

Nissan Green Program 2005 Objectives and Results

The following is a categorized chart of the objectives and activities outlined in the Nissan Green Program 2005 (Fiscal 2001–2005) and the major results we achieved by the program's Fiscal 2005 target date.

Overall, we believe we successfully achieved the majority of the program targets. These results will be utilized to help plan our next program. Each category has a correlating section on the following pages of this report. Please refer to the relevant pages for more detailed discussion.

Nissan Green Program 2005 and Major Results by FY2005

Area	Item	NGP2005 Objectives	Major Results by FY2005	Page
Product Development	Improving fuel economy	<ul style="list-style-type: none"> ● Early attainment of Japan's 2010 fuel economy standards for gasoline vehicles and 2005 standards for diesel vehicles [Objective] Attainment of the new standards by 2005 target date 	<ul style="list-style-type: none"> ● Almost all targets achieved (Gasoline passenger vehicles in 7 weight classes, gasoline trucks in 13 classes, diesel vehicles in all classes) 	05
	Reduction of exhaust emissions	<ul style="list-style-type: none"> ● Gasoline vehicles <ul style="list-style-type: none"> ▪ Steady expansion of Nissan's ultra-low emission vehicle (U-LEV) lineup, starting with the 2000 launch of the Bluebird Sylphy [Objective] Achieve U-LEV certification for more than 80% of all Nissan passenger vehicles sold in Japan by end-March 2003 ● Diesel vehicles <ul style="list-style-type: none"> ▪ Early Release of vehicles complying with the latest exhaust emission regulations 	<ul style="list-style-type: none"> ● Gasoline vehicles <ul style="list-style-type: none"> ▪ Achieved U-LEV certification for more than 80% of all Nissan passenger vehicles sold in February 2003 ▪ Set new target of earning SU-LEV certification for 80% of all Nissan passenger vehicles, achieved this target in May 2006 ▪ Achieved U-LEV and SU-LEV for more than 95% of all Nissan passenger vehicles sold by end-March 2006 ● Diesel vehicles <ul style="list-style-type: none"> ▪ Completed the transition of all diesel vehicles to full compliance with Japan's new short-term emission regulations. Launched the "ultra-low PM emissions diesel vehicles" Atlas 20 in June 2004 	06
	Development of clean energy vehicles (CEVs)	<ul style="list-style-type: none"> ● Fuel cell vehicles (FCVs) <ul style="list-style-type: none"> ▪ Projecting the year 2005 as our technical development goal for practical use ▪ Participation in domestic demonstration program for FCVs under the auspices of the Japanese government in 2002 ● Other CEVs <ul style="list-style-type: none"> ▪ Research, development, and market introduction of electric vehicles (EVs), compressed natural-gas vehicles (CNGVs), hybrid electric vehicles (HEVs) 	<ul style="list-style-type: none"> ● Fuel cell vehicles <ul style="list-style-type: none"> ▪ Commenced participation in the Japan Hydrogen & Fuel Cell Demonstration Project (JHFC) in July 2002 ▪ Began limited lease of the X-TRAIL FCV 2003 model in December 2003, first vehicle delivered in March 2004 ▪ Announced Nissan's first in-house developed fuel cell stack and 70MPa high-pressure hydrogen storage system ▪ Commenced limited leasing program of the 2005 model began in December 2005 ▪ Developed a vehicle that improved the previous model's cruising range by 1.4 times to over 500 km ▪ The announcement of the X-TRAIL FCV 2005 model and the completions of the in-house developed fuel cell stack and 70MPa high-pressure hydrogen storage system ● Other CEVs <ul style="list-style-type: none"> ▪ Launched several CEVs, including the Hypermini EV, AD Van CNG, and Tino Hybrid models ▪ Announced the Altima Hybrid model (scheduled for early 2007 U.S. market launch) 	07
	Promotion of design for recycling and management/Reduction of environmentally impacting substances	<ul style="list-style-type: none"> ● Advancing the recycling of new models <ul style="list-style-type: none"> ▪ Attainment of a recoverability rate of 95% or higher by weight for new models by 2005 (based on Nissan in-house calculation standards) ● Reduction of environmentally impacting substances <ul style="list-style-type: none"> ▪ Banning the use of mercury (with limited exceptions) and cadmium ▪ Reducing the use of lead (to be largely phased out by the end of 2002) and hexavalent chromium (to be reduced to one-half of 1996 levels by 2005) 	<ul style="list-style-type: none"> ● Promotion of recycling for new models <ul style="list-style-type: none"> ▪ Models released since FY2001 for which 95% recoverability was attained ● Reduction of environment-impacting substances <ul style="list-style-type: none"> ▪ Use of mercury and cadmium materials was banned, with certain exceptions ▪ Achieved the industry target to "reduce lead content to 10% or less than 1996 levels" for 23 models, including the Serena, Wingroad, and Bluebird Sylphy ▪ Reduced hexavalent chromium content in the Bluebird Sylphy to less than 50% the 1996 level *Exceptions to Japan Automobile Manufacturers Association's voluntary targets <ul style="list-style-type: none"> ▪ Lead: Lead batteries (because the collection route is established) ▪ Mercury: Liquid crystal displays of navigation systems and other devices, combination meters, discharge headlamps, and interior fluorescent lights (minimal amounts used in parts considered essential for traffic safety) 	08
	Reduction of vehicle noise	<ul style="list-style-type: none"> ● Compliance by all models with voluntary targets for vehicle noise that are stricter than regulatory noise limits 	<ul style="list-style-type: none"> ● Achieved voluntary targets for all models 	09
	Control of air-conditioner refrigerant emissions	<ul style="list-style-type: none"> ● Attainment of Nissan's voluntary targets for reduced use of the HFC134a refrigerant 	<ul style="list-style-type: none"> ● Achieved voluntary targets for 32 models 	09

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Area	Item	NGP2005 Objectives	Major Results by FY2005	Page
Production	Promotion of energy savings	<ul style="list-style-type: none"> Reduction of total CO₂ emissions by more than 10% from FY1999 (42% from FY1990) levels by FY2005 	<ul style="list-style-type: none"> Reduced total CO₂ emissions by 14% from FY1999 (FY2005 emissions were reduced 44% versus FY1990) through improvements to equipment and operating processes as well as other measures 	10
	Reduction of waste and promotion of recycling	<ul style="list-style-type: none"> All plants eliminated direct landfill disposal of waste by FY2001 Reduction of amount of waste incinerated by more than 50% from FY1999 levels by FY2005 (All plants initiated a zero emission program during FY2001) 	<ul style="list-style-type: none"> Zero waste directly to landfill achieved in FY2001 and remains in force Waste incineration volumes reduced by 90% from 1999 levels (from 27,900t in FY1999 to 2,723t in FY2005) 	11
	Improved management of chemical substances	<ul style="list-style-type: none"> Installation in FY2002 of a model paint line that reduces volatile organic compounds (VOCs) emissions to 20g/m² and promotion of efforts to reduce substances subject to the Pollution Release and Transfer Register (PRTR) system 	<ul style="list-style-type: none"> Completed installation of model paint line at No.2 Kyushu Plant in FY2002, reducing VOC emissions to an industry-leading level below 20g/m² Reduced VOC emission volume per unit of painted area in FY2005 by 65% from the FY1994 level 	12
	Environmental protection in logistics operations	<ul style="list-style-type: none"> Reduction of total CO₂ emissions by more than 10% from FY1999 levels by FY2005 	<ul style="list-style-type: none"> FY2005 CO₂ emission levels reduced by 14% from FY1999 levels 	13
Sales and Service	Environmental management at dealers	<ul style="list-style-type: none"> Implementation and improvement of environmental management through the Nissan Green Shop dealer certification system <ul style="list-style-type: none"> Establishment of a system for appropriate treatment of end-of-life vehicles (ELVs) at dealers in Japan Improvement of Japanese dealer abilities to cope with the Automobile Recycling Law (execution of responsibility for taking back ELVs) 	<ul style="list-style-type: none"> Completed certification of all 202 Japanese dealers as Nissan Green Shop dealers. Implemented periodic recertification audits Produced and distributed to all dealers the "Management Response Manual" to ensure full compliance with the Automobile Recycling Law (execution of responsibility for taking back ELVs) 	14
Recycling	Appropriate treatment and recycling of end-of-life vehicles (ELVs)	<ul style="list-style-type: none"> Advance recycling operations <ul style="list-style-type: none"> Development and deployment of new technology for appropriate treatment of end-of-life vehicles (ELVs) Design for recycling Continuing expansion of the Nissan Green Parts 	<ul style="list-style-type: none"> FY2005 recovery rates and volume in Japan based on the Automobile Recycling Law <ul style="list-style-type: none"> Automotive shredder residue (ASR): 67.9% Airbags: 93.5% CFCs/HFCs: 144,346kg In 2001 commenced collecting aluminum road wheels of ELVs and recycling into new parts (FY2005 recycled volume: 100 tons/month) In the fall of 2003, the Oppama Plant began ASR recycle operations, making Nissan the first automaker to use its own incineration facilities to process ASR (FY2005 recycled volume: 400 tons/month) Published the "Dismantling Manual for Parts/Components Containing Copper (Cu) of End-of-Life Vehicle" Nissan Green Parts sales: approximately ¥2.1 billion Jointly developed and launched with Renault the OPERA recycling simulation system 	15
Environmental Management	Environmental management system (EMS)	<ul style="list-style-type: none"> Implementation, operation, and improvement of EMS in line with ISO14001 (ongoing) Construction of a global EMS encompassing core consolidated subsidiaries Prevention of environmental accidents and improvement of risk management (Pollution discharge from plants higher than regulated levels) 	<ul style="list-style-type: none"> Implementation of ISO14001 standards and continuous improvements at all production facilities and in the product development process. Constructed and commenced operations of the global EMS at affiliate companies, focusing on production facilities. Presently examining strategies to develop the global EMS for non-manufacturing sites Achieved zero environmental accidents in FY2005 Risk management enhanced by the issue of the "Crisis Management Manual" from the Head Office outlining periodic environmental performance audits, and environmental accident communications systems and response procedures for plants and business sites operated by Nissan and consolidated companies in Japan 	16
	Environmental communications	<ul style="list-style-type: none"> Publication of the annual Environmental Report and improvement of content Continued release of environmental communications whenever appropriate Participation in and organization of environment-related lectures and exhibitions Issuance and improvement of environmental communications to local communities 	<ul style="list-style-type: none"> Published the Environmental Report annually since 1998 Held the annual Environmental Report readers workshop since FY2003, held an Environmental Communication Meeting in FY2005 Held an Environmental Stakeholder Dialogue in 2003 and an Environmental Advisory Meeting in 2005 Participated in exhibitions and test-ride events, response to related environmental questionnaires and data collection, conducted plant tours 	17
	Green procurement	<ul style="list-style-type: none"> Thorough management of environmentally impacting substances Requests to suppliers to acquire ISO14001 certification by March 2005 environmental communications to local communities 	<ul style="list-style-type: none"> Received environment-impacting substance data reports from suppliers, began conducting new vehicle inspections based on this data Over 95% of suppliers certified under ISO14001 standards or the Japanese Ministry of the Environment's Eco Action 21 	18
	Employee education and training	<ul style="list-style-type: none"> Continued implementation and improvement of Nissan's employee education system and regular educational efforts through in-house publications and other activities 	<ul style="list-style-type: none"> Implemented in-house educational curriculum Ongoing enlightenment activities through the "Environmental Series" pages in the internal newspaper <i>NISSAN NEWS</i> 	18
	Environmental protection in Nissan offices (Green Office Program)	<ul style="list-style-type: none"> Reduction of paper consumption, reuse of resources, and promotion of energy savings Examining and promoting ways of reducing emissions from company-owned vehicles 	<ul style="list-style-type: none"> Activated green purchasing, improved energy conservation, reduced paper consumption, and promoted reuse of resources in our everyday business operations; introduced eco-friendly vehicles for use as company vehicles 	19