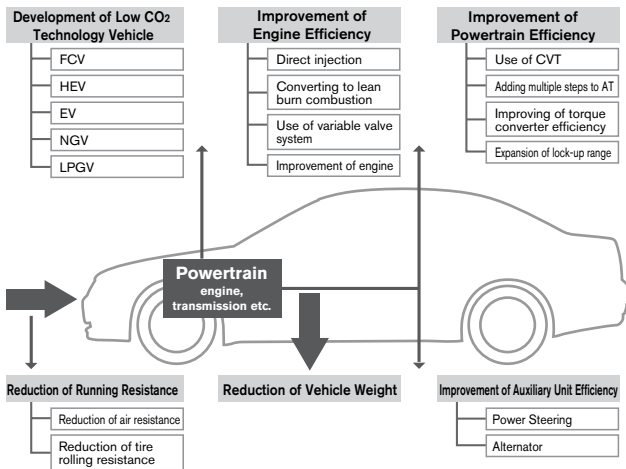
\* M-Fire Combustion: Low temperature pre-mixture combustion, based on optimization of fuel injection timing, the creation of strong swirl, and large volume EGR.



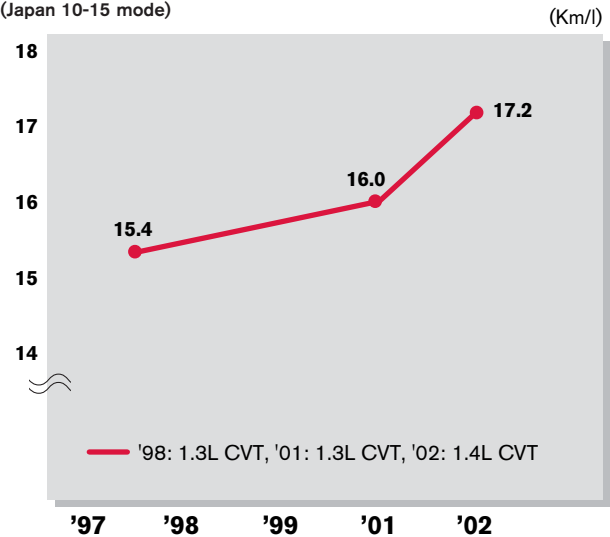
"Self Regenerative Catalyst Equipped DPF" and "NO<sub>x</sub> Catalyst" (Exhibited for reference at the 34th Tokyo Motor Show)

### 3. Improvement of Fuel Economy

In November 1989, Nissan established the "Fuel Economy Committee" (currently referred to as the Fuel Economy Subcommittee), which has been carrying out comprehensive research, development, and commercialization, with the aim of promoting improvements in fuel economy (reduction in CO<sub>2</sub> emissions). We aim to achieve voluntary fuel economy standards which reflect Japan's 2005 standards for diesel vehicles and 2010 standards for gasoline vehicles, as well as standards set by other countries. In Japan, as one of the goals set by the Nissan Green Program 2005, we strive to meet the 2010 fuel economy standards by 2005, five years ahead of the original schedule. In 2002, we achieved these in 3 out of 7 corresponding weight categories.



Trends in Fuel Consumption for the Cube (Japan 10-15 mode)

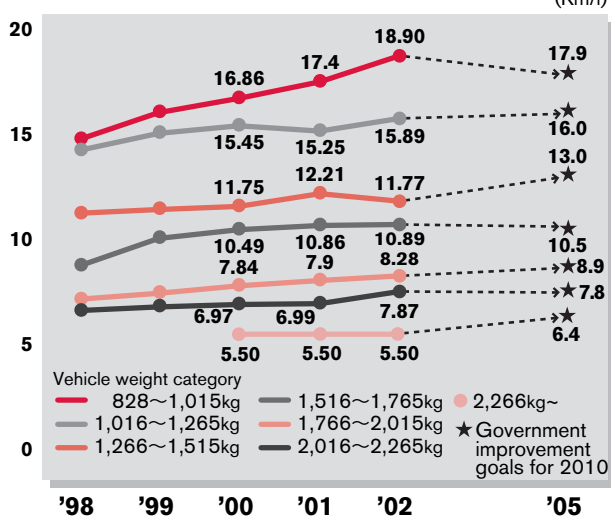


#### Efforts in Europe

In Europe, diesel engines' popularity is gaining, thanks to their lower CO<sub>2</sub> emissions (compared with petrol engines), higher torque, higher energy efficiency and, hence, even more environmentally friendly.

The Alliance with Renault has enabled Nissan to significantly expand the engine line-up to better cater to the diversified market demand for diesel vehicles in Europe. For example, the Micra and the Almera are now powered by a Renault 1.5 liter or a Nissan 2.2 liter diesel engine, and the Primera is fitted with a Renault 1.9 liter or a Nissan 2.2 liter diesel engine, all with the highly-rated common rail technology.

Trends in Average Fuel Consumption by Category (Km/l)



Micra



Almera



**Improvement of Drivetrain Efficiency**

① Belt Type CVT (Continuously Variable Transmission)  
(XTRONIC CVT / Nissan CVT / Nissan CVT-M6)

A belt type CVT that provides continuous changes of ratio using a pulley and a steel belt, and which was first used in the 1992 model March. In 1997, a torque converter was used in the development of the world's first 2.0 liter class "Nissan CVT," with improved initial acceleration. Furthermore, in 2002, we introduced world's first 3.5 liter FF vehicles adaptable XTRONIC CVT to the Teana. This achieved a combination of sporty handling only possible with manual mode transmission, smooth acceleration resulting from expanded gear ratio and lock-up ranges, and enhanced fuel economy.

② Troidal Type CVT (Continuously Variable Transmission)  
(EXTROID CVT)

This is the world's first CVT that was commercialized to provide drive power and ratio changes by combining disk and power rollers (double cavity type). This transmission was first used in the Cedric and Gloria 1999 models. In 2002, it was fitted to the Skyline 350 GT-8, providing excellent response, smooth acceleration, and improved fuel economy for large displacement engines.

**Vehicles with CVT**

CVT	Models
Nissan CVT Nissan CVT-M6	Primera (photo), Primera Wagon, Avenir, Liberty, Wingroad, Serena, Bluebird Sylphy
XTRONIC CVT	Teana (photo), Cube
EXTROID CVT	Cedric (photo), Gloria, Skyline

Vehicles with CVT sold in FY 2002

**TOPICS New 4WD System "e-4WD"**

Nissan has developed "e-4WD," a light, compact, and totally new electronic four-wheel-drive system, which has been fitted to the March from September 2002, and to the Cube from October 2002. "e-4WD" is a system engineered around a regular front drive configuration, and uses an electric motor to drive the rear wheels only when 4WD capability is needed.

The low friction drive train means improved fuel efficiency when compared to former 4WD vehicles. In particular, when the driver selects 2WD, the clutch within the rear wheel drive unit is disengaged, meaning fuel efficiency close to that of 2WD vehicles (tests conducted by Nissan indicate a 5% improvement in fuel efficiency over ordinary 4WD).

The system comprises three elements; the "4WD control unit," that controls the power, a "rear wheel drive unit" consisting of a motor, clutch, and reduction gear, and a "dedicated generator," for supplying power to the drive motors. When 4WD operation is required, the 4WD

control unit directs the dedicated generator to produce electricity, which powers the motors at the rear of the car, whereupon these motors drive the rear wheels via a clutch. Between the rear wheel motors and the wheels is situated an electromagnetic clutch, and by disengaging this clutch when 4WD is not required, friction is reduced, thus resulting in lower fuel consumption. In addition, the driver can select manually between 4WD and 2WD, meaning they can gain extra fuel efficiency on dry roads.



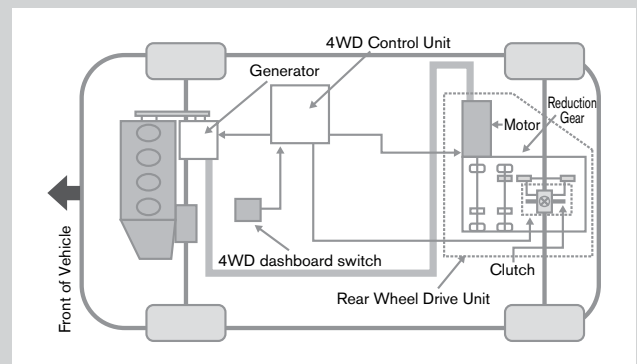
4WD Control Unit



March e-4WD



Cube e-4WD



**4. Development of Clean Energy Vehicles**

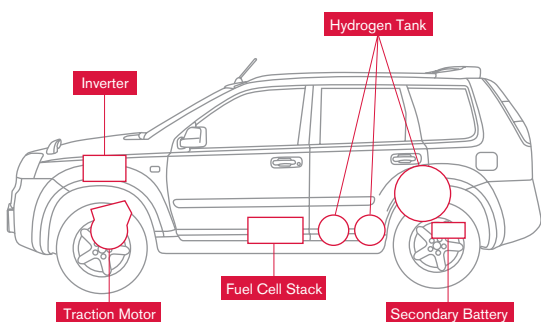
Nissan is acting aggressively to prevent global warming, to reduce and clean exhaust emissions, and to respond to future energy problems, by way of research and development in four technological areas: fuel cells, electricity, hybrid technologies and natural gas. Issues such as vehicle durability, price, driving range, technical issues and the establishment of fuel supply centers for use by these vehicles must all be addressed, in order to see increased usage of clean energy vehicles. Furthermore, in cooperation with other industries, we are continuing efforts in R&D and commercialization in response to requirements.

**Fuel Cell Vehicle (FCV)**

This is an automobile with a clean and efficient power source that directly generates electrical energy through the reaction of hydrogen and oxygen, leaving only pure water as a by-product. Nissan's FCV applies technologies that have been developed in Nissan, such as lithium ion batteries and high voltage electric systems for electric vehicles, control technologies for hybrid vehicles and high pressure gas storage systems for CNGV. Nissan has been developing FCVs that aims to achieve excellent environmental and energy-saving capability. In December 2002, the X-TRAIL FCV obtained certification of the Ministry of Land, Infrastructure and Transportation, and started public road testing in Japan. With the participation of the Japan Hydrogen & Fuel Cell Demonstration Project (JHFC) and the California Fuel Cell Partnership (CaFCP) in the USA, Nissan has been acquiring data of public road test and continuing to improve public awareness of fuel cell vehicles. Nissan intend to make further improvements to the X-TRAIL FCV, and limited sales are scheduled in 2003.



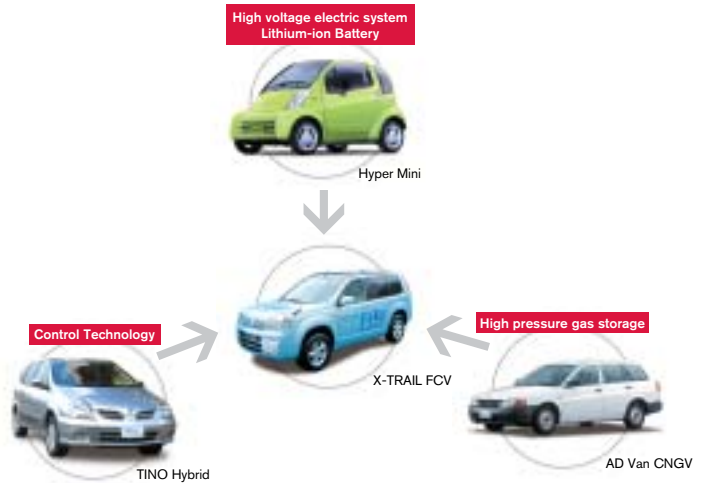
X-TRAIL FCV



X-TRAIL FCV Layout Overview

**Features of Nissan's FCV Technology Development**

Nissan's FCV applies EV (Electric Vehicle), HEV (Hybrid Vehicle) and CNGV (Compressed Natural Gas Vehicle) technologies which have been developed up to the present.



**History of Nissan FCV Technical Development**

**1996** Start of Full-scale FCV Development

**May 1999** Start of Full-scale FCV Driving Tests  
Started of vehicle testing using R'nessa FCV, methanol reformat FCV.

**March 2000** Participation in CaFCP  
Participation in "California Fuel Cell Partnership".

**April 2001** Start of public road testing in North America

Started the five-year program of FCV development in cooperation with Renault, with an investment of ¥85 billion. The start of public road testing of the XTERRA FCV, based in Sacramento, California.



XTERRA FCV (Hydrogen Fuel Cell Vehicle)

**December 2002** Start of public road testing in Japan

X-TRAIL FCV, direct-hydrogen-fueled FCV, obtained certification of MLIT, and started public road testing in Japan.



X-TRAIL FCV (Hydrogen Fuel Cell Vehicle)

**2003** Limited Sales

Based upon the X-TRAIL FCV, we will make further improvements, and will start leasing of FCVs in 2003, 2 years ahead of initial planning.

### Electric Vehicle (EV)

From February 2000, we commercially introduced the ultra small electric vehicle "Hypermini" as a proposal for a new type of city vehicle. Hypermini uses aluminum platform exclusively developed for the vehicle, while also supporting its high energy efficiency and ease of use, plus its safety as an ultra small vehicle. Also, a market survey for ultra small electric vehicle commenced from November 2001 jointly with University of the California, Davis, using the Hypermini.

### Hybrid Electric Vehicle (HEV)

We have developed the "Nissan Hybrid", a hybrid system that dramatically improves fuel efficiency by combining an electric motor with a gasoline powered engine and utilizing both of their strong features. The vehicle was commercially released in April 2000 under the name of "Tino Hybrid". We also have put effort into development of fuel efficiency technologies including hybrid technology, such as organizing the specialized department. Also, Nissan and Toyota Motor Corporation have concluded a basic agreement on the long-term, continuous transaction of the hybrid systems including technical cooperation aiming for further decreasing the cost of hybrid vehicle components, which should lead to boosting the sales of hybrid vehicles around the world. As an initial project, Nissan will be installing a hybrid system currently under development by Toyota Motor Corporation in Nissan's vehicle to be sold in the United States in 2006.

### Natural Gas Vehicle (NGV)

Nissan is involved in the research and development of high-performance compressed natural gas vehicles (CNGV) that in the most part use methane, which has environmentally friendly qualities such as low NOx and CO2 emissions, as well as the being an alternative energy source that does not depend on petroleum. The new AD Van CNGV launched in January 2000 was the first vehicle certified as a low emission vehicle by the Ministry of Land, Infrastructure and Transport's low-emission vehicle certification system. This vehicle has power, performance, and comfort levels similar to that of standard gasoline vehicles, and an cruising range that is at the top of its class. These features meant that, in July 2002, cumulative sales of the AD Van CNGV in Japan achieved a thousand units, and succeeded in taking the top



AD Van CNGV

share of the small van CNG vehicle market.

Furthermore, the "Civilian CNG" was released in January 2003 taking into account the environment in the microbus market. It is based around the TB45E gasoline engine, and while achieving power output comparable to a diesel turbo engine, its low noise and vibration emissions make it very environmentally friendly.



Civilian CNG

We are introducing the "AD van CNGV," the "Atlas CNGV," the "Caravan CNGV," and the "Civilian CNG," to ensure a full lineup of natural gas powered passenger and commercial vehicles, and are striving to promote the spread of low-emissions vehicles.

### LPG Vehicle

LPG is widely used as an alternative to diesel fuel in commercial vehicles, as it combines low emission levels with quiet operation. In 1998, Nissan released the low emission Cedric/ Gloria LPG and Crew LPG vehicles. These were designated as low emission vehicles in seven prefectures and cities, and as low NOx vehicles in six prefectures and cities in the Kyoto, Osaka and Kobe region. In 2002, all of our commercial LPG vehicles gained accreditation as "Excellent-Low Emission Vehicles (E-LEV)" under the Ministry of Land, Infrastructure and Transport's accreditation system for vehicles with low emissions gas, and these were the first domestic commercial LPG powered vehicles to do so. LPG delivery trucks are in high demand, and Nissan provides a full range of 1.5- to 3.0-ton Atlas LPG trucks.



Crew LPGV

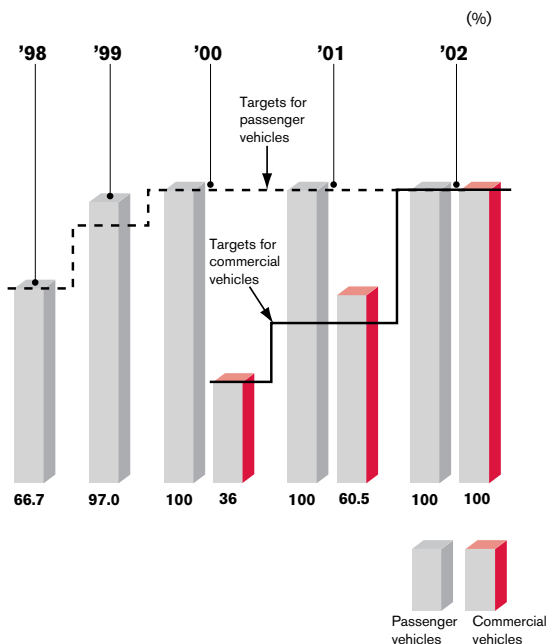
**5. Reduction of Vehicle Noise**

Vehicles emit various types of noise, including engine noise, tire noise, exhaust noise, intake noise, cooling fan noise, and wind noise. We have conducted aggressive research and development in this area aimed at reducing noise levels, and have achieved favorable results.

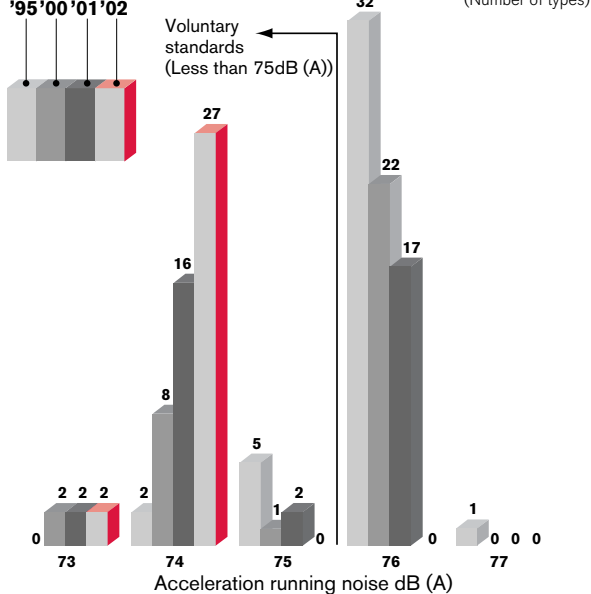
By 1996, our vehicles complied with new European standards, and all of Nissan's vehicles including commercial vehicles achieved new Japanese standards by 2002.

In the future, we will continue to work towards compliance with voluntary standards in Japan, Europe, North America, and in other regions.

**Qualification Ratio of the New Standards (Japan) for External Noise**



**Transition of Acceleration Running Noise (Japan) (Commercial Vehicles)**



**6. Control of Air-Conditioner Refrigerant Emissions**

Chlorofluorocarbon 12 (CFC12) was used in the past as a refrigerant for vehicle air conditioners, but as this was found to destroy the ozone layer, the "CFC Countermeasures Committee" established in February 1989 quickly banned its use.

Subsequently, we began replacing CFC with a new refrigerant (HFC134a). In recognition of this undertaking, our company received the U.S. Environmental Protection Agency's Montreal Protocol 10th Anniversary "Best of the Best Stratospheric Ozone Protection Award" in September 1997.

**Emission Restraints of HFC134a at the Development Stage**

The use of CFC12 was totally abolished by the end of 1994, after full implementation of the substitute refrigerant HFC134a in all production vehicles. However, we are currently conducting research to conserve the use of refrigerants, and to develop refrigerants with a lessened environmental impact, because HFC134a is also said to contribute to global warming.

**Conserving Refrigerants**

We have reduced the amount of HFC134a used, and are gradually introducing equipment designed to reduce air conditioner leakage on new model vehicles. As of the end of FY 2002, 22 models now use air conditioners that have been modified in this way.

**Researching Vehicle Air Conditioner Refrigerants with Low Environmental Impact**

In cooperation with vehicle air conditioner manufacturers, we are conducting research into systems that use CO<sub>2</sub> or HC type refrigerants, but as of present, certain problems mean that none of these have been commercialized.

**7. LCA (Life Cycle Assessment)**

Nissan embarked on LCA at the start of the 1990s, by carrying out environmental impact assessments on car bodies and parts such as radiators, and on air conditioner refrigerants. Recently, we are working to further reduce environmental impacts over the products' lifecycle by applying LCA to the Skyline front end module and to the Stagea back door. LCA is a logical and effective method to enable the general assessment of environmental impacts. In the future, we will continue to work towards its reduction, and are investigating putting LCA to use in our business activities and product planning.



Skyline front end module

## 2 Manufacturing

Participating in the Nissan Green Program 2005 with a fundamental belief that environmentally friendly products are manufactured at environmentally friendly plants, we are moving ever closer to zero emissions of air, water, and atmospheric pollutants; we are promoting the conservation of resources; and we are striving to realize a recycling-based society.

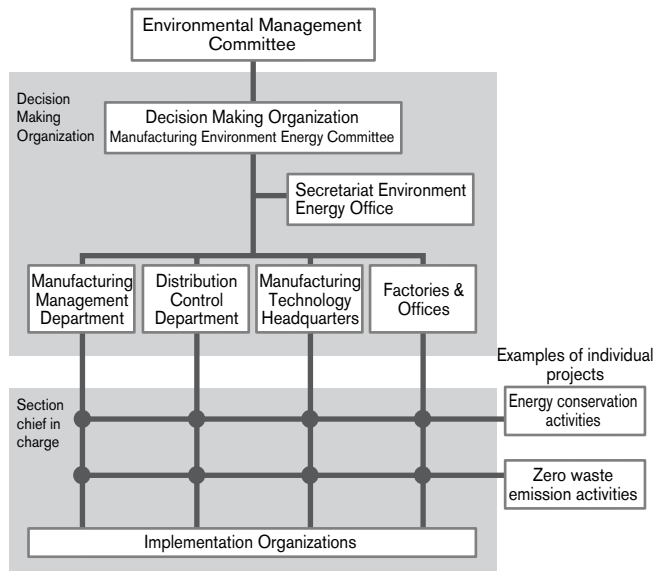


Hidetoshi Imazu  
(Senior Vice President in Charge of Manufacturing Division Environmental Activities, and Director in Charge of the Environment and Energy Control Section)

### 1. Environmental Management Organizations within Manufacturing

Ever since establishing a dedicated organization with responsibility for the environment at our head office and manufacturing plants in 1972, we have involved ourselves in the advance prevention of environmental problems and have created the EMS. Furthermore, we have established a Manufacturing Environment Energy Committee within the Environmental Management Committee, and we have organized this committee's internal structure with representatives from fields such as production management, logistics, manufacturing technology, and plant operations.

#### Manufacturing Environment Energy Committee



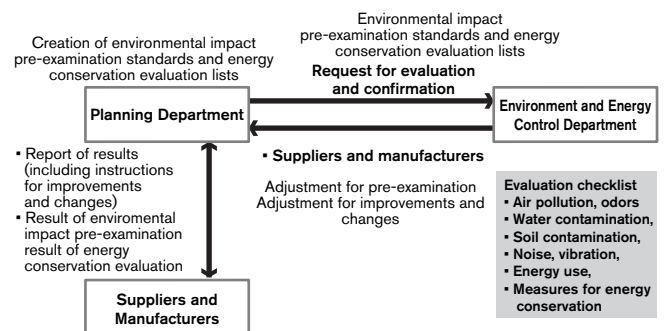
#### Related Meeting Bodies

Name of Meeting	Tasks
Environmental Management Committee	Determination and evaluation of the entire company's environmental policies and goals
Manufacturing Environment and Energy Control Committee	Deploying and expanding corporate environmental policies and goals to the manufacturing division, and determination and evaluating of that division's policies and goals
Environment Committee by Plants and Business Offices	Determination and evaluation of specific environment-related projects within manufacturing plants and offices
Section Chief in Charge of Environment and Energy Control Meeting	Evaluation of specific projects concerning environmental and energy issues, and sharing and communication of the related information
Nissan Group Environment and Energy Control Liaison Group	Exchanging information and technology concerning environmental and energy issues with affiliated companies

### 2. Pre-Assessment System

We have established a system for pre-assessment of the impact on regional environments resulting from the construction, modification, and expansion of plants and facilities, and from the introduction of new materials or processing technologies. Accordingly, we are utilizing this system to identify better manufacturing methods, to switchover to more environmentally-friendly materials, and to make other similar improvements.

#### Pre-Assessment and Review System for Environmental Protection



#### Energy Conservation Assessment Sheet as Relevant to the Installation of new Equipment



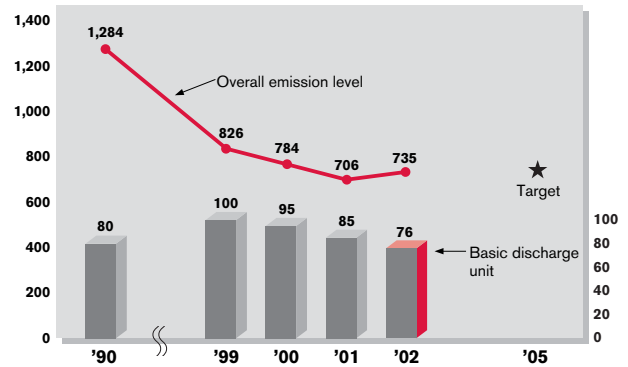
**3. Promoting Energy Conservation (Curbing global warming)**

In FY 2002, Nissan promoted measures to make manufacturing more efficient through the unification of plants and processes, and we also introduced highly efficient co-generation systems; furthermore, an Energy Conservation Project Team was established to ensure that these and other energy conservation activities could be pursued in a more intensive manner. Although CO<sub>2</sub> emission rose with respect to the previous year's levels, these efforts enabled overall emission levels for this gas to be reduced by 11% from those of FY 1999 (or by 43% from those of 1990). Continuing these activities in FY 2003, we have made advances in the elimination of energy loss and the promotion of effective use of heat through the introduction of this type of co-generation system; moreover, targets designated for 2005 have already been achieved. As production volumes continue to increase, every effort is made to prevent increases in CO<sub>2</sub> emission levels.

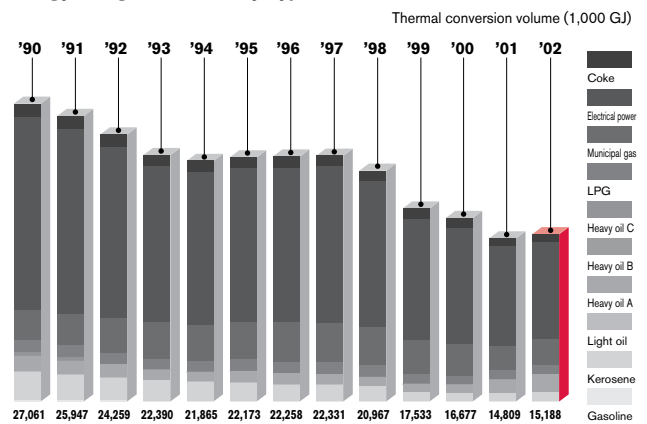
**Major Improvements in Energy Conservation in 2002**

Processes	Improvement Examples
<b>Improvements in Facilities</b>	
Power source	Introduction of highly-efficient co-generation systems (Pilot flame type natural gas engines)
Power source	Improvement of facilities to supply compressed air
Forging	Improvement of thermal insulation materials for insulated furnaces
Casting	Improvement of the shape of induction heater coils
Machinery	Switching of processing facilities to multi-purpose usage and inverter technology
Painting	Improvement of circulation methods for electro-deposition paints
<b>Improvements in Operations</b>	
General	Improvement of the degree of capacity utilization through the centralization of manufacturing
General	Thorough energy shutdown in facilities during non-manufacturing hours

**Overall CO<sub>2</sub> Emission Levels & Basic Discharge Units**  
(1,000 t-CO<sub>2</sub>) Per-vehicle discharge unit (with 100 adopted for 1999)



**Energy Usage Volumes by Type**



**2002 Material Balance Sheet (intake and discharge of resources)**

**Overall energy intake level 15.2-million GJ**

- Power: 8.9-million GJ
- Gas: 2.3-million GJ
- Fuel oil: 1.6-million GJ
- Others: 2.4-million GJ

**Overall material intake level 1.838-million tons**

- Steel sheet: 1.075-million tons
- Cast metal: 306-thousand tons
- Chemical substances: 146-thousand tons
- Others: 311-thousand tons

**Water resource intake level 11.07-million m<sup>3</sup>**

- Clean water: 1.54-million m<sup>3</sup>
- Industrial-use water: 2.264-million m<sup>3</sup>
- Groundwater: 7.029-million m<sup>3</sup>
- Recycled water: 236-thousand m<sup>3</sup>

**Nissan Motor (Plant)**

**CO<sub>2</sub> gas** 735-thousand tons

**Chemical substance discharge level 2,182 tons (PRTR substances)**

**Overall product production and sale levels 1.264-million tons**  
Number of vehicles produced: 1.062-million

**Overall level of waste discharge 573,975 tons**

- Recycled: 558,120 tons
- Incinerated: 15,465 tons
- Externally contracted: 335 tons
- Direct land fill: 55 tons

**Ultimate waste processing level 2,839 tons**

**Overall water discharge level 7.095-million m<sup>3</sup>**

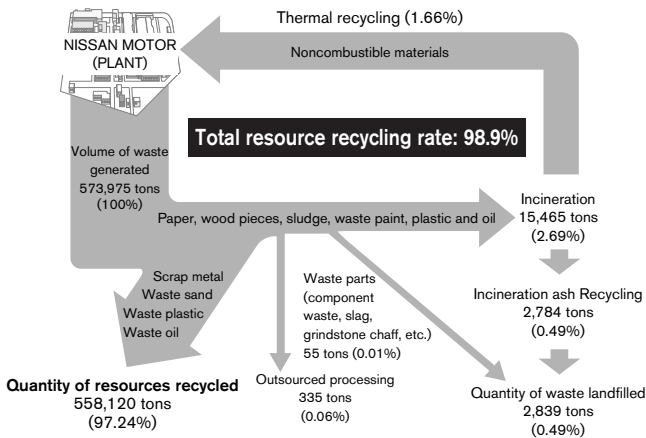


#### 4. Reduction of Waste Processing Volumes (Zero Emissions)

As a result of increases in the number of vehicles manufactured, waste material generation levels rose by 7,500 tons (or 15%) in 2002. In contrast, however, waste emission elimination activities have now been embarked upon throughout the entire company, and as a result of these activities, it has been possible both to reduce the in-house incineration volume by 7,146 tons (or 30%) and also to maintain "the zero landfill volume"<sup>\*1</sup> achieved last year. Furthermore, as a result of the promotion of thorough sorting of waste materials and higher levels of recycling, we have successfully raised the recycling rate from last year's level of 97.5% to 98.9%. Since 2002 in particular, efforts at advancing upstream countermeasures have been made by a newly established specialist group, and through investment in facilities and the like, Nissan has advanced a range of far-reaching waste reduction activities.

\*1: Reducing the volume of waste that goes directly from plants and business offices to landfills to less than 1.0% of the 1990 level.

#### Waste Disposal Flowchart (metal waste included)



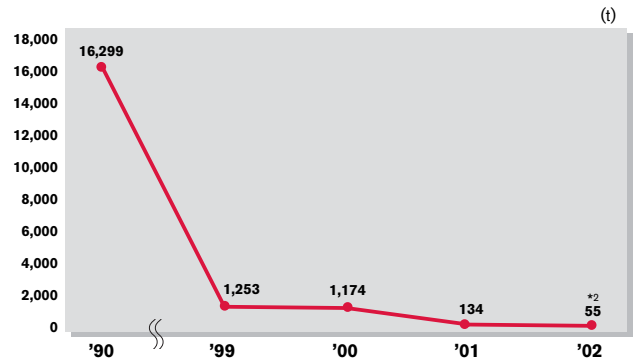
#### Main Examples of Waste Reduction & Recycling in 2002

Category	Waste Reduction Items
Reduce	Switchover to returnable pallets for the packaging of import components Implementation of wastewater processing as a result of the introduction of bio-processing for concentrated effluent
Reuse	Collection and reuse of protective component caps Reuse of discarded components (i.e., green parts)
Recycle	Recycling of window glass to new glass wool Recycling of grindstones, concrete, and stones to obtain roadbed materials Recycling of sputter (i.e., iron powder from welding) to obtain steel material Recycling of office equipment to obtain copper and other metals Thorough separation of floor garbage using separation machinery to obtain metals and roadbed materials Recycling of mixed paper to obtain toilet paper Recycling of wastewater processing sludge to obtain raw materials for cement Recycling of sludge from pre-paint processing to obtain raw materials for cement Recycling of lumber to obtain compost Recycling of FRP to obtain cement fuel Recycling of wood chippings to obtain particle board Recycling of waste grease to obtain fuel

Paint guard film: Protective paint film for automobiles

Mixed paper: Various types of paper such as heat-sensitive printer paper, carbon paper, shredded paper, cigarette-box paper, and the like

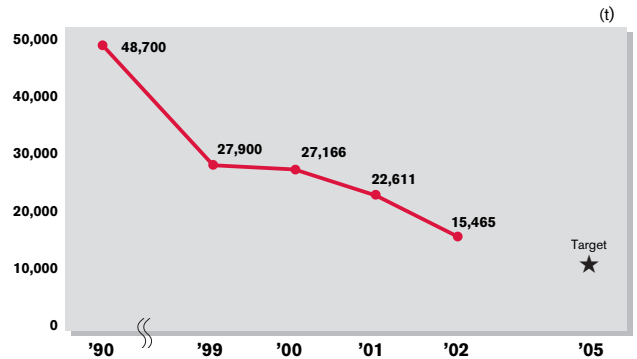
#### Amount of Disposed Waste that goes Directly into Landfills<sup>\*1</sup>



\*1: Shows the volume of waste that goes directly into landfills from plants and business offices.

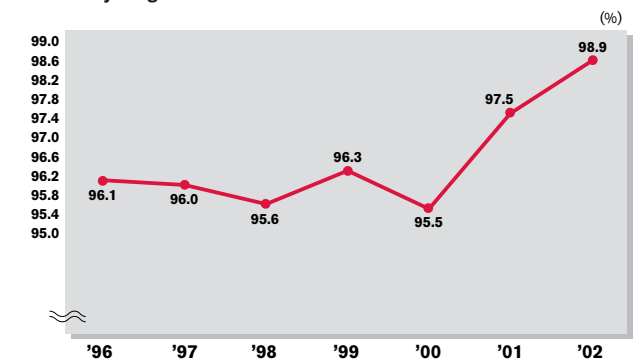
\*2: Fiscal conversion value of the level for March 2002.

#### Volume of Incineration at Nissan

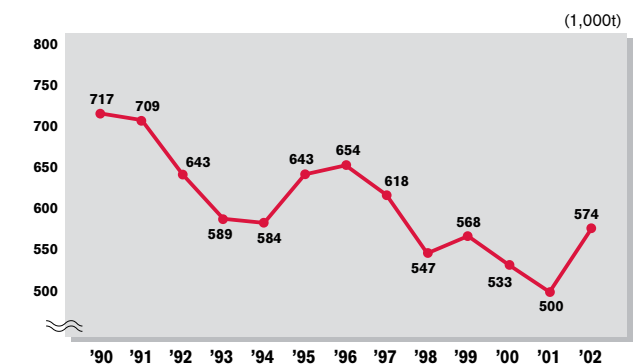


\* Figures from 1999 and onward do not include the Fuji Plant as this was spun off into a separate company.

#### Total Recycling Ratio



#### Volume of Waste Generated



**5. Management of Chemical Substances**

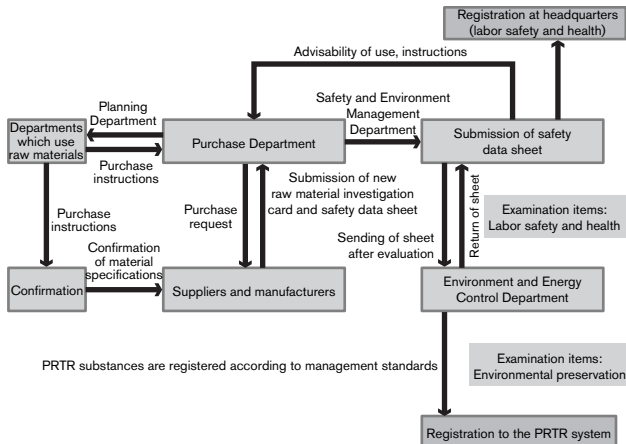
When new oils and fats, chemicals, paints, and other materials are adopted for use within the company, the correspond Material Safety Data Sheet (MSDS) is acquired from the material's manufacturer, and the information that this provides is used to evaluate all environmental, safety, and health factors. As a result, harmful substances are prohibited from use and are replaced with materials that have less impact on the environment; furthermore, those materials used by Nissan are registered in the PRTR\*1 system, and the corresponding usage quantities and the volumes discharged to the environment are totaled. Chemical products which require registration are those 435 substances designated by the PRTR Law — i.e., the Law Concerning Reporting, etc., of Release of Specific Chemical Substances to the Environment and Promotion of the Improvement of their Management — as well as various other chemicals listed in the MSDS.

This statistical system for chemical substances accesses information from the purchase control system for procurement of materials, and by managing all necessary information in an integrated manner, reliable statistics can be tabulated with no possibility of omission. Furthermore, this system also ensures that notification of discharge volumes as required under the PRTR law is provided to the appropriate authorities.

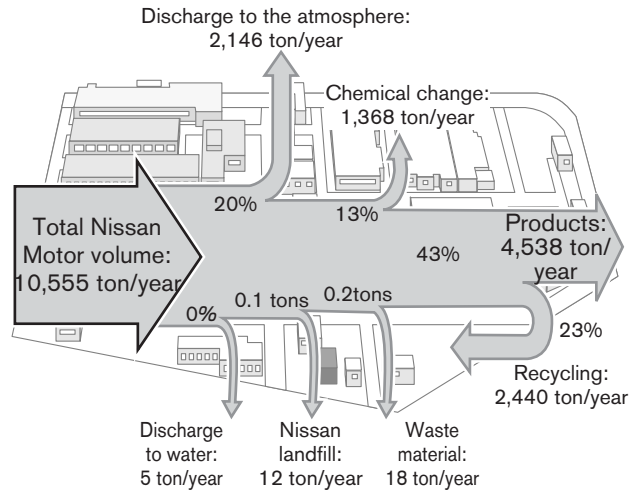
Upon consideration of the statistical results for FY 2002, it can be seen that toluene and xylene account for more than 90% of discharged substances, and this is unchanged from the previous year. These chemical compounds have little impact on the environment and they breakdown in the atmosphere after a relatively short period of time; accordingly, they are not recognized as being carcinogens. Although the Clean Air Act does not even apply to these substances, we are endeavoring to reduce their large discharge volumes, and these efforts are centered on the switchover to water-based paints in painting processes and the recovery of cleaning thinner.

\*1: Pollution Release and Transfer Register

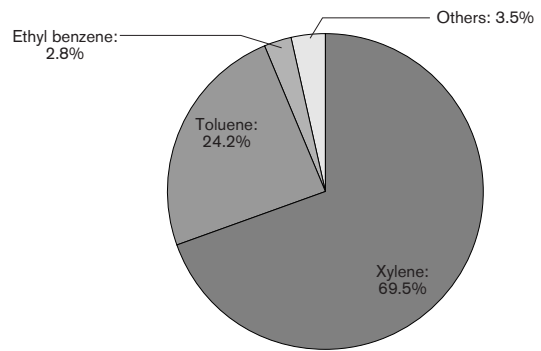
**New Raw Material Management System**



**Balance Sheet for PRTR Materials (for five Nissan plants)**



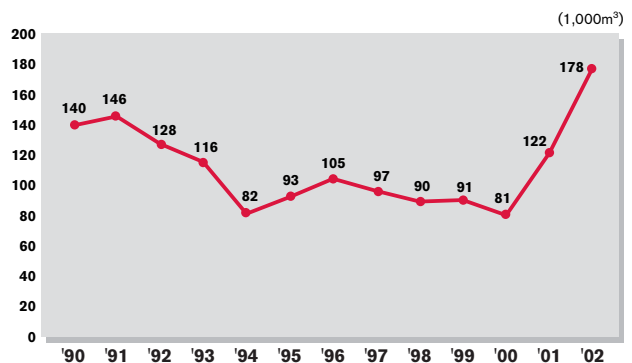
**Figures for Discharge to the Atmosphere**



**6. Prevention of Air Pollution**

Efforts to improve nitrogen oxide (or NOx) emission levels focus on incineration methods, and these efforts continue to generate reductions in emission levels. Furthermore, as a means of preventing global warming, co-generation systems were introduced to the Tochigi Plant in 2001; and to the Oppama Plant in 2002. However, this has actually lead to increased levels of sulfur oxides being discharged.

**Amount of Sulfur Oxide (SOx) Released**



### Reduction of Volatile Organic Compounds (VOC)

In order to reduce the levels of VOC generated in the painting process, we have increased the recycling rate for discarded paint thinner and reduced this substance's overall usage level. As a result of these measures, the amount of VOC released in 2002 per painted area was reduced by 59% when compared with figures from fiscal 1994. Furthermore, water-based painting lines which generate lower volumes of VOC have been introduced at the Kyushu Plant, and while further efforts to promote the switchover to this type of equipment were made during the current year, this project drew to a conclusion in 2002. Nevertheless, the world's top VOC-discharge level of 20 g/m<sup>2</sup> was targeted and successfully achieved at that plant. \*

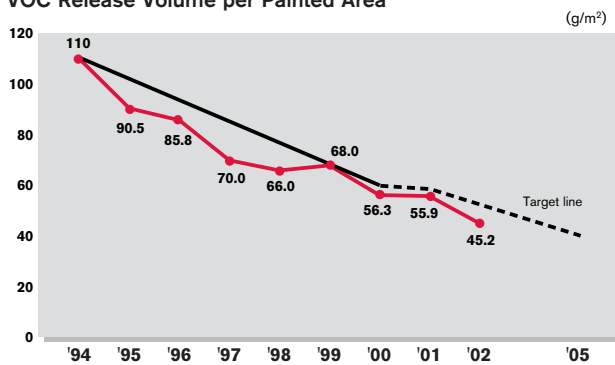
As the technologies required for water-based painting lines have now been developed, it is currently intended to expand the usage of this equipment to all Nissan plants so that their VOC discharge levels can also be reduced.

\* VOC: Volatile Organic Compounds



Painting line using water-based paints (Kyushu Plant)

### VOC Release Volume per Painted Area



### Control of Dioxin Generation

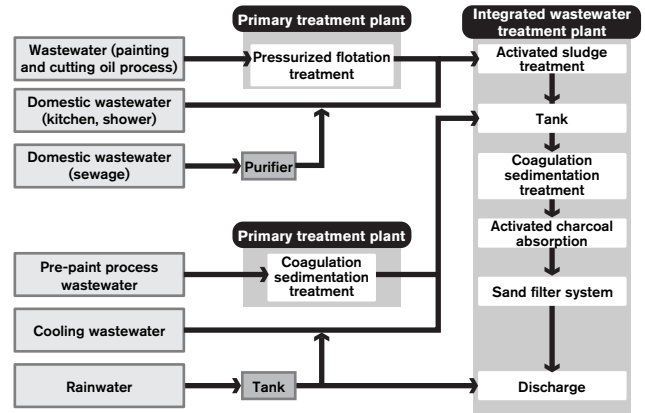
Dioxins are contained in gases which are emitted from industrial waste incinerators and aluminum melting furnaces, and they are subject to special dioxin countermeasures laws. Nissan has already reduced dioxin emissions to well below the levels required by the current regulations, and although these regulations were reinforced in December, 2002, we embarked upon a project to reduce Nissan's dioxin emission levels to less than one tenth of the regulated level: We have been successful in achieving this target. Furthermore, as waste incineration volumes continue to decrease, this also contributes to lower levels of dioxin emission.

Plant	Facilities	Description of Measures	Year
Kyushu	Waste matter incineration furnace	Preheating of combustion air, installing automatic controllers, installing fly-ash separation equipment	2000
		Spraying of activated carbon	2001
Oppama	Waste matter incineration furnace	Spraying of activated carbon	2000
Tochigi	Waste matter incineration furnace	Repair of waste heat boiler	2002

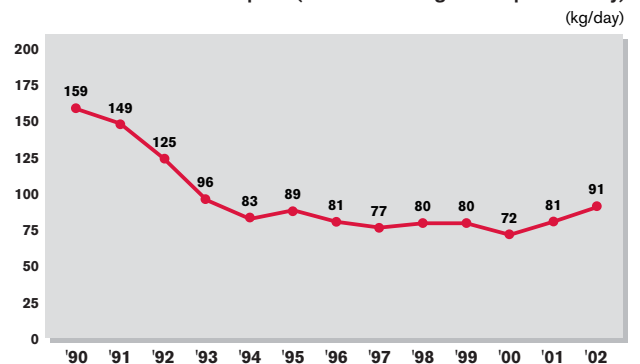
## 7. Prevention of Water Contamination

Vigorous efforts are being made to promote the in-process recycling of water used at Nissan plants, and usage volumes have thus been reduced. In terms of wastewater also, advanced processing is being carried out at treatment facilities before releasing this water into the environment. The introduction of organic processing in 2002 as a means of dealing with concentrated effluent has resulted not only in improvement of water treatment capabilities, but also in the reduction of water-treatment contamination levels. Based on the results of environmental performance monitoring being carried out with identical standards at all offices and centers, we intend to further enhance our management capabilities for personnel, property, and facilities.

### Wastewater Treatment Flow

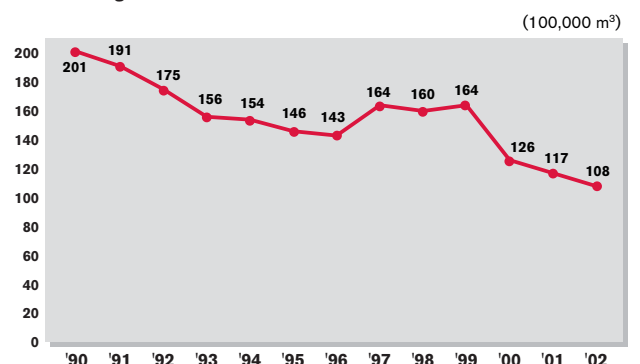


### COD\* Contamination Impact (for volume-regulated plants only)



\*: Chemical oxygen demand

### Water Usage Volume



**8. Prevention of Soil and Water Contamination**

Even before the drinking water standards for volatile organic substances were established in December 1992 under the Waterworks Law, our business offices had been participating in periodic examining of underground water. Furthermore, in accordance with the acquisition of ISO14001 certification by these offices, we consider it necessary to independently examine the environmental impact on soil and underground water. In this, we are currently studying both soil and underground water and are investigating the history of chemical substances which have previously been used. In accordance with the outcome of these investigations, further surveys and detailed investigations were held at those business offices where improvements were considered necessary. After purification measures were evaluated, we reported the corresponding results to the regional authorities, and under the guidance of these authorities, we promoted measures to create greener environments. We also began purification measures at the plants and offices where further improvements were needed, and these have been brought to conclusion at the Ogikubo and Zama business offices. Note that we do not use those volatile organic compounds which are regulated by the environmental standards. (Volatile organic compounds as referred to here are tetrachloroethylene, trichloroethylene, 1,1,1 trichloroethylene, and dichloromethane)

**Impact of Organic Chloride Compounds in Soil and Underground Water and Measures Implemented**

○: Used —: Not used

Name of business office	Name of substance		Results of investigation and measures implemented
	Past	Present	
Yokohama Plant	District 1	○ —	No pollution
	District 2	○ —	No pollution
	District 3	○ —	Cleaning is under way
	District 4	○ —	No pollution
Former Kurigahama Plant	—	—	No pollution
Oppama Plant	○	—	No pollution
Former Murayama Plant	○	—	Cleaning is under way (and is completed in certain cases)
Tochigi Plant	○	—	Cleaning is under way
Kyushu Plant	○	—	No pollution
Iwaki Plant	—	—	No pollution
Zama Business Office	○	—	Cleaning has been completed
Honmoku Business Office	—	—	No pollution
Sagamihara Business Office	—	—	No pollution
NTC District	—	—	No pollution
Former Ogikubo Business Office	○	—	Cleaning has been completed

**HP Environmental investigation of the Kurigahama Plant**

News Release 2002/8/1



Environmental investigation of the former Murayama Plant

**9. Environmental Preservation in Logistics**

As a result of streamlining our logistics system and improving the containers which are used, Nissan has achieved favorable results in terms of reduced CO<sub>2</sub> emission. Increases in automobile production volumes at Tokyo plants in 2002 have resulted in higher ratios of land transportation. In order to compensate for this, new marine routes have been established and the transportation of components has been rationalized; accordingly, our logistics have become more effective as a result. In order that we may further improve loading ratios in the future, Nissan is vigorously promoting more efficient usage of empty containers in the transportation of components and the switchover to shared, returnable pallets for service components. In terms of modal shift, furthermore, marine transportation is also being promoted.

**Enhancement of Loading Ratios**

By increasing the loading ratios of trucks and trailers, we have made it possible to reduce the number of operating vehicles, thus promoting more-efficient logistics through the reduction of emissions, the preservation of energy, and the alleviation of traffic congestion. In more specific terms, we are currently promoting the following:  
 Transportation of finished vehicles: Sharing of transportation with other manufacturers and transporting used cars on return trips.  
 Delivery-part transportation: Transporting mixed cargo and switching to lighter, more compact containers.  
 Service Parts Transport: Sharing transportation with other manufacturers and integrating destinations.

**Modal Shift Transportation**

In order that parts and finished vehicles may be transported to remote destinations, we have shifted from trucks and trailers to marine transportation; accordingly, transportation efficiency has increased and CO<sub>2</sub> emissions have dropped.

**Promoting Resource Protection and Recycling**

In order to protect forests and woodland, Nissan has switched from wood and cardboard in packing and packaging materials to iron and plastics. In this way, we hope to facilitate the repeated usage of resources.

**Objectives in Logistics**

Products	Management item	2002		2003
		Target	Results	Target (tentative)
Finished vehicles	Marine transportation ratio (%)	48	47	47
Delivery components	Reduction in numbers of trucks	70	206	150
Service parts	Reduction in numbers of trucks	18	27	26

### 3 Sales and Service

Through the Nissan Green Shop Certification System we are involved in the preservation of the local environment by implementing appropriate treatment and recycling of waste generated from service and repair operations at the dealers and from End of Life Vehicles (ELVs).



#### 1. "Nissan Green Shop" Certification System

##### Certification of all Dealers has been Completed

From April 2000 we introduced our own environmental management certification system based on ISO14001 and reinforced the environmental preservation activities of our dealer companies. As of March 2002 the certification of all dealer companies has been completed.



Certification Sticker

##### Internal Inspection and Surveillance

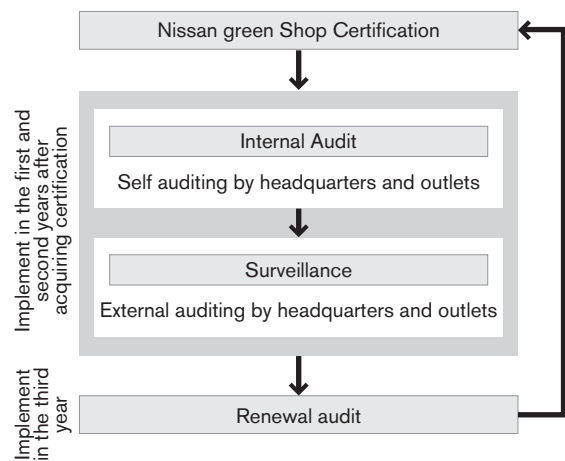
We verify the continuation of environmental preservation activities in order to establish environmental management and to maintain and enhance activities by having the dealers themselves inspect themselves, and through our company's surveillance in the first and second year after certification and to renew the inspection in the third year. As of March 2003, the surveillance of all 226 dealers\* has been completed. Also, after they are trained, the number of Nissan Green Shop inspectors increases.

\*: Total number of vehicle, parts, forklift, and other dealers as of March 2003.



Surveillance

#### Flowchart for Continued Activities after Certification



Green Cycle Communication (Nissan Motor intends to continue the regular release of this publication as a tool for the exchange of information with Nissan dealers.)



Internal PR tool

#### Example of activities: Nissan Satio Chiba



Workshop rags for cleaning away of dirt and receptacles to prevent leakage



Easy-to-see signs



Yellow display to aid identification of oil-separation equipment positions



**2. Recovery & Breakdown of Air-Conditioner Refrigerants**

June of 2001 saw the formulation of a law for the collecting and destruction of chlorofluorocarbons, and this law was subsequently enacted in December of the following year. Nissan Motor has entrusted the Japan Automobile Recycling Promotion Center with responsibility for all corresponding activities, and has been progressing in the collection and destruction of chlorofluorocarbons (CFC12) and hydro-fluorocarbons (HFC134a).

**Support to Dealer**

In advance of enactment of the law for the collection and destruction of chlorofluorocarbons, explanatory meetings for dealers were held at a total of eight locations nationwide in September 2002, and these meetings allowed the roles and actual duties of dealers to be clarified and efficiently communicated. In addition, these activities have also ensured that all dealers have now been registered by the relevant local authorities as the operators set forth by this law.

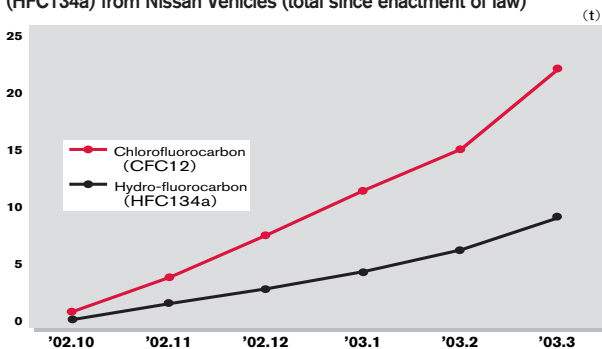
**Incorporation to the Nissan Green Shop Certification System**

Those items which required checking in accordance with the law for the collection and destruction of chlorofluorocarbons have been added to our own list of inspection items, and the corresponding checks are now carried out as part of surveillance activities. Furthermore, the Nissan Green Shop Manual has been updated accordingly and distributed to all dealers.



Chlorofluorocarbon collection vessel

**Actual Collection of Chlorofluorocarbon (CFC12) and Hydro-fluorocarbon (HFC134a) from Nissan Vehicles (total since enactment of law)**



**Recognition for Nissan Green Shop Activities (for Japanese Market)**



Nissan's Green Shop policies and activities are highly regarded as a means of promoting a more environmentally-conscious society, and this program was awarded the Enterprise Activity Award at the 2002 Wastec Awards. In awarding this prize, the Wastec award committee singled out the following points for particular praise.

- (1) Green Shop certification of all dealers has been completed.
- (2) The promotion of environmental protection.
- (3) Appropriate treatment of end of life vehicle.
- (4) Activities for the improvement of management practices



**3. Collecting and Recycling Bumpers**

We collect used plastic bumpers generated at dealers from all parts of Japan to repair and exchange them. The collected bumpers are recycled into plastic parts for new vehicles.

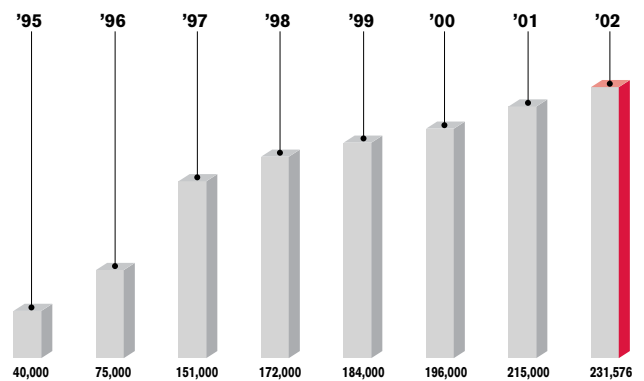


Collected bumpers



Recycling process of materials

**Bumper Collected Volumes**



## 4 Recycling

Japan's automobile recycling law was established in July 2002 and will be enacted in the latter half of 2004. Besides complying with various laws and regulations concerning End of Life Vehicles (ELVs), it is important to improve ELV processing and recycling systems enable to have customer's reliance. We have striven to make effective systems with the help of others.



Sadao Sekiyama  
(Senior Vice President, Recycling Committee; Chairman, Director in Charge of the Recycling Promotion Department)

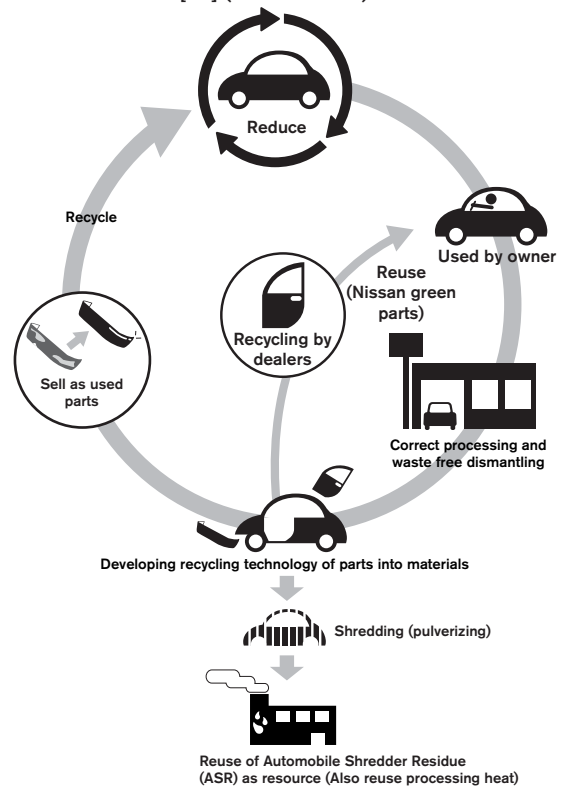
Our aim is to help society recycle. Our activities are based on the concept of the "Three Rs". The first R is "Reduce"<sup>\*1</sup>, to design automobiles that have a longer lifetime and use less resources. The next R is "Reuse"<sup>\*2</sup>, Before ELVs are placed in a shredder, parts are removed and given new life as used parts. Also, at the end-of-life stage, parts are returned to their original materials ("Recycle").

We are even working to reduce environmental impact of the final waste, Automobile Shredder Residue (ASR)<sup>\*2</sup>. We are in the process of developing a technology to reduce this waste and recover energy from it.

\*1 Reduce: Reduce the amount of wastes through resource conservation and extended product lives.

\*2 Automobile Shredder Residue (ASR): The dust that remains after ELVs have been shredded and metals, such as steel, have been removed. Most ASR is landfilled today.

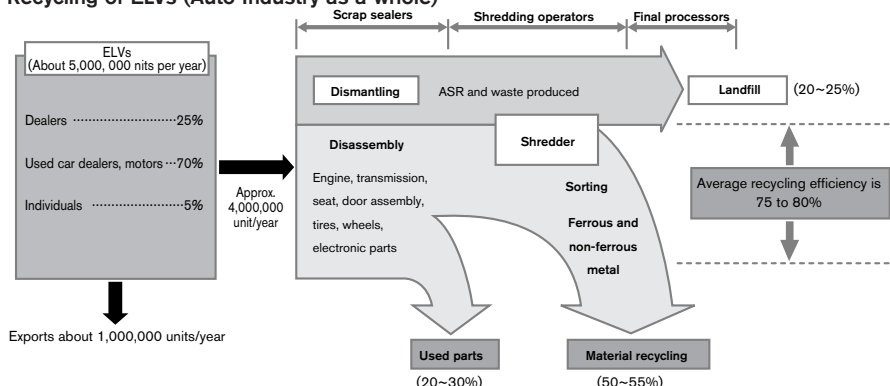
### Green Cycle (recycling as seen by Nissan) [3R] (Nissan Model)



### Approach to 3R at Nissan

Reduce: Approach to Reducing waste generation	Reuse: Approach to Reusing parts	Recycle: Approach to Material Recycling
<ul style="list-style-type: none"> <li>Efforts aimed at long life design and reducing usage of resources</li> </ul>	<p>Product</p> <ul style="list-style-type: none"> <li>Efforts aimed at reuse of vehicles</li> <li>Efforts aimed at the reuse of parts</li> </ul>	<ul style="list-style-type: none"> <li>Efforts aimed at recycling of items for appropriate treatment</li> <li>Efforts aimed at adoption of recycle</li> <li>Efforts aimed at recycling of Automobile shredder residue at Oppama plant</li> </ul>
<ul style="list-style-type: none"> <li>Efforts aimed at suppressing the generation of byproducts through rationalization of production processes</li> </ul>	<p>Byproduct (= industrial waste)</p>	<ul style="list-style-type: none"> <li>Efforts aimed at reusing byproducts from manufacturing processes as raw materials</li> </ul>

### Recycling of ELVs (Auto Industry as a whole)



Nissan's additional measures for achieving an 85% recycling rate

Oil collection rate  
Battery collection  
Recycling rate + 1.8%

Tire collection rate  
Recycling rate + 3.8%

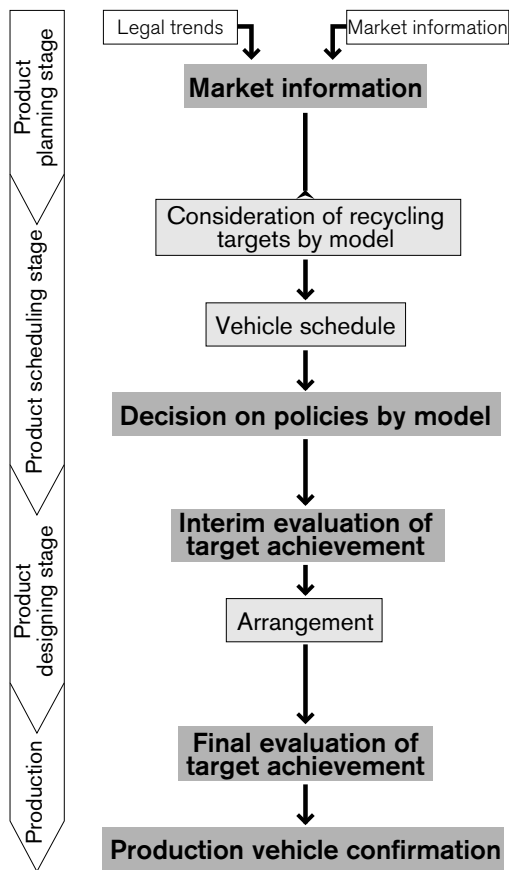
Reuse ASR  
Thermal energy usage rate + 2.4%

Add to above items, more activities to increase recycling are requested through "Communication" (cf. P36)

**1. Activities at the New Vehicle Development Stage**

**Development Process for 3R Design**

Target values for new model development have been set with respect to the recoverability rate, the environmental impact substance, the dismantling efficiency, and the marking standard for plastic components. We clarify the evaluation criteria in the designing stage, and we evaluated and manage the degree of target achievement in the development process according to ISO14001.



**Recycling Targets**

At Nissan, we have achieved recoverability rate of 90% or higher for all new vehicles launched since 1999; furthermore, in 2002 we successfully achieved a rate of over 95% for the new Cube. Nevertheless, we fully intend to continue in our development efforts to realize even higher potential recycling rates in future new models.

Recoverability rate: Determined in accordance with Nissan's own calculation standards

**Results for 2002's New Models**

90% or higher: Elgrand, Fairlady Z, Skyline Coupe, and Teana  
 95% or higher: Cube

**Design Guidelines**

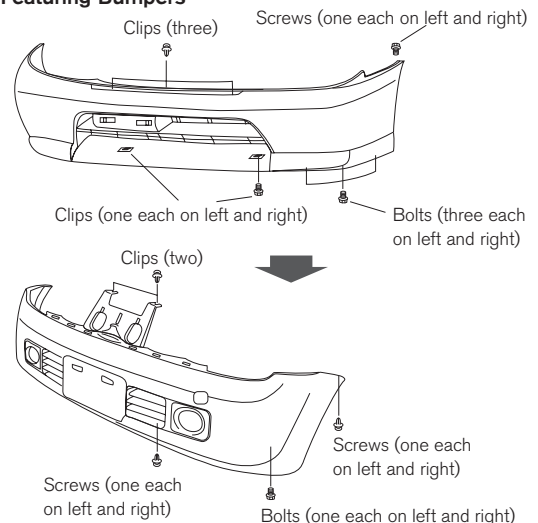
The Recycle Design Guidelines have been created in order to ensure a positive and proactive approach to recycle-conscious design of new models. To recycle ELVs and reuse parts, recycling and reuse designs must be built into the automobiles when they are developed as new models. To efficiently recycle ELVs, the guidelines provide a framework for making improvements. Namely, the guidelines show how to facilitate recycling from the design stage by incorporating the improvements that were requested on previous products and the ideas for new mechanisms.

**Development of Easy-to-Recycle Structure**

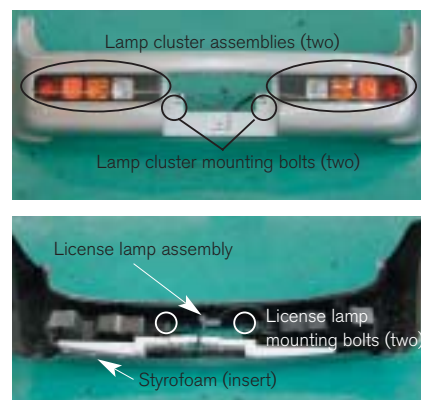
(1) Ideas to make parts easier to remove

Nissan has made parts easier to remove from automobiles by reducing the number of parts and reducing the number of points where parts are installed on automobiles.

**Example Featuring Bumpers**



**Example of Rear Combination Light**

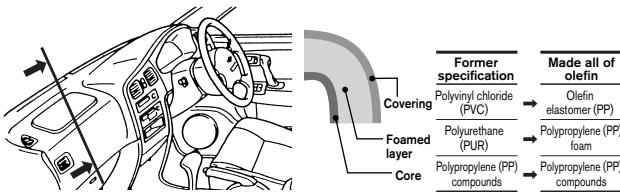


**(2) Easy material separation**

Many parts are made of more than one material. As a result, separating these materials is an essential step in recycling. We are advancing the use of structures that allow the complete separation of materials and the development of parts made of single materials.

**Parts made of single materials**

Example of Improvements to the Instrument Panel (made all of olefin)



**(3) Easy identification of materials**

When plastics of different types are mixed, the material recycled from the mixed plastics tends to be inferior in quality. In some cases, the plastic mixture is difficult to recycle. At Nissan, we mark plastics parts with material code according to ISO 11469. Large parts such as bumpers that are cut off prior to disassembly are marked in several places.



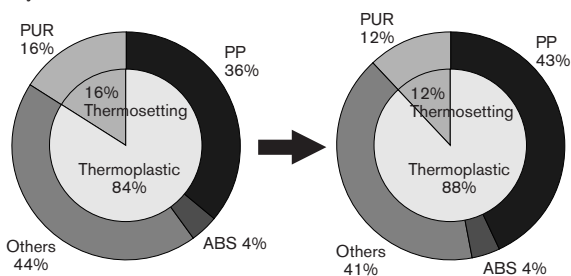
Example of material code marking

**Development of Easier to Recycle Plastics**

Today, plastics materials that are difficult to recycle are landfilled in the form of ASR. To recycle a greater amount of such plastic materials, we are expanding the use of parts made from single materials and the use of materials that are easy to recycle.

**(1) Greater use of thermoplastic**

Nissan is promoting the wider use of thermoplastic, which are easy to recycle.



**(2) Consolidation of polypropylene**

PP is a common thermoplastic that accounts for approximately one half of total plastic use. The material is used for a variety of application, from bumpers with excellent impact characteristics to heater parts which require excellent thermal properties. We have decreased the variety of PP that we use in production to six types that are readily available overseas.

**Reduction of Substances with Environmental Impact**

The Nissan Green Program 2005 targets the reduced usage of materials with an environmental impact, and activities are being carried out with this aim. The auto industry's target for lead use was to reduce lead use by approximately one third of the 1996 level by the end of 2005. Nissan achieved this target on five new models we introduced in 2002. Furthermore, efforts are currently underway to develop replacement technologies for hexavalent chromium.

**Suppliers' Meeting for Environmental-impact Substance Reductions and Current Conditions**

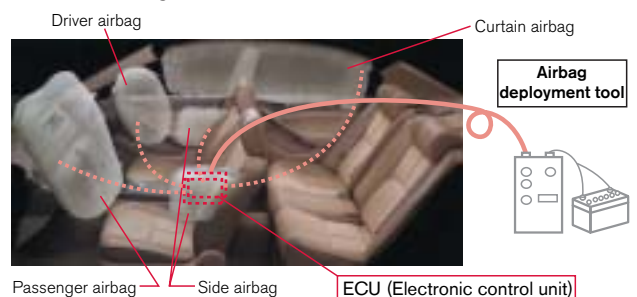
Meetings have been held to provide our suppliers with information regarding Nissan's targets, reduction policies, and management methods for substance with an environmental impact. As part of efforts to ensure that consideration is given to environmental quality even from the design stage, our suppliers are requested to provide reports on such substance in terms of reduction and usage conditions, and chemical substance data for components and materials is currently being maintained and monitored. Furthermore, the International Material Database System (IMDS) is being put to use in the identification and control of chemical-substance usage volumes within Nissan products, and this also links with activities for reducing the environmental impact. In 2002, a study was undertaken in terms of materials subject to European regulations (i.e., lead, mercury, cadmium, and hexavalent chromium) and the usage of these materials has been discontinued (except of excluded components).



Suppliers' meeting

**Simultaneously Operated Airbag Deployment System for Easier Pretreatment**

It is now possible during the processing of ELV to ensure that airbags can be safely and easily deployed within the vehicle. In this, an airbag deployment device is connected to the vehicle's deployment connector, and by simply pressing a button, all airbags on the vehicle can be deployed simultaneously, regardless of the number of airbags.



**2. Efforts in the End of Life Vehicles Processing Stage**

Nissan is developing new technologies and systems for properly processing waste oils and liquids and those for recycling parts and materials in an effort to reduce shredder dust and lower environmental impact.

**Demonstration Disassembly Research**

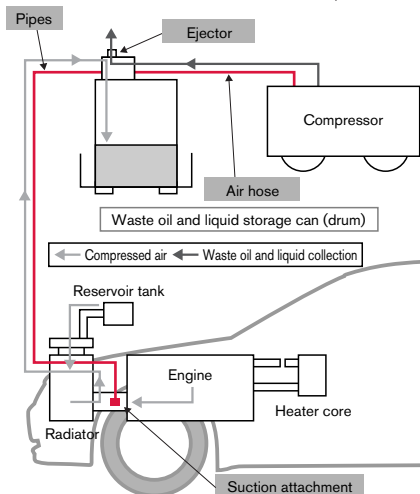
Nissan is developing processes and technologies for properly processing waste oils and liquids from the ELV dismantling process to improve the recycling rate without polluting the environment. The information and technical knowledge obtained through the research are disclosed to relevant industries.

**(1) Development of equipment for appropriate treatment of waste oils and liquids**

Using our knowledge as an automaker, we developed “one-stage drainer”, a equipment that securely and economically collects waste oils and liquids in a single process. We began selling the equipment in May 2001. This equipment roughly doubles the volume of waste oils and liquids that can be collected, and allows the work to be performed quickly. In order to prepare for usage of this product in France, practical testing is currently being carried out in that country.



Operation test in France



Overview of the one-stage drainer system (system shown is engine coolant case)

**(2) Engine long-life coolant (LLC) recycler**

Nissan has sold “Fukkatsukun”, an LLC recycling machine used since April 1999.

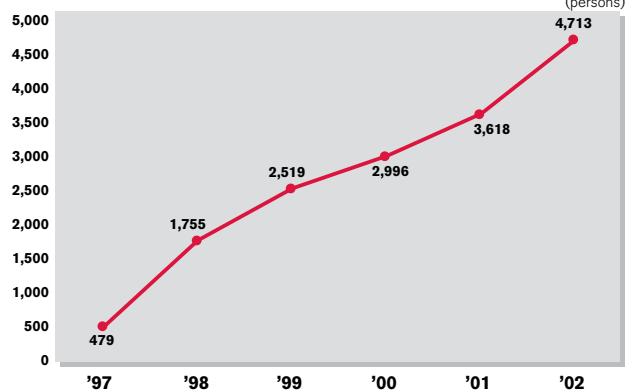
**(3) Airbag deployment equipment**

Nissan has developed airbag deployment equipment that controls odor and noise in air bag deployment. The equipment is being used by dismantlers.

**(4) Disclosure of research**

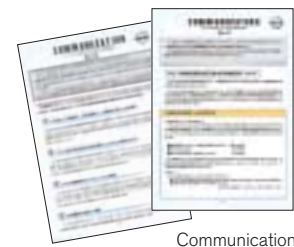
Nissan encourages visitors to see its experimental disassembly plant. So far the plant has received visits by many dismantlers, car dealers, parts sales companies, government offices, schools, and mass media. Between its startup in October 1997 and the end of 2001, the plant received approximately 4,700 guests.

**Total Number of Visitors**



**(5) Exchanging information with recycling industry**

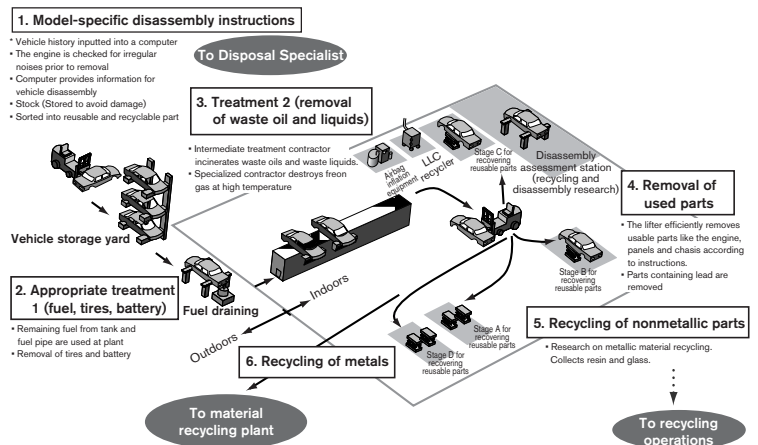
In December 1999, we published the first edition of “Communication”, a quarterly publication designed to exchange information between our company and the recycling industry and to promote the appropriate treatment and recycling of ELVs. The eighth edition was published at the end of 2002. We will continue to publish this magazine.



Communication



**Nissan's concept of Appropriate Treatment and Dismantling Plant Layout**





### Sale of Reuse and Rebuilt Parts

Reusable parts are sold under the product name "Nissan Green Parts: Nissan Green Parts are available as reuse (used) parts"\*1 and rebuilt parts"\*2. Nissan Green Parts is Nissan's way of promoting recycling and providing customers with an option in a repair.

Reuse parts are maintained at a total of fifteen different Nissan parts dealers nationwide, thus allowing these parts and rebuilt parts to be supplied via all 31 parts dealers within Japan.

\*1 Reuse parts: Used parts that are reused after washing and performing a quality check.

\*2 Rebuilt parts: Recycled parts that are disassembled, washed, inspected, and fitted with new expendable parts.

#### (1) Sale of reuse parts

We have established our own part removal standards, developed testers for the engine and transmission, and devised a sales method for the parts. As a result, we have a smooth, consistent flow from part removal to sales.

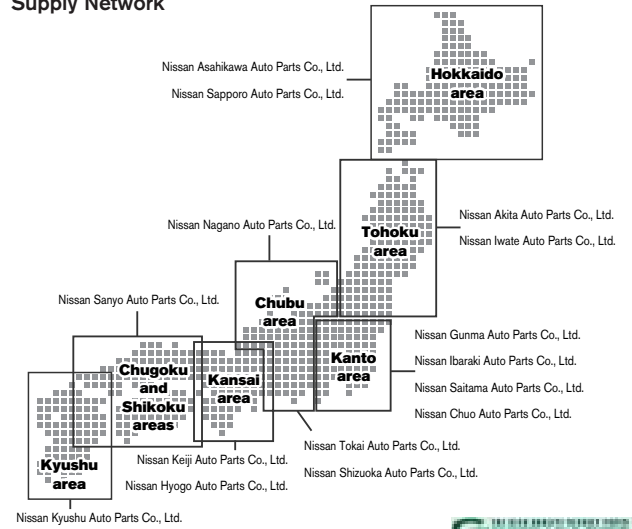
#### Reuse parts product line

31 items including headlights, combination lights, doors, fenders, bumpers, hoods, meters, starters, wiper motors, driveshaft, power steering and linkages, and side view mirrors.



Reuse items

### Supply Network



#### (2) Sale of rebuilt parts

Functional parts and parts whose safety is of paramount importance are disassembled, washed, inspected, and fitted with new expendable parts before they are sold so our customers can use them with confidence.

#### Rebuilt part product line

11 items including engines, automatic transmissions, torque converters, ECMs, brake shoes, power steering pumps, N-CVTs, alternators, and starters.



Alternator

Rebuilt items

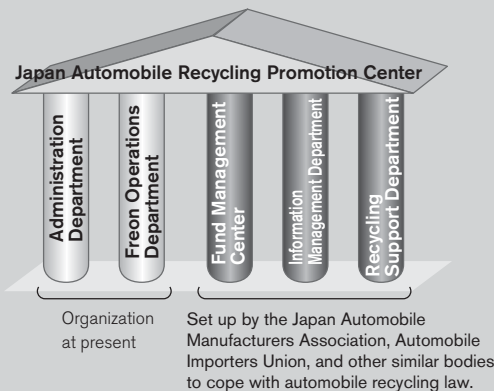
Starter



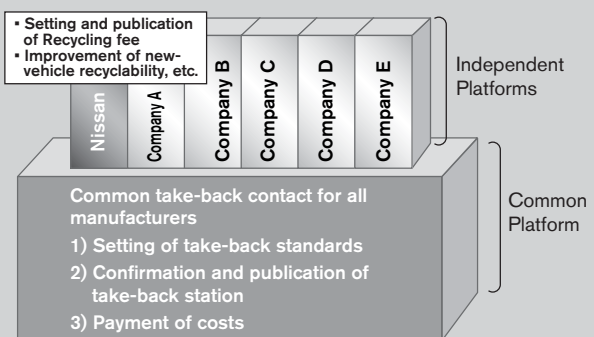
### Preparation for Laws & Regulations Applicable to Vehicle Recycling (part 1)

The Japan Automobile Manufacturers Association, the Japan Automobile Importers Association, and other bodies have been established in response to the automobile recycling law that will be enacted from 2005.

#### 1. Joint Establishment of Recycling Management Bodies



#### 2. Development of a Common Platform for All Manufacturers



**Material Recycling Technology**

Nissan is continuing research on technology to recycle used materials that are difficult to recycle, such as plastics, to improve the recycling rate of ELVs and recyclability of new models.

**(1) Technology for reuse of removed parts in identical applications**

Because used bumpers (made of polypropylene) are painted, recycling them presented a number of problems, including reduced strength. We have developed a mechanical paint remover that removes paint from crushed bumpers without using chemicals and does it less expensively than in the past. We make recycled bumpers from used bumpers and supply them as replacement parts.

We also are preparing to use the recycled bumpers on new models.

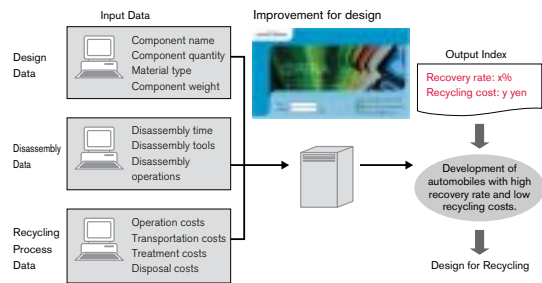
**(2) Technology for reuse of removed material to parts**

Nissan has begun a full-scale operation to directly use aluminum wheels from ELVs as the raw material for parts on new vehicles. (These results correspond to the period after the start in October.)

**(3) Development of recycle evaluation systems**

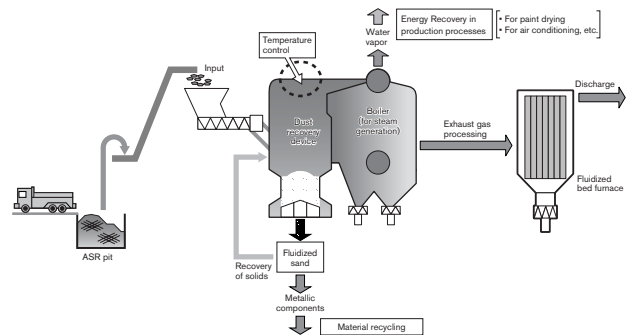
Renault and Nissan have jointly developed a system named as Opera which can simulate the recovery rate and costs in the process of recycling end of life vehicles. This system allows efficient recycling more economically, to evaluate recovery rates and costs at the development stage; based on design data furthermore, investigation of this system for recycling design is currently underway.

**OPERA: The Recycling Evaluation System**



**(4) Recovery of Automobile Shredder Residue (ASR) in the Oppama Plant**

In a program scheduled to start in fall 2003, a portion of the incinerator located in the Oppama Plant for processing of industrial waste will be modified to recover energy from ASR. The amount of heat generated by ASR is large and the control of temperatures during incineration had proved difficult; furthermore, other problems such as the adhesion of foreign substances to the inside of the furnace, to the boiler's evaporation pipes, and to other similar components have also been associated with this process. However, optimum temperature control has now enabled these problems to be eliminated. Water vapor is also produced in this process, and this can also be put to effective use in the humidification of the plant's pre-painting processes.



**TOPICS Preparations for Laws & Regulations Applicable to Vehicle Recycling (part 2)**

**Activities in Europe**

The EU directive on end of life vehicles was enacted in October 2000, and this directive put the responsibility for recovery and recycling of end of life vehicles on the manufacturers. (Each nation in the EU will enact its own regulations in accordance with this directive.)

**1. Alliance with Renault**

In December 2000, Nissan Europe and Renault integrated their respective recycling departments in order to collect relevant information and provide support to EU dealerships jointly.

**2. European Recycling Committee**

Our European Recycling Committee comprised with representatives from each departments such as development, sales and management are held on a regular basis. In terms of activities to be carried out by Nissan in Europe, this committee is responsible for the specification of policies, for confirmation of the state of progress, and for other related tasks.

**3. Cooperation with distributor in EU Countries**

Meetings with representatives from distributor in the each EU country are held regularly so that activities such as the actual collection of end of life vehicle and the construction of recycling networks can be carried out in accordance with the regulatory trends in each specific country.



**4. Activities in EU Countries**

**France:**

A contract has been concluded with two of end of life vehicle management companies, in order to set up a network for the collection of end of life vehicle and parts which will extend to all Nissan dealerships in France.

**Germany:**

In conjunction with Renault, end of life vehicle collection network supporting all dealerships in Germany has been established by contracting approximately 200 dismantling companies.

**The Netherlands:**

Participating in ARN — an association made up of all importers — Nissan has contracted approximately 260 dismantling companies to perform the collection and recycling of end of life vehicles.

**Sweden:**

Nissan participates in the recycling project established by BIL (the Swedish automobile industries association) and has established a collection network which supports all dealerships nationwide.

**Denmark:**

We are participating in the waste management system established by the Danish government and consumers' groups (including end of life vehicles).

**Austria:**

In Austria, Nissan has joined dealerships to set up treatment network for end of life vehicles.

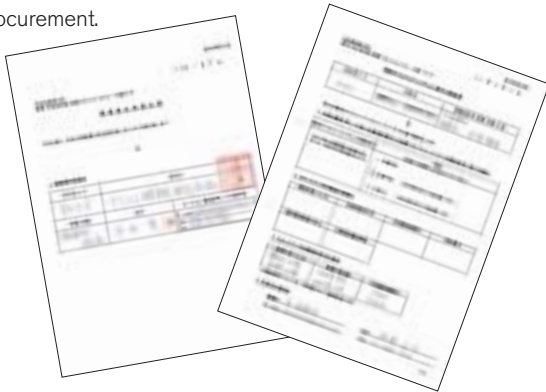
## 5 Others

### 1. Green Procurement

We provide our customers with automobiles — products comprising tens of thousands of individual components — and in order to protect the environment in every possible way, we take each of these components into account in our environmental activities. To reduce the total environmental impact of each product, full and unfailing consideration must be given to the components and materials that make up these products, and this must be done in cooperation with component suppliers. Furthermore, in order to ensure long-term environmental support, it is crucial that these suppliers also undertake their own environmental-protection activities. With the aim therefore of systematically reducing the environmental impact of our products and eliminating environmental risks in cooperation with our suppliers, we have presented these suppliers with the Nissan Green Procurement Guideline and have requested their understanding and cooperation with respect to the following three points.

1. Report data on substances with environmental impact
2. Obtaining ISO14001 certification
3. Notify Nissan of the person in charge of environmental activities

We will continue these activities in 2003 in our efforts to increase cooperation with suppliers and to further promote green procurement.



#### Reporting Data of Substances with Environmental Impact

When delivering components and materials (i.e., oils, paints, and chemicals, etc.) to Nissan, our suppliers take extreme care to ensure conformance with procedures for the management of substances with environmental impact — procedures which are based on this company's original technical standards. Naturally, Green Procurement confirms that substances prohibited by these standards are not being used; furthermore, usage volumes of substances which we have particularly determined to require special attention are ascertained at the development stage, and this allows alternative technologies to be developed at the earliest possible opportunity. Starting with our four new models (i.e., Elgrand, Fairlady Z, Cube, and Teana), Nissan carried out this type of investigation for all vehicles at the development stage in 2002. (See page 58 for details.)

Furthermore, in order that investigation and control may be streamlined and become more efficient, efforts are being made to create a database for all information relevant to components with environmental impact.

#### Obtaining ISO14001 Certification (Establishment of environmental systems by suppliers)

The advance elimination of environmental risk represents the optimum condition for protection of the environment, and the establishment of environmental systems by suppliers is crucial in ensuring that this condition can be maintained indefinitely. With this in mind, our suppliers were requested to undertake the following two activities:

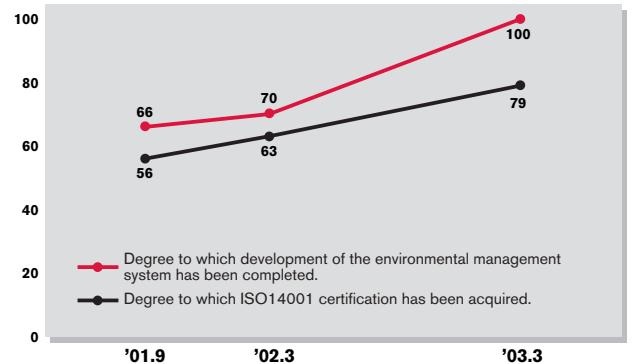
- (1) Develop environmental management system by March 2003.

(Must be reviewed by initial environmental audit and by the management.)

- (2) Acquire the ISO14001 certification by March 2005.

As a result of these actions, all 300 suppliers have established the environmental management system targeted in (1) above. Approximately 80% of our suppliers (i.e., 237 companies) have now acquired ISO14001 certification, and independent efforts are underway with this aim at the remaining suppliers.

#### State of Environmental Management Setup



#### Notifying to Nissan of the Person in Charge of Environmental Activities (Advancement of efforts)

Notification of those persons with responsibility for environmental activities is received from our suppliers in order to promote Nissan Green Procurement activities within those companies and to increase Nissan's level of participation in other environmental protection activities. Furthermore, these environmental managers are required to take full responsibility for the reporting of data regarding substances with environmental impact, for the establishment of environmental management systems, and for obtaining ISO14001 certification. We also share information on our environmental activities and our product's environmental effect to our suppliers via their environmental managers, and this is done using environmental reports, model-specific environmental information, and other similar materials.

We will continue to fully implement beneficial communication for the purpose of improving environmental factors — for example, by reducing the usage of substances with environmental impact in our products. Furthermore, we will increase levels of interaction and communication with suppliers while paying even closer attention to the state of the environment.

**2. Efforts on ITS (Intelligent Transport Systems)**

ITS represents a new technological field where people, automobiles, and roads are brought together using state-of-the-art data communication and electronic technologies. In addition to improving both safety and convenience, this system is expected to contribute greatly to environmental protection through the promotion of smoother traffic flow. With the aim of achieving a more harmonious relationship between vehicle and society, Nissan is making wholehearted efforts in various ITS projects such as the advances navigation systems, the Electronic Toll Collection systems, and the assistance for safer driving.

**ETC System (Non-stop electronic toll collection system)**

ETC is a system which comprises an antenna installed at a tollgate and an ETC unit mounted in the vehicle. This vehicle-mounted unit communicates by radio with the tollgate antenna so that tolls may be paid automatically, thus allowing the driver to pass through the gate without stopping at a tollbooth. The widespread deployment of this system is expected to both reduce traffic congestion and to improve environmental factors in the vicinity of tollgates. Complex fare-setting systems are now possible with ETC, and as a result, this system is beginning to see usage in the control of traffic demand: One such application is environmental road pricing whereby traffic passing through residential areas and the like is redirected along alternative routes. Nissan is actively involved in expanding the usage of ETC, and we currently retail both built-in type ETC products which are integrated with car navigation systems (a manufacturer-installed option) and dashboard mounted products (a dealer-installed option).

**Data Provision Service**

Car navigation systems provide drivers with the most up-to-date information regarding traffic conditions on the route to their intended destination, and it is expected that these systems will

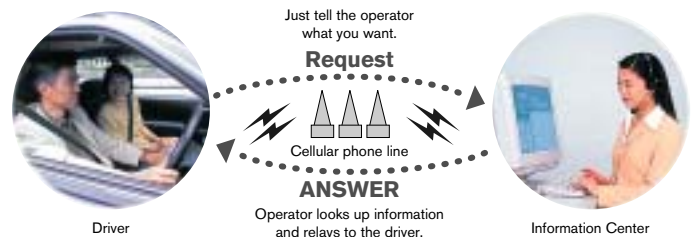
help to reduce travel times, alleviate congestion, and improve traffic flow. VICS (Vehicle Information and Communication System) uses radio or infrared-beacon transmitters located on the roadside or uses FM broadcasting to provide drivers with real-time information on congestion, traffic accidents, road works, traffic restrictions, and other similar conditions. By combining VICS information with BIRDVIEW® Navigation, drivers can now reach their destinations in a smoother and more convenient fashion. CARWINGS is a total telematic service which connects with the vehicle via a cellular phone in order that a wide range of data may be provided; furthermore, an operator-type, driving support service known as Compass Link makes use of both car navigation systems and cellular phones. Through the application of these Nissan systems, we provide drivers with the data which is necessary for driving, and by setting routes to the destination and performing other similar tasks, we are promoting the realization of a more-comfortable, more-convenient transport environment.

**CARWINGS**

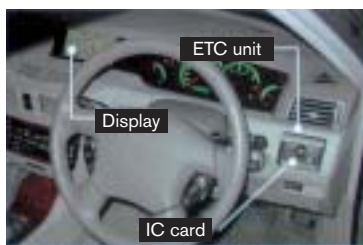
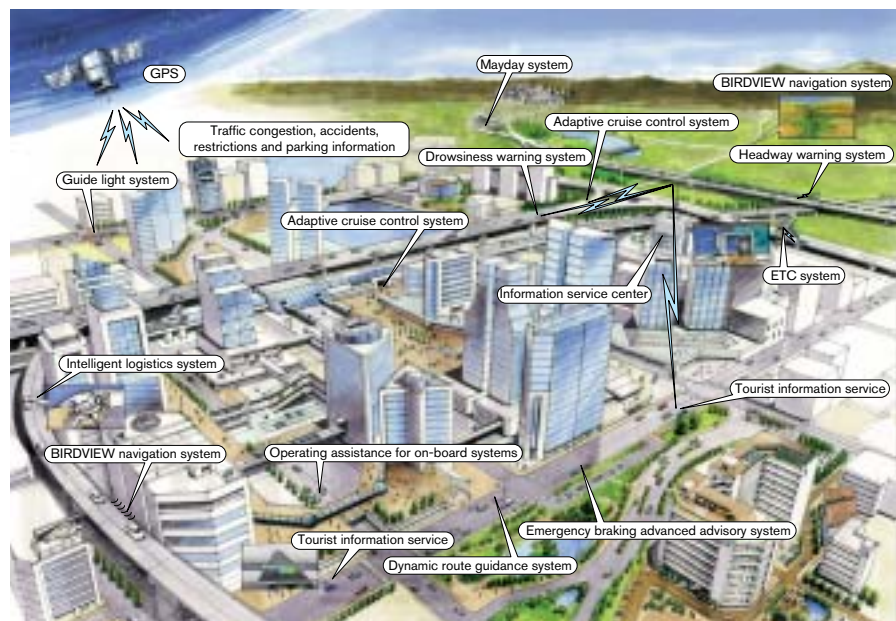


**Overview of the Compass Link System**

Connecting the vehicle and the Information Center using cellular phone lines, this totally-new service system allows the driver to communicate his or her inquiry verbally to an operator who can then provide the necessary information. Any relevant information can be sought from the system's operators.



**Conceptualization ITS of Society**



Built-in type ETC unit



Dashboard-mounted ETC unit



### 3. Environmental Survey and Research

Nissan had actively participated in the Japan Clean Air Program (JCAP\*) and the associated projects to research and develop an air-quality simulation model until its completion in 2001. In addition to developing a model which could predict and evaluate the effect of auto mobile emissions and other sources on air quality in greater urban area as well as roadsides, the JCAP also achieved success in prediction of the effect of new long-term emission regulations and in many other fields.

In the light of these results, JCAP II has started in 2002 with a 5-year plan to research and develop a more-advanced air quality simulation model. Nissan is continuing its participation in this program to make further contributions to improve the air quality environment.

\*: A project to improve air quality, organized by the Petroleum Energy Center with the support of the Ministry of Economy, Trade and Industry and the cooperation of the automobile and oil industries.

#### JCAP II Air Quality Simulation Model

R&D activities for JCAP II air quality simulation model are aiming to construct a highly-reliable model which may be put to use as an evaluation tool for environmental administration and research.

Furthermore, this project is being carried out with the following topics:

- Roadside of urban main roads: Areas where further improvement of air quality is expected
- Real world: Incorporation of actual emission conditions
- Nanoparticles: A field which has been attracting attention in recent years.

The overall model comprises elemental models which predict traffic flow on both macro and micro scales; which estimate mass emission; which predict weather and air quality for regions from the extremely large area to the local urban; and which predict air flow and air quality for roadsides.

All the models are linked each other to compose a multi-scale model which can predict effect of exhaust gases in Eastern Asia area on air quality in urban roadside in Japan.



Conceptual Figure of Multi Scale Models

Further research is also being carried out with the aims of improving the accuracy of emission inventory through the surveying of real conditions, and of investigation and modeling of formation of nanoparticles.

Members of the automobile and oil industries, national research organizations, and other such bodies have been involved in stages from planning to practical implementation. Nissan is participating in the management of model development and in the development of roadside air flow and quality simulation model, in particular. During 2002, new technologies was introduced and developed in each elemental model, and an overall framework was constructed. Practical application and verification are planned for 2003 and onward.

### 4. Green Office Program

In May 1990, Nissan became the first company in the auto industry to use recycled paper for catalogues and office supplies. In October that same year, we launched a program to collect and recycle used paper.

Since February 1998, we have advanced the Green Office Program throughout the company to do what we can do on the office and personal level to prevent global warming and reduce CO<sub>2</sub>.

#### Green Purchasing of Company Vehicles

We began green purchasing company vehicles from 2001. We are aggressively implementing low emission vehicles. In the NTC area, we purchased two CNG busses for commuters.



#### Green Office Program

##### Promote green purchasing

- Purchase environmentally friendly products
- Manual printed on recycled paper (internal standard)
- Greater use of recycled paper (e.g., catalogues, and copier and printer paper)

##### Energy conservation activity and effective use of energy

- Set the air conditioner to proper temperature
- Turn off lights during lunch break and after business hours
- Turn off unnecessary power
- Reduce power consumption of office equipment

##### Reduce paper usage and promote recycling

- Reduce the number of sheets used for copiers and printers
- Promote recycling by extensively sorting wastes
- Use electronic media such as intranet and e-mail

##### Foster and support social service and employees' social awareness

- Contribute to environmental and nature protection organizations
- Company and employees participation in society
- Hold environmental protection seminars

##### Internal education and internal and external communication

- Education by internal newsletter and intranet
- Promote outside PR by Internet



**5. Environmental Protection in Industrial Machinery Business**

In Nissan's field of operations which deals with forklifts and other products of industrial machinery business, we are taking the initiative in the industrial vehicle industry by working proactively in the development and commercialization of new technologies which reduce the load placed on the environmental, while at the same time, we continue to coordinate efforts with our automobile operations.

**Cleaner Exhaust Gasses**

Battery-powered vehicles have a small environmental impact, and particularly in urban areas, there has been a rapid increase in the use of these vehicles over recent years. Meanwhile, persistent demands are also being made in terms of engine-powered vehicles, and efforts are underway to create cleaner exhaust gasses which offer higher levels of environmental protection.

**Sale of Low Emission Forklifts (Gasoline, LPG, and diesel vehicles)**

In the United States, we have fitted our 1-to-3 ton J01/J02 forklift trucks with an electronically-controlled fuel injection engine (and this can be used with gasoline, LPG, or a combination of gasoline and LPG). Designed with the intention of achieving cleaner exhaust gas and higher output levels than the currently-retailed engine — an engine which meets the California Air Resources Board regulations — this new engine was market released in May 2002 in the form of a new model variation.

Although retailing conditions became ever stricter with the introduction of the 2002 California Phase-in 50% regulation in the second year of the phase-in period, Nissan surpassed this level with 52% of our engines — be they for Nissan forklifts or for supply to other companies — thus meeting the requirements. In Europe, furthermore, our FE6 engine (6.9 liter, straight-6 DI), which

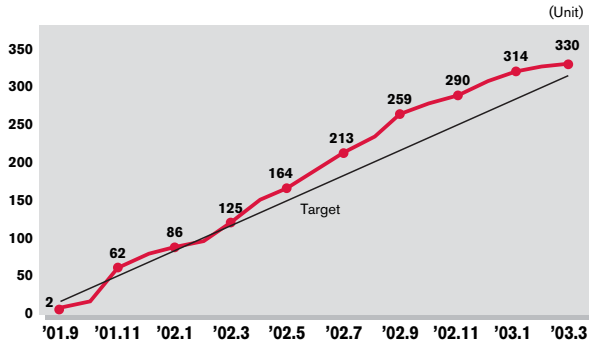


E.D.G.E System catalog



FE6 engine

**Sales Result of J01/J02 Clean-engine Vehicles in Japanese Market**



meets the second-stage European diesel regulations, was fitted to our 5-to-7 ton F05 forklift and released in January 2003. Our J01/J02 forklifts were released in September 2001 with engines which meet CARB regulations, and in terms of both the domestic market and standard export, these clean-engine vehicles (running on gasoline and LPG) have drawn the attention of environmentally conscious customers and industries; consequently, shipments of these models have exceeded forecasts.

**Action in Support of Future Regulations**

**(1) Gasoline and LPG engines**

No longer restricted to just California, exhaust gas emissions applicable to gasoline and LPG engines will be adopted by all states starting in 2004. These stricter regulations will demand deterioration durability and other additions, and Nissan will continue to comply through the development of new engines.

**(2) Diesel engines**

Second-stage regulations for diesel engines began in 2003 in both the US and EU; furthermore, similar regulations will also be implemented in Japan, beginning in October of this year. At Nissan, we will continue to develop and commercialize vehicles featuring engines which conform with these regulations.

**(3) Global long-term exhaust gas emission regulations**

Exhaust gas emission regulations originating in the US and EU are currently expanding globally in response to environmental issues; accordingly, it is expected that these regulations will become stricter and that the number of countries implementing them will increase. Nissan will investigate global trends in terms of emission regulations, and through participation in working shops and the like from the earliest stages of regulation studies, we will continue to both support environmental protection in terms of technology, and to carry out research and development to this end.

**Regulations Trends**

Engine	Exhaust Gas Emission Regulations	Implementation
Diesel	EU & US 1st stage diesel regulations	1997 and onward
	EU & US 2nd stage diesel regulations	2003 and onward
	EU & US 3rd stage diesel regulations	2007 and onward
	Japanese diesel regulations	October 2003 and onward
Gasoline / LPG	US regulations (California)	2001 and onward
	US 1st stage regulations (nationwide)	2004 and onward
	US 2nd stage regulations (nationwide)	2007 and onward

**Reduction of Noise Pollution**

**Retail of Reduced-Impact Forklifts (Good Running System) (Engine-powered and battery-powered versions)**

As a result of vibration transferred from the road to vehicles, forks produce noise by rattling, thus exposing the surrounding area to unpleasant noise pollution. In order to reduce the level of this pollution, Nissan released the new Good Running System as a special equipment in July 2002. Specifically, this system silences the rattling of forks, suppresses the degree of shock transferred from the road to cargo, and in addition, it even prevents vibration being transferred to the driver.



Good Running System catalog

# 3 | Social Performance

## 1 | Compliance

At Nissan, we promise to obey the laws and municipal ordinances of all the countries in which we do business and act on norms we lay down so that we can completely fulfill the corporate responsibilities to society and to operate under highly transparent and fair corporate activities.

### 1. Standards of Behavior

In 1998, Nissan Motor enacted "Standards of Behavior for Nissan Employees" and distributed it to all employees. These standards give employees positive and concrete guidelines for (1) Relations with local society, (2) Relations with supplies, (3) Relations between the company and employees. It also explains how employees should behave not only as part of the corporation but also as part of society. In 2001, we introduced the "Nissan Global Code of Conduct" in order to consistently treat customers, employees, shareholders, suppliers and communities with honesty, integrity, fairness and respect with sharing common standards of value through the entire global Nissan group. All our employees working in the Nissan Group around the world received the "Nissan Global Code of Conduct" together with a message from our company president.

### 2. Compliance System

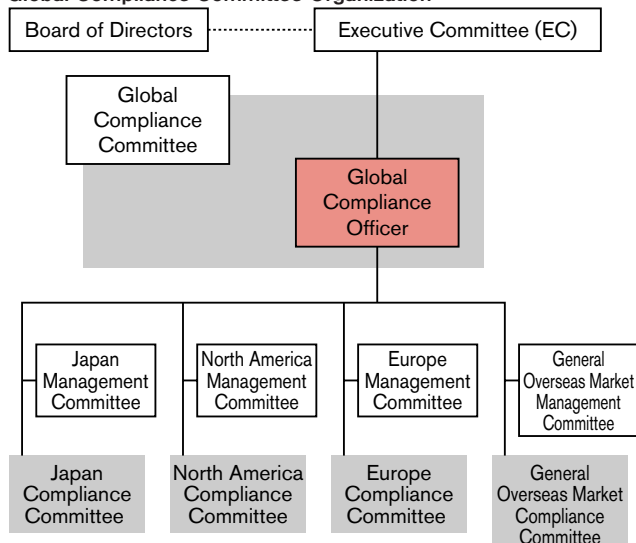
At that time, compliance committees were also established as the concrete system and measures for observing the code of conduct behavior. Under the leadership of the global compliance officer, global and local compliance committees have been held respectively. The duties of the compliance officer are, through the committees, to investigate and make decisions concerning conduct in violation of the code of conduct, to establish and revise

compliance program including code of conduct in the broad sense of the term, together with relevant departments as necessary and to carry out periodic educational activities broadly for all employees and for top management continuously.

### 3. Moving Compliance Forward

From 2002, under the guidance of the compliance committees, Nissan started the Easy Voice System to make it possible for employees of the Nissan Group to easily express their opinions, questions, and aspirations concerning compliance. In FY 2003, this Easy Voice System will be implemented into other corporations within the corporate group as well in Japan. From the perspective of training, in order to inculcate further awareness and understanding of compliance among employees, Nissan has provided training opportunities regarding compliance including code of conduct, both for newly hired employees and newly promoted managers. Information concerning compliance is constantly provided to all company employees through the company's intranet. In FY 2003, compliance measures will be developed in an ongoing manner, for example providing further compliance education globally, so that we can continuously grow as a truly excellent global company.

Global Compliance Committee Organization



Global Code of Conduct for NISSAN Group	
Principle	Global Code of Conduct
Nissan shall consistently treat customers, employees, shareholders, suppliers and communities with honesty, integrity, fairness and respect. The following standards apply to all employees in NISSAN group companies (collectively herein referred to as "Nissan" or "Company"). Each member of the Company is charged with responsibility to uphold and extend this code of conduct.	1. Comply with all laws and rules
	2. Avoid Conflict of Interest
	3. Preserve Company Assets
	4. Be Impartial and Fair
	5. Be Transparent and Accountable
	6. Value Diversity and Provide Equal Opportunity
	7. Be Environmentally Responsible
	8. Be Active; Report Violations

## 2 | Communication with Customers

In line with our policy of "Not making customers wait", we provide our customers with prompt and accurate information. Based on the motto, "Everything for the customer", we reflect customers' voices on corporate activities to win the trust and meet the expectations of customers.

### 1. Customer Voice Center

Our customer desk has a long history. It began in April 1984, ahead of other companies and before consumers began to notice. In April 2002, we founded Customer Voice Center, which is composed of a customer desk, a section that feeds back customer's comments within the company and promotes improvements, and a section that promotes customers' satisfaction with dealers around the country.

Customer Voice Center lends an open ear to customers, analyzes customer information, and provides better feedback to other departments in the company and to group companies (i.e., to strengthen the check function from the viewpoint of customers).

Another mission of Customer Voice Center is to make better use of customer information in improving the degree of satisfaction with products and dealers.

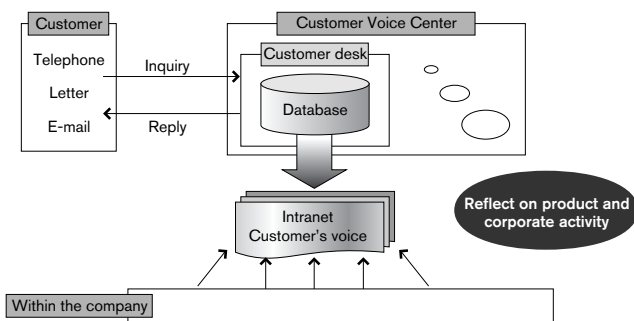


Customer Voice Center

### 2. Improvement of Customer Desk

Customer desk accepts individual letters and e-mails in addition to telephone calls. To further improve convenience for customers who contact customer desk by telephone, we now accept toll free calls from cell phones and PHSs.

For customers who wish to contact us via e-mail, we have created an inquiry page post office on our website. This feature allows customers to send mail to us from the web site after reviewing the FAQs.



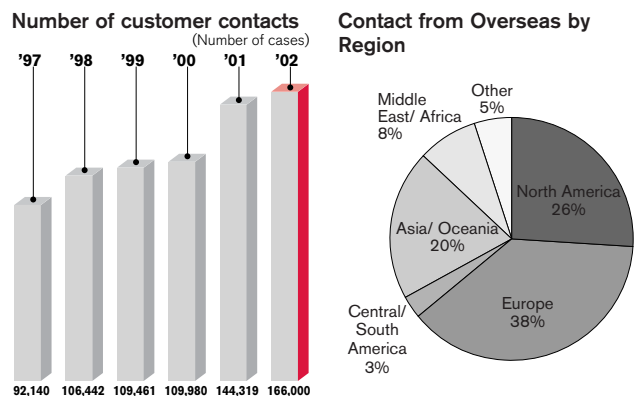
System of direct customer feed back within the company

On Saturdays, Sundays, and holidays, we set up Nissan Information Center that responds to purchasing questions from customers.

Nissan serves its customers through customer desk and Nissan Information Center with priorities on "Being readily accessible", "Providing prompt and accurate answers", and "Providing service that satisfies customers".

### 3. Reflecting Customers' Voice

With the improvements at the customer desk, the number of customer contacts has increased every year. In 2002, we received 166,000 contacts (up 115% from the preceding year). Also, although National Sales Companies handle overseas customers in their respective areas, there are also cases in which the voice of overseas customers reaches Nissan headquarters directly. Every year, company headquarters hears from over 1,000 customers in over 100 countries, 64% of which in North America or Europe.



All the comments received from customers in Japan are filed in a database, and can be reviewed by all employees, including officers, on the intranet the following day.

This system allows any employee to search and understand customers' requests and interests. The employee can also use the new Customer Voice Center Feedback Section to study customers' needs in greater depth and reflect the findings on products and other company activities.

#### Customer desk

Toll-free: 0120-315-232

Mondays through Fridays (excluding holidays) 9:00 - 12:00, 13:00 - 17:00

#### Nissan Information Center

Toll-free: 0120-838-232

Saturdays, Sundays and holidays 9:00 - 12:00, 13:00 - 16:00

#### Post Office:

<http://www.nissan.co.jp/POSTOFFICE/>

### 3 Corporate Citizenship

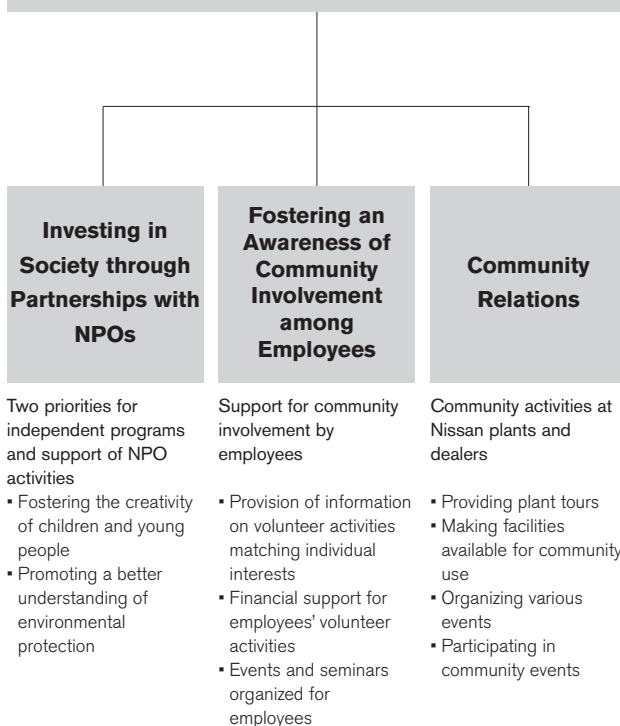
Our world is undergoing a dramatic change, from an industrial society to an knowledge-based society. It has been Nissan's wish to be a company capable of transforming itself in pace with the changing times. As a member of the new society, we wish to remain as a company that creates values in society. These wishes led to the creation of a specialized department in January 1991 to advance philanthropic activities. As people nowadays create various values and lifestyles, Nissan has searched for issues in society where it can help and has dynamically worked on solutions. We also wanted this activity to serve as an opportunity to expose the company and employees to real life conditions in society. In the ten years since the outset of this program, we have developed and continue independent programs with various NPOs, artists, and volunteers who are pioneers in their fields and who have the expertise to tackle social problems. This is an investment in the society of the future. We want to make our society a better place to live in. To this end, we will continue our bold challenge with the understanding of our stakeholders.



#### 1. Overview of Corporate Citizenship Activities

##### Our Mission: Investment in the Future

To find people with their eyes on the future and provide them with the opportunity to experiment on, experience, and evaluate the kind of society that humanity wants to be a part of; and to make meaningful contributions to the creation of societal values through programs that foster diversity and promote the participation in society of the employees of Nissan.



#### HP Corporate Citizenship Activities of Nissan Motor Company

#### 2. Investing in Society through Partnerships with NPOs

We want to take part in building an energetic society that accepts diversity. By forming partnerships with NPOs that have taken the initiative in tackling various social problems, we are investing in society through social participation activities. In order to tackle social issues deeper and more effectively, activity is limited to two fields, in which Nissan develops and executes its own programs in partnership with NPOs. In supporting NPOs, Nissan's basic posture is "Participation in planning", "Capacity for growth", and "Continuity". Nissan has established and implements criteria for supporting NPOs.

##### Partnerships with NPOs (Support criteria)

###### Priorities

- ① Fostering the creativity of children and young people.
- ② Promoting a better understanding of environmental protection.

###### Nature of supported activities

Activities deemed important for society's future development and expected to grow in the coming years, even though they may not be widely recognized at present.

###### Relationship with supported activities

- Activities should be mutually inspiring and facilitate mutual growth.
- Activities should allow direct communication with Nissan without a third-party intermediary, and the results should be mutually confirmable afterwards.
- They should be ones that Nissan employees can also participate in and enjoy.
- Nissan's support ends, once the intended objectives are achieved.
- As many different organizations as possible are considered in the selection of activities to be supported.

###### Period of support

As a rule, Nissan provides support for three to five years so as to enable activities to continue and develop over time.



① Nurturing the Creativity of Children and Young People

**Nissan Children's Storybook and Picture Book Grand Prix**  
 Since 1984, Nissan has held contests every year for amateur authors of children's story books and picture books and has published the award-winning works and donated them to libraries. This contest, which is held in collaboration with the International Institute for Children's Literature, Osaka, attracts approximately 4,000 entries from around the country every year. Entries that are awarded the Storybook Grand Prize and Picture Book Grand Prize are published and donated to about 3,500 libraries around the country through our dealers and about 700 kindergartens and nursery schools through our branch offices. In all, we have donated more than 100,000 books. Due to the nature of commercial publishing, new authors may encounter various obstacles in Children's Literature. Providing the Grand Prix winners a privilege to have their works published will be a



Donation of books to kindergartens near branch offices

variable opportunity to start a professional career. Works that finish in the upper places in this contest are recognized for their excellent quality. Today, the contest is considered as a gateway to success for new authors.

**Nissan Storytelling Circle**

Folktales are valuable assets that tell how people grow. As folktales are told verbally, the listener uses his or her imagination and creates their own images in their minds. We have held lectures to foster the understanding of the significance of folktales with our dealers since 1992.



Lecture

**Nissan Joyful Storybook and Picture Book Exhibition**

This event has been held at the National Children's Castle in Aoyama, Tokyo since 1992, in the corporation with the staff specialists at the National Children's Castle. In the exhibition, some workshops for children are also held, as well as the introduction of the children's storybooks and picture books, and Nissan employee volunteers and children together enjoy the experience of being creative in the workshops. Some materials at Nissan are recycled to make exhibits for display and for use workshop materials. Nissan employees knowledgeable in design and craftsmanship also take part in conducting the workshops, and those makes the



most of the company's position as a vehicle manufacturer. This exhibition is now a popular spring break event, attracting some 30,000 children and parents every year.

**Saito Kinen Festival in Matsumoto-Concert for Children**

Since 1992, Nissan has supported the free concerts that Conductor Seiji Ozawa and the members of the Saito Memorial Orchestra hold for the children of Nagano Prefecture where the festival is held.



Photograph© Hironobu Hosogaya

**Hans Christian Andersen Awards**

Since 1992, Nissan has been the main sponsor for the "Hans Christian Andersen Award", which is called the "little Nobel Prize" for children's books. This award is presented once every two years by the International Board on Books for Young People (IBBY) and is given to a writer and illustrator who have made significant contributions to the field of children's literature through their creative activities.



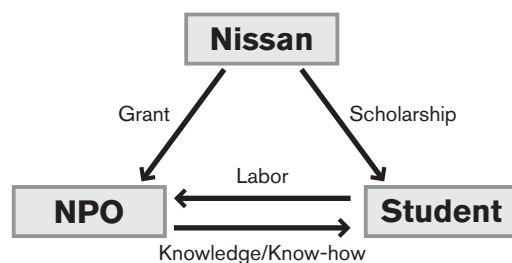
Photo courtesy of Asahi Shimbun Co., Ltd.

**Nissan-NPO Learning Scholarship Program**

Through this program, we invite applications from students who wish to work for NPOs, select the successful candidates, and pay them scholarships according to their work accomplishments. The program was begun in 1998 as a new experiment to develop people in partnership with NPOs. The purpose of this program is to provide the leaders of the next generation with intellectual experience. Host organizations that provide internships to scholarship students are NPOs in diverse fields engaged in resolving varied social issues with a pioneering spirits, specialized disciplines, and excellent leadership. The students can develop their "creativity," "ability to think for themselves" and "capacity for self-initiated action" by accumulating career experience at NPOs. We receive applications from over 100 students every year. Of these, approximately 20 are awarded scholarships to work in NPOs in various fields including environment, international exchange, culture, arts and welfare.



A student receives a certificate of completion from Nissan president Carlos Ghosn





## ② Promoting a Better Understanding of Environmental Protection

We feel that it is important to see environmental protection as familiar activities rooted in everyday life, while maintaining a global vision. Besides supporting the activities of environmental NPOs that conduct specialized activities as pioneers, we hold seminars



As a facet of children's environmental education, Ecosystem Conservation Society-japan organizes the All-Japan School Biotope Contest

and events with the help of NPOs to help our employees gain better understanding of environmental protection. It also cooperates in environmental education by, for example sending its staff to give classes as part of its efforts to support integrated learning at elementary schools.

### 3. Fostering an Awareness of Community Involvement among Employees

Company employees are now expected to take part in social activities as citizens. Seeing real life conditions in society through social activities and developing social and cultural knowledge is an important opportunity for corporate employees to become well rounded individuals. Nissan has a program to give employees the opportunity to voluntarily participate in social activities.

#### TRY-ANGLE: Providing Information on Community Involvement

This volunteer information system was implemented in 1993. We ask employees and family members who are interested in volunteering, but do not know how to get started, and those who want to volunteer, but do not have the opportunity to do so, to register for areas of activity that interest them, and provide them with the latest information on the registered fields.



Social and cultural activity newsletter H'IMAGINE  
First published in 1992. It is distributed to employees who have registered for TRY-ANGLE and is also introduced on the intranet.

#### Nissan Financial Support Program for Volunteer Activities

This program, which began in 1996, financially supports employees' volunteer activities. When an employee makes a donation, the company donates a matching amount (matching gift). When funds for volunteer activity or purchase are short, the company provides the amount. This encourages and promotes employees' voluntary social participation and donation activities.

#### Events Involving Employee Participation

When Nissan supports the activities of NPOs, employees are given the opportunity to take part. We also provide various lectures for employees so they can acquire the knowledge required for volunteer activities.



Nissan assists "Art-Link Ueno - Yanaka" and carries out an art tour for Nissan employees.

#### Donation Drive After a Disaster

Collections are taken up among the employees to raise funds for supporting the victims of natural disasters such as earthquakes, as well as the victims of the September 11 terrorist attacks in the United States, Afghanistan refugees and others.

### 4. Community Relations

At Nissan, we want to be a valued member of our communities. All Nissan plants and offices undertake a wide variety of community involvement activities in an effort to forge closer relations with local residents.

As one part of our activities for supporting social studies in school, our plants provide plant tours for approximately 140,000 primary school students each year.



Oppama Plant and the local community collaborate to hold a wheelchair half marathon called Nissan Cup Oppama Championship. Besides lending the facility for use as racecourse, approximately 900 employees work as volunteers to support the event.

**5. Corporate Philanthropy of the Nissan Group Companies in Overseas**

**<U.S.> Nissan North America, Inc. (NNA)**

Based on our conviction that "community develops when the people enjoying social and economic stability and adequate education", Nissan makes a variety of "investments" in local societies.

**The Nissan Foundation**

The foundation supports education programs that promote the understanding of diverse cultures in the United States. The foundation also seeks to maximize its investment in the community by enhancing career potential for young adults in the automotive industry.



**Quest for Safety**

This program partners with local NPOs to provide free safety education seminars in community centers across the country and distributes tools for promoting the use of child safety seats to medical facilities across the country.



**<Europe> Nissan Motor Manufacturing (UK) Ltd. (NMUK)**

- Nissan provides an office in its plant to the BEN philanthropic foundation. Company employees also carry out charitable activities and support this organization.
- Every year, company employees carry out volunteer activities in which they pack up Christmas presents for less fortunate children around the world. NMUK pays for shipping these presents.
- NMUK holds "Industry days" in cooperation with local companies. This provides children with the opportunity to learn about local industry and occupations through group work. Also, company employees serve as councilors for troubled children to support local schools.



In addition, at Nissan bases throughout Europe, Nissan carries out various activities contributing to society according to the needs of each country.



Providing vehicles to disaster areas (Germany)



Supporting orchestra concerts (Czech Republic)

**6. Nissan Science Foundation**

Nissan established the Nissan Science Foundation to contribute to academic advancement and cultural development in Japan. Currently directed by Carlos Ghosn, President & CEO, the Nissan Science Foundation was founded in April 1974 to commemorate the 40th anniversary of Nissan. Since then, the foundation has provided research grants for basic research in the fields of environmental and natural science, has provided research grants for workshops that are held a few times a year to cultivate new research territory, and has aided new experiments in science education.

The foundation had awarded approximately ¥5 billion in grants up to 2002.

In 1993, Nissan established the Nissan Science Prize to commemorate the foundation's 20th anniversary. This prize acknowledges the achievements of leading researchers below the age of 50 who have made outstanding contributions to their academic fields, including environmental science. The foundation's assets totaled approximately ¥6.4 billion at the end of March 2002.



**Nissan Science Foundation**

**Awards and Grants Presented in 2002**

**Nissan Science Prize: 1 recipient**

Professor Hiroshi Hamada (University of Osaka)

- Molecular mechanism underlying morphological asymmetries.

**Nissan Research Grant: 31 recipients**

- The interdisciplinary study on collaboration and scientific techniques for nature restoration.
- Basic study on the influence of electromagnetic field to the creature under living environment.
- Intelligent learning environment for activation of Meta-cognition. and others.



Presentation of Nissan Science Prize



Presentation of Nissan Research Grant



Science education subsidized lesson scene: Teaching by university professors in primary schools



Science education subsidized lesson scene: Meteorology teaching material development workshop for primary, middle, and high school science teachers

## 4 Health and Safety

### 1. Basic Objectives of Health and Safety Management

Nissan undertakes proactive safety and health activities annually to work toward eliminating industrial accidents, occupational illnesses, and traffic accidents.

Nissan believes that safety, quality, and productivity are all closely interrelated and makes every effort to improve facilities, working environments, working procedures, and educational activities to ensure a comfortable and vibrant workplace and the continued safety and health of all employees.

### 2. Ties with Overseas Production Plants (Global Health and Safety Subcommittee Activities)

Activities started from FY 2002 with the goals of mutual improving health and safety management levels while exchanging information about activities, fire and disaster information, disaster plans, etc. and of ensuring the safety of overseas trainees. In principle, overall councils are held twice a year, once at a Japanese plant and once at an overseas plant.

In FY 2002, the overall councils were held in May (held by Japan) and March (held by Spain).

Also, in August, activities that have born fruit within Japan (SES&KY) were presented at the the Mexico plant at its request.



Point and call practice at the Mexico plant

### 3. Ensuring Work Safety

In FY 2002, as the result of tackling accident prevention, primarily through "Activities for Raising the Sensitivity to Danger in Individuals" and "Safety Management Diagnosis through SES", the total number of accidents (total accident ratio) was the best in the automobile manufacturing industry for the second year in a row.

Avoiding accidents due to human error

The KY (the risk prediction) step diagnosis technique, which helps our employees to become more aware of potential danger, started in all workplaces in 1998. As the technique has been advanced as scheduled, we have reduced the number of accidents caused by inadequacy of risk prediction near 70% compared to 1998.

In 2003, we will implement KY activity into action including non-

stationary operation to further improve the danger awareness of each individual.

When non-standard work arises, stopping the work, calling the superior, and waiting for the superior's instructions are the best ways to prevent an accident. "Promoting Safety-Related Activities", a management technology textbook for supervisors, clearly states that it is the supervisor's job to make sure that all of his or her subordinates follow the "Stop", "Call", and "Wait" steps. The supervisor personally follows the steps to reduce the number of accidents during an irregular process.

In 2003, we will make our facilities even safer in addition to complying with the Stop, Call, and Wait rules to reduce the number of accidents due to human errors.

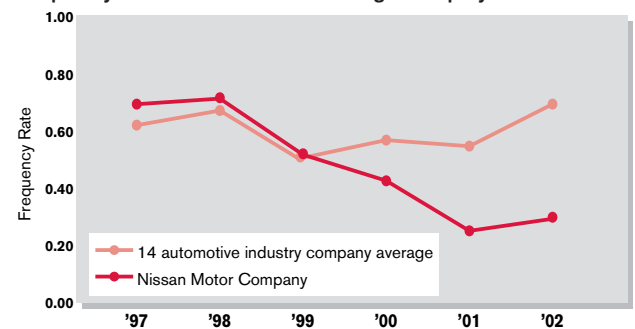
### Improvement of Safety Management Levels with SES

The Safety Evaluation System (SES), developed independently by Nissan in 1997, is a method for evaluating safety management.

We have raised the target level of SES every year to improve safety management levels throughout the company.

Because 36% of the accidents that occurred in 2002 were imputable to reasons not covered under SES, we will review the SES evaluation items in 2003, and further improve the level of safety management.

### Frequency Rate of Accidents Resulting in Employee Absence



FY 2002 Company Health and Safety Poster Contest Award



**4. Health Management Activities**

**Maintaining Employees' Health**

Since 1998, healthy worker rate — those regarded as healthy according to the results of their medical examination — has been used as an index of health management. The health management target is to keep the same rate from the previous year.

In 2002, THP (Total Health promotion plan) was conducted primarily among healthy employees aged 30, 35, 40, and 45 to prevent healthy employees becoming ill.

For employees whose health monitoring reveals health conditions that could be improved through better diet and exercise, individual guidance is given on how to improve their lifestyle, exercise, and eventually they move out of the group of those at risk of poor health.

As a result, the rate of healthy employees was 68.01%, the same level as the preceding year.

In 2003, we will improve the follow-up service for employees in the group at risk of lifestyle-related diseases and continue our activities to prevent employees from becoming ill. At the same time, we will offer health guidance and nutrition guidance to ill employees to restore their health.

**Internal Mental Health Service System**

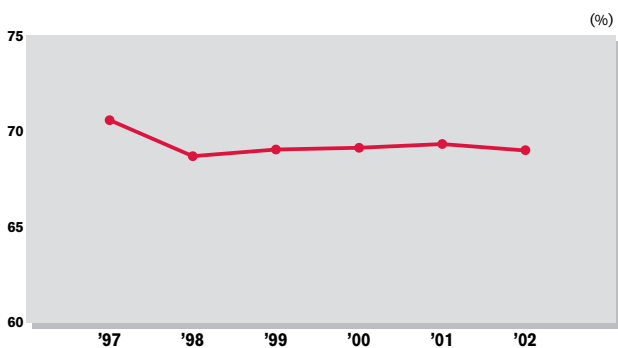
Mental health has become an increasingly important aspect of employee welfare. Due to the mental health training provided primarily to managers and supervisors, and the improvement in counseling services, there is an increasing awareness of the importance of mental health in the company. Today's system also makes it easier for employees to seek advice concerning mental health.

In 2003, we will improve mental health service by starting an activity to teach self-care techniques to handle stress, such as education to spread autogenic training.



In house nutrition consulting

**Change in Healthy Worker Rate**



**Dissemination of First Aid Skills**

The dissemination of first aid skills facilitates the emergency action that can save precious human lives. Nissan therefore educates its employees to give first



CPR training course

aid until a doctor or ambulance reaches the accident site. As part of the dissemination activity, we train in-company first aid instructors. These instructors then teach employees mouth-to-mouth resuscitation and cardiac massage by using a first aid text and cardio-pulmonary resuscitation dummy and by following the first aid lecture standard curriculum (3 hours).

**5. Traffic Safety Activities**

Every Nissan employee must always be aware that he or she is a member of an automobile company and that he or she is responsible for acquiring correct driving knowledge and driving manners and serving as a role model for customers.

The rate of employees' traffic accidents while commuting is on the decline as a result of the traffic accident prevention activity taking root at each business unit with the cooperation of the labor union. Through the activity, we have focused on commuting hours, prepared standard commuting route instructions, provided onboard instructions, and prepared accident maps around plants.

We will continue an activity with an emphasis on preventing accidents during commute under the active guidance of managers and supervisors in 2003. Namely, each business unit will undertake an activity that takes into account the local traffic environment, introduce an activity that has been successful at another business unit, and advance these activities with the cooperation of the labor union.

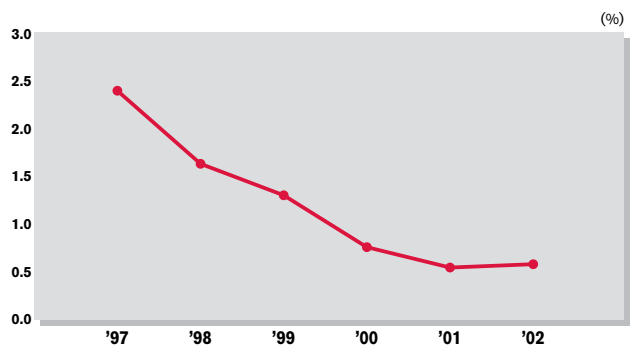


Nissan spring Hello Safety Campaign poster



Traffic safety activity

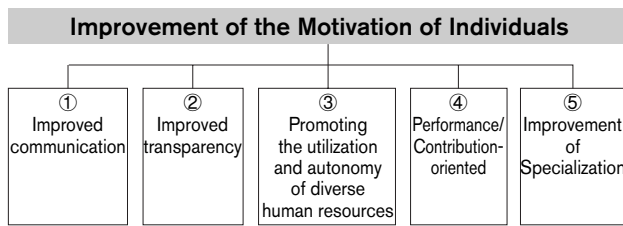
**Change in Rate of Traffic Accidents During Commute**



## 5 Policy for Employees

### Basic Concept

Employees (human resources) are the greatest assets with which Nissan can materialize its vision, "Nissan: Enriching people's lives". We are improving our human resources system because it is the support tool that can maximize the benefits of human resources. Specifically, we will design and manage the system based on the following perspectives:



From FY 2001, the Human Resource system for managers has been improved and each system is being reviewed in order.

### Reliable Promotion of Human Resources Development Cycle

While clear targets (vision and business plans) are shared and communication is made closer, the following cycle is moved through to create a win-win relationship that provides both increased corporate value and improved employee satisfaction.

### A Diverse Sense of Values and Autonomous Careers of Individuals are Supported

From April 2003, specialized career coaches have been assigned within the Human Resources Development Department in order to improve the environment for individual career consultation and for placing the right person in the right position. In particular, with the human resources system being designed to utilize the individual

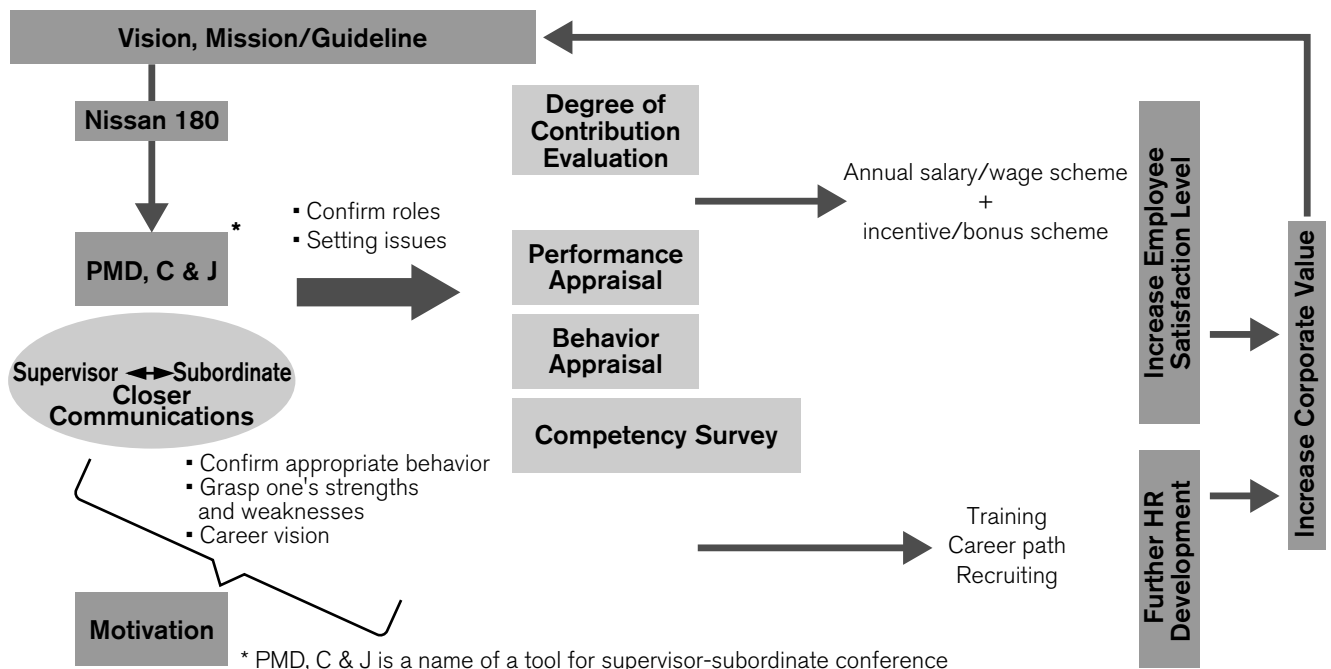
strength, the human resource database will be developed. The diversity project that started the year before last is entering its third year, and it is at the new stage to appreciate diverse sense of value.



Active discussion at the kick-off ceremony for the third year

Concretely, the followings have already been introduced and we are working on improving working conditions, including with support for childcare.

Items	End of March 2002	April 2002
Child-care leave	Until infant reaches one year of age	Until the end of March after the infant reaches one year of age
Shortened working hour	Exemption from the first one hour of work and the last half hour of work (for child under 1 year of age)	The work period can be shortened as much as 3 hours per day in units of one half hour (until the end of March after the child reaches 3 years of age) April 2003 Until the end of March after the child reaches 6 years of age; for nursing care, no age limit
Family and medical leave	None	Days for the pregnant, child or family members in need for care going to see a doctor or staying at home for care are allowed as days off (Up to 10 such days per year; unpaid)





# 4 | Data and Reference

## 1 | Environmental Data of Main Plants

### Major products

#### Oppama Plant

March



Cube



Fairlady Z



#### Tochigi Plant

Cima



Cedric



Skyline



#### Kyushu Plant

Sunny



Premera



X-Trail



Terrano



Presage



#### Yokohama Plant



QR25/QR20 engine



VK45/VH45 engine

#### Iwaki Plant



VQ engine

## Oppama Plant

Received ISO14001 certification: May 1997

237-8523 1 Natsushimacho, Yokosuka-shi, Kanagawa-ken

### Environmental Slogan

Promoting activities and plant operations that successive generations will be proud of by aggressively tackling global environmental problems.

### Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	105	80
	Heating furnaces	130	63
	Incinerators	240	140
Soot and dust	Boilers	0.1	0.002
	Heating furnaces	0.1	0.003
	Incinerators	0.1	0.029
Dioxins	Incinerators	1	0.17

Unit: NOx: ppm, Soot & dust: g/m<sup>3</sup>N, Dioxins: ng-TEQ/m<sup>3</sup>N

Measured values are the maximum measured values in FY 2002

### Wastewater Quality (Water Pollution Control Law and other ordinances)

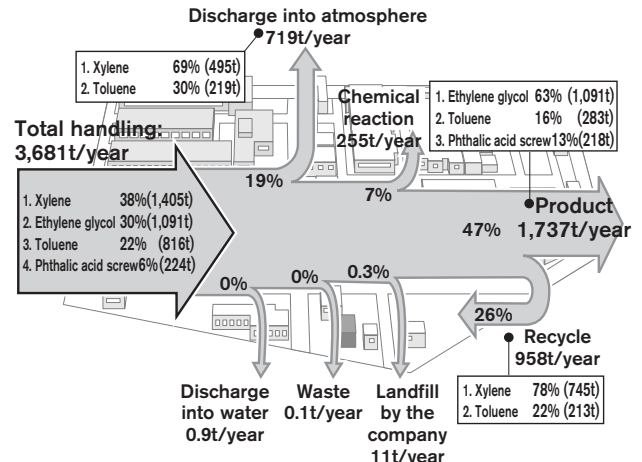
Unit other than pH: mg/l

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.6	7	7.2
COD	60	9.8	7	8.5
COD (total)	76	35.8	12.9	25.7
BOD	60	ND	ND	ND
SS	90	2	ND	0.25
Oil	5	2	ND	0.02
Zinc	5	0.41	0.09	0.2
Fluorine	15	2.3	1.3	1.84
Copper	3	0.03	ND	0.02
Cyanogens	1	0.01	ND	ND
Lead	0.1	0.03	ND	ND
Nickel	1	0.3	ND	0.13
Soluble manganese	10	0.1	ND	0.05
Total nitrogen	60	28	9.6	20.8
Total phosphorous	8	0.9	ND	0.25

● Measurements of items other than those listed above were below minimum quantifiable limits

● ND indicated values lower than the minimum quantifiable limit

### PRTR Substances Balance Sheet



## Tochigi Plant Received ISO14001 certification: December 1997

329-0692 2500 Kamigamo, Kaminokawa-machi, Kawaguchi-gun, Tochigi-ken

### Environmental Slogan

Working together to protect the precious nature and its water resources.

#### Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	190	130
	Diesel engines	950	920
	Heating furnaces	230	12
	Incinerators	300	51
	Smelters	180	51
Soot and dust	Boilers	0.15	0.007
	Diesel engines	0.1	0.022
	Heating furnaces	0.2	0.002
	Incinerators	0.5	0.166
	Smelters	0.2	0.013
Dioxins	Incinerators	10	0.019
	Aluminum furnaces	5	1.6

Unit: NOx: ppm, Soot & dust: g/m<sup>3</sup>N, Dioxins: ng-TEQ/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002

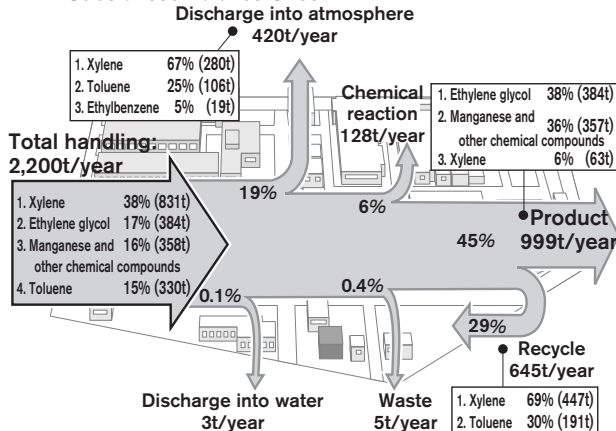
#### Wastewater Quality (Water Pollution Control Law and other ordinances)

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	8.0	6.4	7.3
COD	—	—	—	—
BOD*	25	15.5	1	2.8
SS*	50	28.8	1	2.3
Oil	5	1.6	0.5	0.6
Zinc	5	2.2	0.1	0.2
Smeltable metal	3	1.6	0.1	0.2
Soluble manganese	3	0.3	0.1	0.1
Fluorine	8	1.4	0.3	0.7
Total nitrogen	20	9.8	3.6	5.7
Total phosphorous	2	0.1	0.1	0.1

\* Tochigi prefectural ordinance

● Measurements of items other than those listed above were below minimum quantifiable limits

#### PRTR Substances Balance Sheet



## Kyushu Plant Received ISO14001 certification: March 1999

800-0345

1-3 Shinhama-cho, Kanda-machi, Miyako-gun, Fukuoka-ken

### Environmental Slogan

Continuing our efforts in environmental improvement activities for the preservation of the surrounding ocean and nature.

#### Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Boiler	230	110
	Gas turbines	70	52
	Heating furnaces	230	48
	Incinerators	250	140
Soot and dust	Boiler	0.1	0.003
	Gas turbines	0.05	ND
	Heating furnaces	0.15	0.003
	Incinerators	0.15	0.003
Dioxins	Incinerators	5	0.14

Unit: NOx: ppm, Soot & dust: g/m<sup>3</sup>N, Dioxins: ng-TEQ/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002  
● ND indicates below minimum quantifiable limits

#### Wastewater Quality (Water Pollution Control Law and other ordinances)

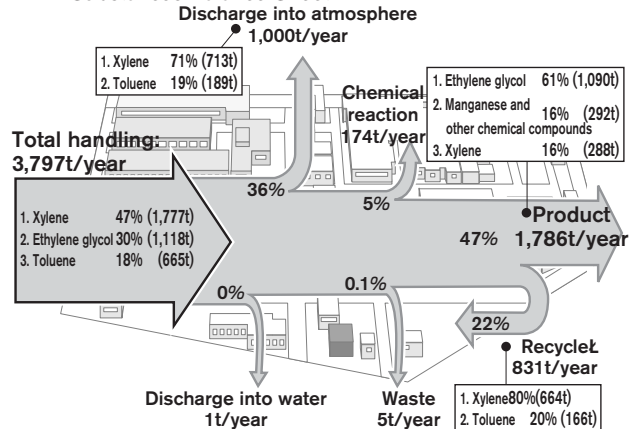
Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.1	6.4	6.8
COD*	15	8.6	5.4	7.1
BOD	20	3.1	1.1	1.8
SS	25	1	ND	ND
Oil*	2	ND	ND	ND
Zinc	5	1.9	0.43	1.2
Fluorine	8	2.3	1.7	2.0
Soluble manganese	10	2.6	1.3	1.9
Total nitrogen	120	19.5	9.7	13.8
Total phosphorous	16	5.2	1.3	2.8

\* Tochigi prefectural ordinance

● Measurements of items other than those listed above were below minimum quantifiable limits

● ND indicated values lower than the minimum quantifiable limit

#### PRTR Substances Balance Sheet



## Yokohama Plant Received ISO14001 certification: July 1998

220-8623

2 Takara-cho, Kanagawa-ku, Yokohama-shi, Kanagawa-ken

### Environmental Slogan

Safeguarding the environment to make the plant environmentally friendly and in harmony with the local community.

Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Boiler	46	45
	Heating furnaces	29	28
	Gas engines	50	32
	Furnaces	172	161
	Smelters	60	48
Soot and dust	Boiler	0.05	0.004
	Heating furnaces	0.1	0.002
	Gas engines	0.04	0.001
	Furnaces	0.1	0.05
	Smelters	0.1	0.028
Dioxins	Aluminum furnaces	5	0.44

Unit: NOx: ppm, Soot & dust: g/m<sup>3</sup>N, Dioxins: ng-TEQ/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002

Wastewater Quality (Water Pollution Control Law and other ordinances) Unit other than pH: mg/l

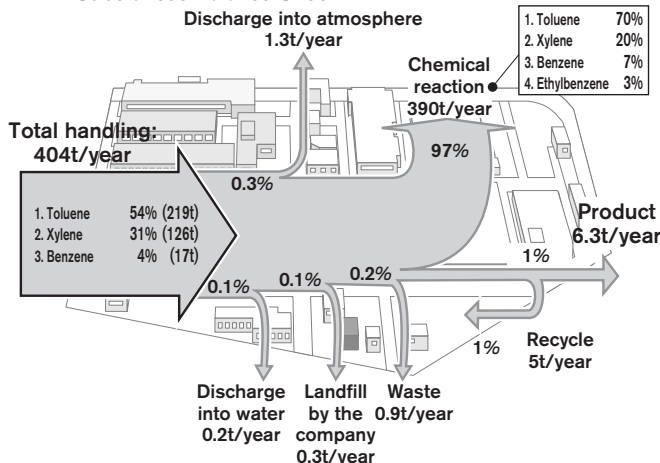
Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.6	6.3	7.1
COD*	60	16	3	9.5
COD (total)	District 2	64.8	46.6	1.4
	District 3	92.1	79.7	0.6
	District 4	7	1.4	ND
BOD*	60	18	2	7.56
SS*	90	43	1	7.25
Oil	5	4	1	2
Copper	3	0.09	0.01	0.02
Zinc	3	0.15	0.02	0.07
Fluoride	8	0.6	0.1	0.25
Smeltable metal	10	0.8	0.2	0.36
Soluble manganese	1	0.2	0.1	0.11
Total nitrogen	30	17	2.7	7.43
Total phosphorous	8	2.9	0.1	0.58

\* Indicates figures under self

● Measurements of items other than those listed above were below minimum quantifiable limits

● ND indicates below minimum quantifiable limits

### PRTR Substances Balance Sheet



## Iwaki Plant Received ISO14001 certification: March 1999

971-8183 386 Shimokawa Otsurugi-aza, Otsurugi, Izumi-cho,

Iwaki-shi, Fukushima-ken

### Environmental Slogan

Protecting the global environment and building an environmentally friendly clean plant preserving the surrounding nature of Iwaki.

Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Smelters	100	28.0
	Boilers	120	92
Soot and dust	Smelters	0.03	0.025
	Boilers	0.03	ND
Dioxins	Aluminum furnaces	20	0.01

Unit: NOx: ppm, Soot & dust: g/m<sup>3</sup>N, Dioxins: ng-TEQ/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002  
● ND indicates below minimum quantifiable limits

Wastewater Quality (Water Pollution Control Law and other ordinances) Unit other than pH: mg/l

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.5	6.8	7.3
COD*	12	11.9	3.4	6.7
SS*	40	8.0	ND	ND
Oil	5	0.6	ND	0.5
Zinc	5	—	—	0.1
Smeltable metal	10	—	—	0.3
Total nitrogen	60	—	—	2.6
Total phosphorous	8	—	—	0.08

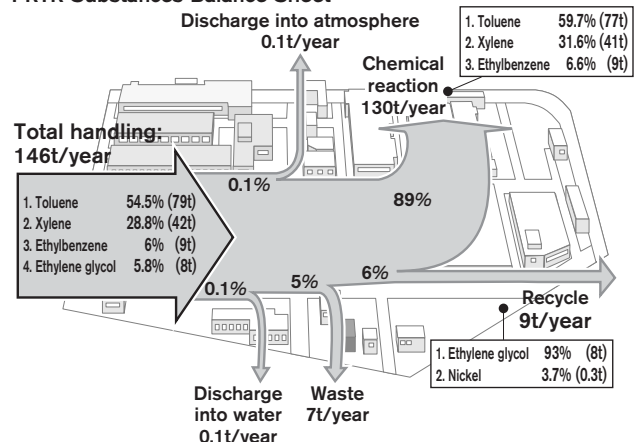
\* Indicates pollution prevention agreement (Fukushima Prefecture, City of Iwaki, Nissan)

● Measurements of items other than those listed above were below minimum quantifiable limits

● ND indicates below minimum quantifiable limits

The above data are under normal operating conditions, not in the event of environmental accident

### PRTR Substances Balance Sheet



**Technical Center** Received ISO14001 certification: March 1999  
243-0192 560-2 Okatsukoku, Atsugi-shi Kanagawa-ken

Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Kerosene boilers (Installed before April 1, 1997)	150	130
	Kerosene boilers (Installed after April 1, 1997)	80	66
	Gas boilers	105	77
	Smelters	180	7
Soot and dust	Kerosene boilers	0.3	< 0.002
	Gas boilers	0.1	< 0.009
	Smelters	0.2	< 0.001

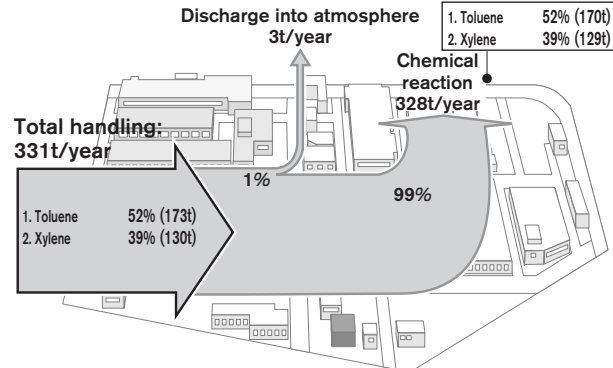
Unit: NOx: ppm, Soot & dust: g/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002

Wastewater Quality (Water Pollution Control Law and other ordinances) Unit other than pH: mg/l

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5 < 9	7.9	6.6	7.3
BOD	< 600	270	1	47.1
SS	< 600	90	1	16.5
n-hexane				
Liquid petroleum	5	1	1	1.0
Fat and oil taken from plants and animals	30	6	1	2.4
Zinc	3	0.9	ND	0.2
Nickel	1	0.3	0.1	0.1
Iodine	< 220	ND	ND	ND
Steel	10	1.6	0.2	0.5
Manganese	1	0.1	0.1	0.1

- Measurements of items other than those listed above were below minimum quantifiable limits
- ND indicates below minimum quantifiable limits

PRTR Substances Balance Sheet



**Zama Operations Center**

Received ISO14001 certification: January 2000  
228-8502 2-10-1 Hironodai, Zama-shi, Kanagawa-ken

Environmental Slogan

Working together to continue protecting the invaluable global environment

Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	60	18.9
	Air heating furnace	150	40
	Heater	120	35
Soot and dust	Boilers	1	0.001
	Air heating furnace	0.3	0.001
	Heater	0.3	0.001

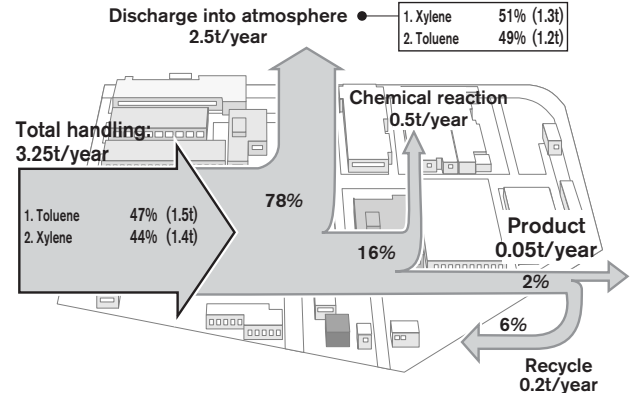
Unit: NOx: ppm, Soot & dust: g/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002

Wastewater Quality (Water Pollution Control Law and other ordinances) Unit other than pH: mg/l

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.8	7.3	7.4
COD	60	7.0	3.8	5.7
BOD	60	3.2	2.0	2.5
SS	90	6	2.0	3.5
Oil	5	ND	ND	ND
Zinc	5	0.1	0.05	0.07
Fluoride	8	0.5	0.5	0.5
Soluble manganese	1	0.078	0.5	0.05
Total nitrogen	60	8.5	2.9	6.3
Total phosphorous	8	0.31	0.07	0.19

- Measurements of items other than those listed above were below minimum quantifiable limits
- ND indicates below minimum quantifiable limits

PRTR Substances Balance Sheet



## 2 | Important Plant Environmental Data for Consolidated Subsidiaries

### JATCO Transtechnology Co., Ltd. Fuji Plant

Received ISO14001 certification: February 2001  
417-0023 1-1 Yoshiwara Takara, Fuji-shi, Shizuoka-ken

#### Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers*	100	66
	Heating furnaces*	100	100
	Incinerators*	100	53
Soot and dust	Boilers*	0.05	0.022
	Heating furnaces*	0.05	0.022
	Incinerators*	0.05~0.40	0.058
Dioxins	Aluminum furnaces	5	1.2
	Incinerators	10	10

\* Guidance standard value (Kambara-cho, Fuji-shi)  
Unit NOx = ppm, soot and dust: g/m<sup>3</sup>N, dioxins = ng-TEQ/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002

#### Wastewater Quality (Water Pollution Control Law and other ordinances)

Items	Legal Limits	Measured Value		
		Maximum	Minimum	Average
pH	5.8~8.6	7.7	6.5	7.1
COD*	20	19.6	1.4	9
BOD*	20	19.5	0.7	6.8
SS*	20	19.3	0.1	2.2
Oil*	4	4.5	0.2	2.3

\* Guidance standard value (Kambara-cho, Fuji-shi)

### Nissan Shatai Co., Ltd. Shonan Plant

Received ISO14001 certification: December 1997  
254-8610 10-1 Amanuma, Hiratsuka-shi, Kanagawa-ken

#### Air Quality (Air Pollution Control Law and ordinances)

Substance	Legal Limits	Measured Value
NOx (total volume)	230	99
Soot and dust (total volume)	0.1	0.005

Unit NOx (total volume) = m<sup>3</sup>N/H, soot and dust (total volume) = g/H  
Measured values are the maximum measured values in FY 2002

#### Wastewater Quality (Water Pollution Control Law and other ordinances)

Items	Legal Limits	Measured Value		
		Maximum	Minimum	Average
pH	5.8~8.6	7.7	7.2	7.4
BOD	300	22	5	12.3
SS	300	60	7	20.5
Oil	30	6	ND	2.2

● ND indicates values lower than the minimum quantifiable limit.

### Nissan Kohki Co., Ltd. Main Plant

ISO14001 certification: planned for 2005  
253-0105 6-6-1 Okada, Samukawa-machi, Koza-gun, Kanagawa-ken

#### Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers*	150	76
Soot and dust	Boilers*	0.3	0.0097
Dioxins	Incinerators	10	5.5

\* Regulation values are Kanagawa Prefecture ordinance values.  
Unit NOx = ppm, soot and dust: g/m<sup>3</sup>N, dioxins = ng-TEQ/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002

#### Wastewater Quality (Water Pollution Control Law and other ordinances)

Items	Legal Limits	Measured Value		
		Maximum	Minimum	Average
pH*	5.8~8.6	7.6	6.9	7.4
COD*	60	44	19	30
BOD*	60	29	5	18.3
SS*	90	10	1	3.1
Oil*	5	1	1	1

\* Regulation values are Kanagawa Prefecture ordinance values.

### Aichi Machine Industry Co., Ltd. Atsuta Plant

Received ISO14001 certification: January 2001  
456-0055 10 Minami Ichiban-cho, Atsuta-ku, Nagoya-shi, Aichi-ken

#### Air Quality (Air Pollution Control Law and ordinances)

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	180	79
Soot and dust	Boilers	0.15	0.002

Unit NOx = ppm, soot and dust = g/m<sup>3</sup>N  
Measured values are the maximum measured values in FY 2002

#### Wastewater Quality (Water Pollution Control Law and other ordinances)

Items	Legal Limits	Measured Value		
		Maximum	Minimum	Average
pH	5.8~8.6	7.7	6.6	7.2
BOD	160	8.1	2.2	6.9
SS	200	2.2	0.9	1.4
Oil	5	1.3	0.7	1.02



### 3 Environmental Data for Overseas Subsidiaries

#### Nissan Motor Manufacturing (UK) Ltd.

Received ISO14001 certification: September 1998

##### Air

Substance	Facilities	Legal Limits	Measured Value
NOx	Drying Ovens	100	72.8
Soot and Dust	Drying Ovens	50	4.8
	Furnaces	50	5.2

Unit NOx = ppm

Soot and dust = g/m<sup>3</sup>N

Measured values are the maximum measured values in FY 2002

##### Wastewater Quality

Unit Other than pH: mg/l

Items	Legal Limits	Measured Value		
		Maximum	Minimum	Average
pH	6.0~10	9.5	7.3	8
SS	200	72	10	27
Zinc	2	0.33	0.026	0.12

#### Nissan Motor Iberica, S.A.

Received ISO14001 certification: December 1998

##### Air

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	300	56
	Drying ovens	300	9
Soot and dust	Boilers	150	1.1
	Drying ovens	150	0.6
Sox	Boilers	4,300	ND
	Drying ovens	4,300	ND

Unit NOx = ppm, Soot and dust = g/m<sup>3</sup>N SOx = g/m<sup>3</sup>N

Measured values are the maximum measured values in FY 2002

● ND indicates values lower than the minimum quantifiable limit.

##### Wastewater Quality

Unit Other than pH: mg/l

Items	Legal Limits	Measured Value		
		Maximum	Minimum	Average
pH	5~11	8.6	7.1	7.9
COD	900	502	101	477
SS	300	180	26	100
Zinc	10	0.288	0.006	0.068
Soluble manganese	5	0.653	0.117	0.239
Total nitrogen	140	43.83	22.96	37.2
Total phosphorous	30	5.06	2.01	4.05

#### Nissan North America, Inc.

Received ISO14001 certification: December 1999

##### Air

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers (lb/H)		
	Drying ovens (t/year)		
Soot and dust	Boilers (lb/MMBTU)		
Sox	Boilers (lb/H)		

Unit lb = pound (1 lb = 453.6g), MMBTU = 1.054X10<sup>9</sup>J

Measured values are the maximum measured values in FY 2002

##### Wastewater Quality

Unit Other than pH: mg/l

Items	Legal Limits	Measured Value		
		Maximum	Minimum	Average
pH	6~10	9.8	7.4	8.5
BOD	500	11.3	11.3	11.3
SS	500	15.6	15.6	15.6
Phenol	0.4	0.17	0.005	0.093
Copper	0.4	0.102	0.017	0.039
Zinc	1	0.408	0.026	0.185
Total chrome	1.71	0.01	0.01	0.01

#### Nissan Mexicana, S.A. de C.V.

Received ISO14001 certification: December 1998

##### Air

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	375	100.28
	Drying ovens	999.84	34.7
	Heating furnaces	375	0.71
Soot and dust	Boilers	2,930	5.3
	Drying ovens	1,502	24.7

Unit NOx = ppm Soot and dust = g/m<sup>3</sup>N

Measured values are the maximum measured values in FY 2002







##### Wastewater Quality

Unit Other than pH: mg/l

Items	Legal Limits	Measured Value		
		Maximum	Minimum	Average
pH	6~9	7.5	7.2	7.35
BOD	150	60	14.4	37.2
SS	150	28.5	28	28.25
Zinc	10	0.26	0.193	0.2265
Total nitrogen	40	33.925	23.509	28.717

## 4 Main Environmental Data of New Vehicles

### New Vehicles for FY 2002

		MOCO*1	Elgrand	Fairlady Z	Cube	Skyline Coupe	Teana
Specifications	Vehicle Name						
	Vehicle type	UA-MG21S	UA-E51	UA-Z33	UA-BZ11	UA-CPV35	UA-J31
	Type	K6A	VQ35DE	VQ35DE	CR14DE	VQ35DE	VQ23DE
	Engine Displacement (cc)	0.658	3.498	3.498	1.386	3.498	2.349
	Fuel	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline
	Drive system	2WD	2WD	2WD	2WD	2WD	2WD
	Transmission	4AT	5AT	5AT	4AT	5AT	4AT
Date on sale	Year/month	02/4	02/5	02/7	02/10	03/1	03/2
Subject to environment tax		—	—	—	○	—	—
Exhaust Emissions *2	Conformity to regulations	2000 passenger vehicle regulations	2000 passenger vehicle regulations	2000 passenger vehicle regulations	2000 passenger vehicle regulations	2000 passenger vehicle regulations	2000 passenger vehicle regulations
	Low-emission vehicle certified by the Ministry of Land, Infrastructure and Transport	○	○	○	○	○	○
	Level of reduction below regulation limits	<Ultra-low emission vehicle> (75%)	<Ultra-low emission vehicle> (75%)	<Ultra-low emission vehicle> (75%)	<Ultra-low emission vehicle> (75%)	<Ultra-low emission vehicle> (75%)	<Ultra-low emission vehicle> (75%)
	Low-emission vehicle certification *3	8 local governments	○	○	○	○	○
		6 local governments	○	○	○	○	○
Fuel consumption	10-15 mode fuel consumption (km/l)	18.4	8.2	9.0	16.4	8.6	11.2
Greenhouse effect gas	CO <sub>2</sub> emissions (g/km)	128	288	262	144	274	211
	HFC refrigerant use (g)	350	990	550	450	550	500
Noise	Compliance with regulations (acceleration noise: dB)	76	76	76	76	76	76
Substances with environmental impact *4	Lead usage (below 1/3 of 1996 levels)	○	○	○	○	○	○
	Mercury (illumination discharge tube)	—	Trace	Trace	Not used *5 *6	Trace	Trace
	Cadmium (special solder)	—	Trace	Trace	Trace	Trace	Trace
Recycling	Recyclable*7	—	Over 90%	Over 90%	Over 95%	Over 90%	Over 90%
	Use of recycled bumper materials	—	2 parts	3 parts	1 parts	3 parts	—
	Use of recycled non-automotive materials	—	1 parts	3 parts	2 parts	5 parts	4 parts
	Use of easily recycled materials (plastic parts) *8	○	○	○	○	○	○
	Material identification of plastic parts and rubber parts	○	○	○	○	○	○

Each vehicle shown represents the largest selling model.

\*1 Provided as part of an OEM joint venture with Suzuki, therefore some data not available.

\*2 Gasoline passenger vehicle exhaust gas regulations (10-15 mode, unit: g/km).

\*3 8 local governments: low pollution values for Japan's eight major urban areas, 6 local governments: low exhaust gas vehicle standards (LEV-6) for the six prefectures making up the Keihanshin area.

\*4 Sodium azide not used.

\*5 "Trace" when the vehicle is fitted with a navigation system.

\*6 "Trace" when the vehicle is fitted with xenon head lights.

\*7 Nissan calculation values. Volume-based.

\*8 Examples of easily recyclable materials:

- Bumpers
- Instrument panel
- Door trim
- Glove compartment
- Console box
- Pillar trim
- Floor carpet

	Current values *2	25% reduction from 2000 gas emission standards	50% reduction from 2000 gas emission standards	75% reduction from 2000 gas emission standard
CO	0.67	0.67	0.67	0.67
HC	0.08	0.06	0.04	0.02
NOx	0.08	0.06	0.04	0.02

● More detailed data are available in "Environmental Notes". ([http://www.nissan.co.jp/INFO/E\\_NOTE](http://www.nissan.co.jp/INFO/E_NOTE))

## 5 Others

### Number of Employees with Environmental Qualifications (as of March 2002)

	Qualification	Number of certified employees	
External qualifications	Assistant ISO14001 auditor	7	
	Assistant ISO14001 auditor (qualified for applications)	66	
	Energy administrator/administration staff	85	
	Pollution prevention administrator	Manager	6
		Air	53
		Water	51
		Noise pollution	22
		Vibration	9
Dioxin	19		
Internal qualifications	Nissan internal environmental auditor	580	
	Nissan Green Shop auditor	94	

### Major Employee Education Programs (FY 2002)

Items	Number in attendance
New Employee Training - Environmental Lectures	605
Basic Technical Employee Training I - Environmental Related Lectures	1,923
Basic Technical Employee Training II - Applicable Technical Employee Education Environmental Related Lectures	104
General Technical Employee Training - Environmental Lectures	18
Environmental Management Lectures	33
Energy Conservation Technology Lectures	36
Training for Internal Environmental Auditors	59
Refresher Training for Internal Environmental Auditors	58
Training for Assistant ISO14001 auditors	1

### FCV (Fuel Cell Vehicle) Exhibitions and Test Drive Events (18 events in FY 2002)

June 1-2	ECO CAR WORLD 2002
September 4-6	CaFCP California Coast 2002 Road Rally
September 21	Japan Hydrogen & Fuel Cell Demonstration Project (JHFC) FCV Hands-on Learning Class and Trial Rides for Kids
November 4	Japan EV Festival 2002
December 10-11	Advanced Technologies Presentation Meeting & Test Drive
December 13	Ministry of the Environment Test Drive
December 13	Ministry of Economy, Trade and Industry Test Drive
December 17	Ministry of Land, Infrastructure and Transport Test Drive
December 18	Japanese Electric Vehicle Association (JEVA) Electric Vehicle Forum Exhibition
January 23	Environmentally Friendly Vehicles (EFV) International Meeting & Trial Rides
January 29	National Traffic Safety and Environment Laboratory Test Drive
January 30	Ministry of Land, Infrastructure and Transport KANTO District Transport Bureau Test Drive
February 6-7	Energy and Environment Exhibition (ENEX) 2003 (Tokyo)
February 13-15	Energy and Environment Exhibition (ENEX) 2003 (Osaka)
March 12	Opening of JHFC Park, Trial Rides
March 18	The 3rd International Electric Vehicle Symposium Exhibition on Fuel Cell Vehicles
March 22	Environment & Low Emission Vehicle Fair - Exhibition in No. 2 (Low Emission Vehicle) Division
March 23-25	International Conference on Environmentally Sustainable Transport Exhibition

### Number of Low Emission Vehicles Shipped (FY 2002)

		Passenger vehicle		Truck		Bus	Total
		Standard and compact	Light motor vehicle	Standard and compact	Light motor vehicle		
Low Emission vehicles	Electric Vehicle (EV)	0	30	0	0	0	30
	Hybrid Electric Vehicle (HEV)	0	0	0	0	0	0
	Compressed Natural gas Vehicle (CNG)	0	0	383	0	7	390
	Methanol vehicle	0	0	0	0	0	0
Certified as both low fuel composition and low emission vehicles *1	☆☆☆	419,844	35,284	23,274	0	0	478,402
	☆☆	0	0	0	0	0	0
	☆	41,968	0	14,193	0	0	56,161
Diesel alternative LPG vehicles		0	0	83	0	0	83
<b>Total</b>		<b>461,812</b>	<b>35,314</b>	<b>37,933</b>	<b>0</b>	<b>7</b>	<b>535,066</b>

\* Low emission vehicles indicate vehicles sold.

\* Includes vehicles received as OEM, but not supplied as OEM.

\* Diesel alternative LPG vehicles numbers indicate Atlas 20 LPG vehicles sold.

\*1 Achieved fuel standards early according to the Law Concerning the Rational Use of Energy, and is certified as a low emission vehicle according to the Low Emission Vehicle Certification Guidelines.

• Certified low emission vehicle

☆☆☆ (Ultra-low emission vehicle): 75% reduction from 2000 gas emission standards

☆☆ (Excellent-low emission vehicle): 50% reduction from 2000 gas emission standards

☆ (Good-low emission vehicle): 25% reduction from 2000 gas emission standards

**Number of Low Emission Vehicles Shipped (FY 2002)**

		Number of shipped vehicles	
☆☆☆	March	163,198	☆
	Cube	67,452	X-Trail
	Serena	49,552	Wingroad
	Elgrand	43,517	Cube
	Sunny	36,383	Cedric / Gloria
	Moco	35,284	AD Van
	Bluebird Sylphy	23,338	Liberty
	Wingroad	22,866	Sunny
	AD Van	20,353	Bluebird Sylphy
	Liberty	18,202	Moco
	Primera	16,491	Presage
	Teana	15,476	March
	Fairlady Z	13,457	Avenir
	Skyline	5,622	Expert
	Expert	3,195	Caravan
	Avenir	1,063	Bassara
	Tino	549	Primera
		<b>535,998</b>	Safari
☆☆	Moco	7,813	March
	Cedric	3,977	
	Crew	3,092	
	Caravan	421	
		<b>15,303</b>	
			<b>Total</b>
			<b>694,679</b>

☆☆☆ (Ultra-low emission vehicle): 75% reduction from 2000 gas emission standards ☆☆☆ (Excellent-low emission vehicle): 50% reduction from 2000 gas emission standards

☆☆ (Good-low emission vehicle): 25% reduction from 2000 gas emission standards

**Nissan Motor Co., Ltd. PRTR Environmental Contaminant Discharge/Displacement (FY 2002)**

Substance number	Chemical substance	Amount handled	Air	Water	Transferred as waste	Buried by Nissan	Recycled	Chemically changed	Product
1	Water-soluble zinc compounds	49,207	0	357	2,729	3,592	0	1,200	41,328
9	Bis (2-ethylhexyl) apidate	6,174	0	0	0	0	0	572	5,603
13	2,2'-azobisisobutyronitrile	73	0	0	7	0	0	0	65
16	2-Ethynol amine	9,468	2	249	450	0	0	8,766	0
24	linear alkyl benzene sulfonic acid	35	0	2	33	0	0	0	0
25	Antimony and its compounds	27,770	0	0	0	0	0	0	22,770
29	Bisphenol A	21,311	0	0	0	0	0	21,311	0
30	Bisphenol A mold epoxy resin	16,416	0	35	0	0	0	871	15,509
40	Ethyl benzene	233,378	60,243	0	210	0	666	83,658	88,601
43	Ethylene glycol	2,601,380	26,289	0	0	0	89	1,960	2,573,042
44	Ethylene glycol monoethyl ether	38	37	0	0	0	0	1	0
63	Xylene	4,312,944	1,490,424	0	1,007	0	1,856,343	562,835	402,336
67	Cresol	1,710	0	0	0	0	0	1,710	0
68	Chromium and trivalent chromium compounds	32,309	0	0	27	0	0	0	32,281
69	Hexavalent chromium compounds	20	0	0	6	0	0	0	14
100	Cobalt and its compounds	185	0	0	19	0	0	0	167
101	2 ethoxyethyl acetate	281	224	0	0	0	0	57	0
109	2-(Diethylamino) ethanol	275	0	55	0	0	0	220	0
176	Organotin compounds	16,217	0	162	0	0	0	16,054	0
179	Dioxins	3,230	72	0	645	0	2,513	0	0
224	1, 3, 5 trimethylbenzene	51,751	41,625	0	0	0	1,788	8,338	0
227	Toluene	2,284,572	518,359	0	1,904	0	570,697	598,755	594,857
230	Lead and its compounds	2,794	0	0	312	2	229	0	2,251
231	Nickel	479	0	0	38	0	0	3	438
232	Nickel compounds	8,504	0	204	2,684	2,725	0	0	2,891
243	Barium and its compounds	808	0	0	804	0	0	0	5
253	Hydrazine	76	0	0	0	0	0	66	10
260	Pyrocatechol	19,260	0	0	0	0	0	19,260	0
266	Phenol	23,685	0	0	0	0	0	23,685	0
270	Di-n-Butyl Phthalate	177	7	0	0	0	0	125	44
272	Bis (2-ethylhexyl) phthalate	315,174	0	0	0	0	0	11,193	303,981
283	Hydrogen fluoride and its compounds	15,480	1,371	2,127	2,751	0	9,230	0	0
299	Benzene	97,258	177	0	67	0	0	25,407	71,608
304	Boron and its compounds	1,318	47	351	686	223	0	3	7
307	Poly (oxyethylene) = alkyl ether (C = 12 - 15)	5,534	0	127	1,929	0	0	3,478	0
309	Poly (oxyethylene) nonyl phenyl ether	7,785	1	216	685	0	433	6,450	0
310	Formaldehyde	8,339	7,119	0	2	0	0	1,204	14
311	Manganese and its compounds	380,665	0	763	1,590	5,318	0	0	372,993
312	Phthalic anhydride	144	0	0	0	0	0	12	132
314	Methacrylic acid	1	0	0	0	0	0	1	0
315	Ethylhexyl dimethacrylate	1	0	0	0	0	0	1	0
346	Molybdenum and its compounds	6,943	0	0	10	0	61	0	6,872
	<b>Total</b>	<b>10,554,936</b>	<b>2,145,927</b>	<b>4,649</b>	<b>17,949</b>	<b>11,860</b>	<b>2,439,536</b>	<b>1,397,198</b>	<b>4,537,817</b>

\* According to PRTR law, raw materials that contain 0.1% or more of carcinogen (designated type 1 chemical substances) and those that contain 1% or more of other substances are measured.

\* Only carcinogens whose annual handling volume is 500 kg or greater and other substances whose handling volume is 1 ton or greater are listed. (All dioxins are listed)

\* As the figures are rounded to the first place, the sum of air, water, chemicals transferred as waste, or buried by Nissan, recycled, chemically changed, and made into products may not necessarily be the same as the sum of the amount handled or total.

## Major Achievements Over the Last Five Years

<b>1997</b>	March	Cedric/Gloria CNGV (compressed natural gas vehicle) is released	<b>2001</b>	December	Serena, an ultra-low emission vehicle (☆☆☆), is released Forklift engines (gasoline and LPG) are certified for the first time by California's emission regulations	
	May	Prairie Joy EV (electric vehicle) is released Oppama Plant receives ISO14001 certification for its environmental management system		<b>2002</b>	January	NISSAN GREEN PROGRAM 2005 is announced Sponsoring "Nissan Environmental Meeting" Exhibition on the Coexistence of Man, Automobile, and Nature is held
	June	Nissan begins to issue Environmental Note EURO Environmental Management Committee is formed			February	Skyline, an ultra-low emission vehicle (☆☆☆), is released Primera, an ultra-low emission vehicle (☆☆☆), is released
	September	NISSAN CVT is commercialized			March	March, an ultra-low emission vehicle (☆☆☆), is released Nissan Green Shop certification is completed at all dealers
	October	Demonstration dismantling plant is opened to promote the recycling of end-of-life vehicles			April	Moco, an ultra-low emission vehicle (☆☆☆), is released
December	Nissan (NEO Di) direct-injection gasoline engine is commercialized	May	Sunny, an ultra-low emission vehicle (☆☆☆), is released Elgrande, an ultra-low emission vehicle (☆☆☆), is released			
<b>1998</b>	January	North American Environmental Management Committee is formed	July	Nissan Environmental and Social Report 2002 is issued Fairlady Z, an ultra-low emission vehicle (☆☆☆), is released		
	February	Sale of LEV is commenced (Cube) Nissan Vehicle Recycling Program is announced Green Office Program is launched	August	Results of the environmental survey on the former Kurihama Plant site are announced Avenir, an ultra-low emission vehicle (☆☆☆), is released Expert, an ultra-low emission vehicle (☆☆☆), is released AD Van, an ultra-low emission vehicle (☆☆☆), is released		
	March	Nissan Environmental Report (data version) is issued	September	Liberty, an ultra-low emission vehicle (☆☆☆), is released March featuring e-4WD released		
	May	R'nessa EV (electric vehicle) is released	October	Cube, an ultra-low emission vehicle (☆☆☆), is released Tino, an ultra-low emission vehicle (☆☆☆), is released		
	June	Nissan NEO Di direct-injection diesel engine is commercialized	November	Wingroad, an ultra-low emission vehicle (☆☆☆), is released		
September	A unit combining direct-injection gasoline engine and NISSAN CVT is commercialized The first Nissan Environmental Forum is held	December	X-TRAIL FCV Approved by Minister of Land, Infrastructure and Transport			
<b>1999</b>	February	The Nissan Green Parts supply system is expanded Fukkatsukun, an engine coolant recycling machine, is released	<b>2003</b>	January	Skyline Coupe, an ultra-low emission vehicle (☆☆☆), is released	
	March	All seven plants in Japan and the Product Planning, Research and Development Group acquire ISO14001 certification for environmental management systems		February	Teana, an ultra-low emission vehicle (☆☆☆), is released Nissan Achieves ultra-low emission vehicle (☆☆☆) ratio of 80% of all passenger vehicles sold in Japan	
	May	On-road testing of the Tino methanol hybrid started On-road testing of methanol reformer-equipped fuel cell vehicle started				
	June	Nissan NEO Di VQ30DD and Nissan NEO Di VQ25DD, direct-injection gasoline engines that meet 2000 exhaust emission standards, are commercialized on the new Cedric/Gloria				
	September	Participation in joint field trial projects with the ultra-small Hypermini EV Nissan Environmental Report 1999 is issued				
October	The Extroid CVT new generation transmission is installed on a vehicle for the first time in the world, on the Cedric/Gloria					
<b>2000</b>	January	Nissan Sentra CA, the world's cleanest gasoline vehicle, is launched in California				
	February	Hypermini ultra small electric vehicle is released				
	March	Nissan participates in The California Fuel Cell Partnership in the United States Nissan Green Shop certification system, Nissan's independent environmental certification system, is implemented at dealers Tino Hybrid is released				
	April	AD Van CNGV (compressed natural gas vehicle) is verified as ultra-low emission vehicle (☆☆☆) by the Ministry of Transportation's low emission vehicle certification system				
	August	Bluebird Sylphy, an ultra-low emission vehicle (☆☆☆), is released				
September	Nissan Environmental Report 2000 is issued Environmental actions announced for the former Ogikubo Office site					
October	Nissan Green Parts is extended throughout the country Atlas 10 LPG and Atlas 20 LPG vehicles are released					
<b>2001</b>	April	Public road test of Xterra FCV (high-pressure hydrogen fuel cell vehicle) is started Environmental actions announced for the former Murayama Plant site				
	August	Clean emissions model is added to the JX-w engine powered forklift				
	September	Results of the environmental survey on the former Murayama Plant site are announced Nissan Environmental Report 2001 is issued				
	October	Nissan announces the use of ultra-low emission engines on more models				
	November	Environmental survey on the former Murayama Plant site is completed				



### Topics Environmental awards received in FY 2002

( ): sponsoring bodies.

Nissan's efforts in environmental protection are bearing fruit as environmental improvement technologies. These technologies and activities were recognized with various awards during 2002.

#### The Nihon Keizai Shimbun Environmental Technology Award 2003 (Nikkei Business Publications, Inc)

The e-4WD system is engineered around a regular front drive configuration, and when compared to mechanical 4WD systems, was judged to achieve improved fuel economy, a more level and roomy interior, as well as reductions in size, weight, and cost.

#### 2002 Westech Grand Prize - New Technology Division (Westech Executive Committee)

Nissan has developed and introduced the unique environmental certification accreditation system, the "Nissan Green Shop Certification System," which is in accordance with ISO14001. Implementation of this was completed at all sales companies by March 2002. This covers not only environmental preservation, but also economic recovery. The system is highly thought of worldwide, in other industries as well.

#### 6th Environmental Report Awards - Award for Excellence (Global Environmental Forum)

Nissan's Environmental and Social Report 2002, issued in March 2002, was awarded the Environmental Report Awards 2 years running. Nissan has strived for thorough disclosure of information, and the report shows the responsibility and measures Nissan is taking in reducing environmentally hazardous products. The report was judged to fully illustrate Nissan's stance and activities as regards the environment.

#### 6th Green Reporting Award, Award for Ment (Toyo Keizai Inc.)

The Environmental and Social Report that was issued in March 2002 was given this award, as it was judged to give detailed explanations of recycling, and to positively reflect readers' opinions.



**Comparison of Items Included in the Environmental and Social Report**

This report makes use of outside guidelines in presenting Nissan's environmental management system, policies, goals, reporting plan, etc. The chart below compares the previous editions of the Environmental Report with this version, in line with the Environmental Reporting Guidelines (February 2001) prepared by Japan's Ministry of the Environment.

We will also continue to make improvements to the sustainability report, by providing social performance based on GRI.

Items		March 1999 Edition	March 2000 Edition	March 2001 Edition	March 2002 Edition	March 2003 Edition
Ministry of the Environment Environmental Reporting Guidelines (FY 2000 Version)	Basic items					
	CEO's introductory remarks and signature	■	■	■	■	■
	Preliminary remarks and signature of officer in charge of environmental protection	■	■	■	■	■
	Corporate philosophy (management philosophy)	■	■	■	■	■
	Corporate profile	■	■	■	■	■
	Name of department that prepared the report and the contact	■	■	■	■	■
	List of disclosed materials	■	■	■	■	■
	Report time frame and date of next planned publication	■	■	■	■	■
	Environmental Management					
	Environmental philosophy and environmental policies	■	■	■	■	■
	Overview of environmental management system	■	■	■	■	■
	Organization for environmental activities	■	■	■	■	■
	Environmental audit system, if any, and methods	■	■	■	■	■
	ISO14001 certification	■	■	■	■	■
	Communications with subsidiaries, affiliates, and suppliers	■	■	■	■	■
	Emergency Measures	■	■	■	■	■
	Employee education	■	■	■	■	■
	Environmental Communication	■	■	■	■	■
	Compliance with regulatory requirements	■	■	■	■	■
	Environmental Accounting	■	■	■	■	■
Life cycle assessment	■	■	■	■	■	
Efforts to reduce environmental impact						
Responsibility specified by field		■	■	■	■	
Product Development						
Product environment policy	■	■	■	■	■	
Product environmental management organization	■	■	■	■	■	
Cleaner exhaust emissions	■	■	■	■	■	
Improving Fuel Economy	■	■	■	■	■	
Development clean energy vehicles	■	■	■	■	■	
Reducing external car noise	■	■	■	■	■	
Reducing environmental impact substances	■	■	■	■	■	
Suppressing release of air conditioner refrigerants	■	■	■	■	■	
Manufacturing						
Pre-Assessment system	■	■	■	■	■	
Product environmental management organization	■	■	■	■	■	
Promoting energy saving	■	■	■	■	■	
Waste reduction	■	■	■	■	■	
Atmospheric pollution prevention	■	■	■	■	■	
Preventing water pollution	■	■	■	■	■	
Improving management of chemical substances	■	■	■	■	■	
Contamination of soil and underground water prevention	■	■	■	■	■	
Environmental Preservation in Logistics	■	■	■	■	■	
Sales and Service						
Recycling						
Development process for recycling design	■	■	■	■	■	
Recycling targets	■	■	■	■	■	
Efforts in the development stage of new models	■	■	■	■	■	
Efforts to promote recycling of end-of-life vehicles	■	■	■	■	■	
Business activities						
Green Procurement	■	■	■	■	■	
Industrial machinery business	■	■	■	■	■	
Environmental monitoring research	■	■	■	■	■	
Relations with society (e.g., ITS)	■	■	■	■	■	
Interactive communication						
Data & Reference						
		■	■	■	■	□ Added business sites to report
GRI	Social performance					
	Corporate citizenship		■	■	■	■
	Health and safety		■	■	■	■
	Employee relations				■	■
	Communication with customers				■	■
Compliance					■	
						□ Newly added
Sustainability					■	□ More detailed
Approach to sustainability						

## Environmental and Social Report

- Edition 1 Released July 1990  
(Title: On the Environment)
- Edition 2 Revised September 1992
- Edition 3 Revised September 1993  
(Revision of Environmental Action Plan brochure)
- Edition 4 Revised March 1997
- Edition 5 Revised October 1997  
(Released in March 1998 as a separate volume of the Nissan Environmental Report  
(Data Sheet))
- Edition 6 Revised September 1998  
(Revised as Environmental Report)
- Edition 7 Revised September 1999
- Edition 8 Revised September 2000
- Edition 9 Revised September 2001
- Edition 10 Revised July 2002  
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