



The Honda Environment Statement

The Honda Environment Statement

Honda has long been committed to environmental conservation. In the 1990s we strengthened our organizational structure and in 1992 released the Honda Environment Statement to clearly define our approach to environmental issues. We have continued to strengthen our environmental conservation initiatives, which are central to everything we do.

Looking to the future, we articulated our Vision 2010, which affirms that our corporate culture is based on freedom and openness, challenge and cooperation. The commitment to the future defined in our vision statement mandates that we work diligently to meet our ambitious environmental goals. We understand that there are no shortcuts in our collective task of overcoming the environmental issues facing society—or to being a company society wants to exist.

The Honda Environment Statement

As a responsible member of society whose task lies in the preservation of the global environment, the company will make every effort to contribute to human health and the preservation of the global environment in each phase of its corporate activity. Only in this way will we be able to count on a successful future not only for our company, but for the entire world.

We should pursue our daily business interests under the following principles:

- 1 We will make efforts to recycle materials and conserve resources and energy at every stage of our products' life cycle from research, design, production and sales, to services and disposal.
- 2 We will make every effort to minimize and find appropriate methods to dispose of waste and contaminants that are produced through the use of our products, and in every stage of the life cycle of these products.
- 3 As both a member of the company and of society, each associate will focus on the importance of making efforts to preserve human health and the global environment, and will do his or her part to ensure that the company as a whole acts responsibly.
- 4 We will consider the influence that our corporate activities have on the local environment and society, and endeavor to improve the social standing of the company.

Established and announced in June 1992

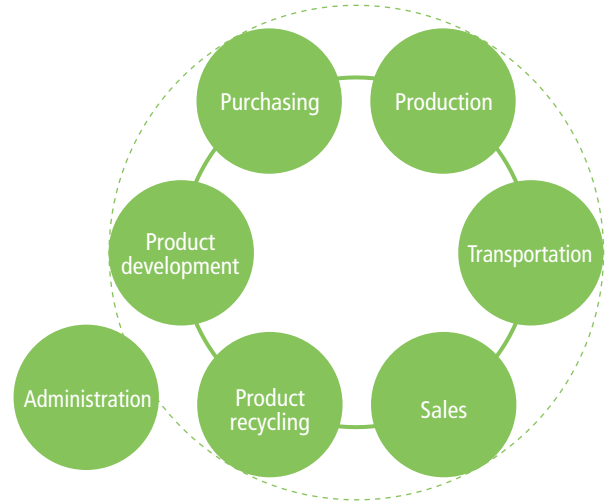


Assessing environmental impact

Assessing environmental impact, policy initiatives

Honda is aware of its responsibility for the environmental impact generated by its corporate activities and use of its products, and is committed to minimizing it. To achieve this, it is essential that we identify specific issues and set targets for action. We set specific goals in the context of our Life Cycle Assessment (LCA) system,* which is used to measure, assess and analyze environmental impact.

*Honda's Life Cycle Assessment system is used to quantitatively assess the environmental impact associated with its business operations, including motorcycle, automobile and power products manufacturing, from production through disposal.



Environmental impact and major initiatives

Domain	Concerns	Environmental impact	Major initiatives
Product development	CO ₂ Exhaust emissions Noise	Global environmental issues Global warming	<ul style="list-style-type: none"> Exhaust emissions Fuel efficiency improvements Noise reduction Recyclability improvements
Purchasing	CO ₂ Waste	Ozone depletion	<ul style="list-style-type: none"> Green Purchasing
Production	Wastewater Exhaust emissions Noise Chemicals	Depletion of natural resources	<ul style="list-style-type: none"> Green Factories
Transportation	CO ₂ Waste	Air pollution	<ul style="list-style-type: none"> Green Logistics
Sales	CO ₂ Removed parts Fluorocarbons Waste	Waste	<ul style="list-style-type: none"> Green Dealers (automobiles, motorcycles and power products)
Product recycling	CO ₂ End-of-life products	Water pollution	<ul style="list-style-type: none"> Recovery, recycling and reuse of parts Technical support for the proper disposal and recycling of end-of-life products
Administration	CO ₂ Waste	Soil pollution	<ul style="list-style-type: none"> Green Offices
		Noise	
		Local environmental issues	

2010 CO₂ reduction targets and progress

Addressing global climate change

Rapidly increasing emissions of carbon dioxide, fluorons and other greenhouse gases are considered to be the key cause of global climate changes. This problem cannot be resolved solely by action at the regional level. That's why Honda is addressing the problem on a global scale.

Meanwhile, there is a significant gap between developed and developing countries in terms of availability of convenient transportation. Since improvements in the quality of mobility are essential to improvements in the quality of life, the demand for automobiles and other forms of transportation will continue to grow, particularly in the world's advancing economies.

Honda is working to further develop its environmental technologies. In May 2006, Honda announced targets for reduction of its product and production-related CO₂ emissions worldwide and is striving to reconcile the threat of global climate change with the growing demand for mobility. Honda's overall goal is to manufacture products with the lowest in-use CO₂ emissions at manufacturing plants with the lowest CO₂ emissions per unit of production.

Setting goals for higher fuel-efficiency averages for all products worldwide

Since the internal combustion engine is expected to continue to provide the principal means of mobility until at least 2020, Honda is working to improve its efficiency and fuel economy. Stringent regulations such as Corporate Average Fuel Economy (CAFE) standards have been introduced in the U.S., Europe and other regions to mandate fuel-efficiency improvements for automobile fleets. Recognizing the need for global initiatives, Honda is moving from measuring regional

fuel-efficiency averages to measuring global fuel-efficiency averages, and from fuel-efficiency averages based on vehicle categories to average targets for its entire worldwide vehicle lineup.

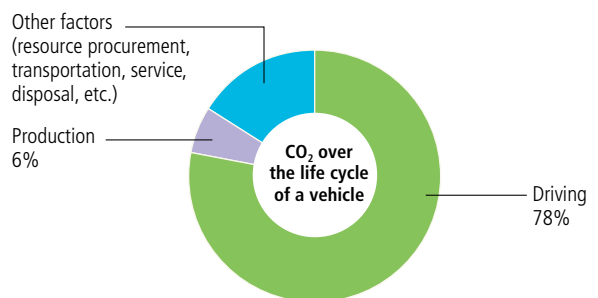
Reducing per-vehicle CO₂ emissions in manufacturing worldwide

Honda is also committed to further improving the efficiency of its worldwide manufacturing processes and reducing CO₂ emissions. To this end, in 2006 we established global targets for average per-unit CO₂ emissions in manufacturing and are working steadily to reach these targets.

Targets that address the automobile life cycle




According to assessments made on the basis of the Honda LCA system, approximately 78% of emissions are generated by the operation of vehicles and about 6% in their manufacture. Thus Honda's CO₂ targets, which focus both on its products and its production processes, cover more than 80% of the CO₂ emissions generated throughout the life cycle of its automobiles.

CO₂ emissions over the life cycle of a vehicle (as assessed with the Honda LCA system)



Example: Civic driven 100,000 km

2010 CO₂ reduction targets and progress (baseline: 2000)

	Automobiles	Motorcycles	Power products
			
Product CO₂ reduction targets Global average of CO ₂ emitted by all Honda products	10% (per g/km)	10% (per g/km)	10% (per kg/h)
Production CO₂ reduction targets Global average of per-unit CO ₂ emitted during production	10% (per unit)	20% (per unit)	20% (per unit)

•Target scope:

Product—Automobiles: Japan, North America, Europe/Middle East/Africa, Asia/Oceania, China, South America (more than 90% of worldwide sales)

Product—Motorcycles: Japan, North America, Europe, Thailand, India, China, Indonesia, Vietnam, Brazil, Philippines, Malaysia, Pakistan (more than 90% of worldwide sales)

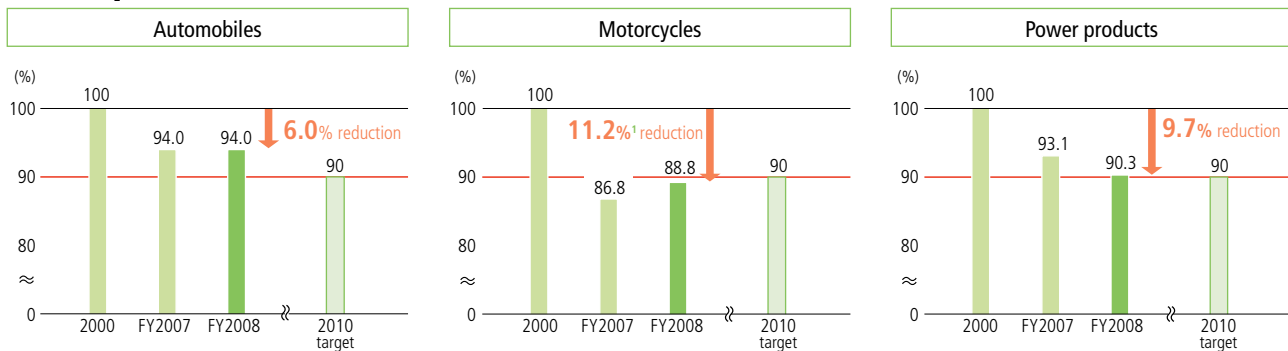
Product—Power products: All sales in all regions (excluding marine outboards)

Production: All manufacturing by Honda Motor and 74 other Honda Group companies worldwide engaged in the assembly of products and major components.

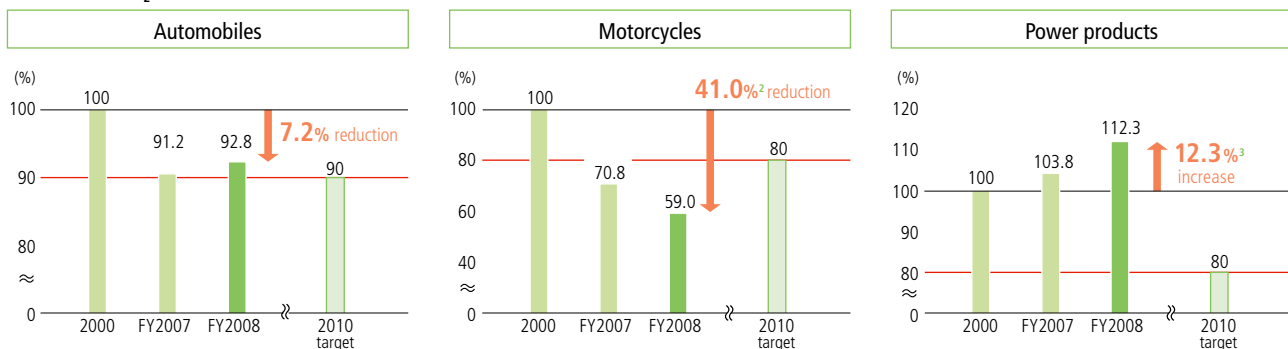
Note: Includes data from Honda Auto Parts Manufacturing Co., Ltd.

FY2008 results (in progress)

Product CO₂ reduction



Production CO₂ reduction



¹ An 11.2% reduction from 2000 has already been attained, and we are working steadily to achieve further reduction.

² Although the target has already been attained, an expansion of production is foreseen in this region, where CO₂ emissions are relatively high. We are striving to maintain the reduction target level and achieve even greater reduction by 2010.

³ Higher, per-unit emissions in power products manufacturing can be attributed to changes in production and more feature-rich new products.

FY2011 Japan targets and progress

Striving to reduce environmental impact

Honda has been implementing proactive measures to help resolve environmental challenges since the 1960s, when concerns about air pollution began to grow. In 1966, soon after expanding into automobile production, we established a department to research air pollution measures. In 1972, under the theme “Blue Skies for Our Children,” we introduced the CVCC engine, becoming the world’s first company to comply with the U.S. Clean Air Act without the use of a catalytic converter—a challenge thought by many to be nearly insurmountable. Believing that problems caused by technology should be solved by technology, we’ve continued to confront environmental challenges. In the 1990s we strengthened our organizational structure to reflect our commitment to the environment and published the Honda Environment Statement to define our approach. We’ve continued to strengthen our initiatives in accordance with this statement. In 1999 we defined specific environmental targets, primarily for cleaner exhaust emissions and higher fuel efficiency, and implemented the measures necessary to achieve them by the end of FY2006. A leader

in environmental conservation, we’re expanding our focus on reducing CO₂ emissions, shifting it from the regional to the global level. We’ve defined reduction targets for our products and production operations, and our worldwide business units are working together to attain them.

Working to resolve environmental issues in Japan

Recognizing the importance of reducing the environmental impact of its corporate activities on a regional basis, Honda set new targets for the reduction of its environmental impact in Japan in FY2008. We have defined targets for reducing CO₂ emitted during transportation, reducing the use of substances of concern, increasing operations-related recycling and more—for a total of eight environmental impact reduction targets for FY2011. The company announced targets for reducing environmental impact from all products and production operations by FY2011 as part of an overall strategy (see below) for the reduction of CO₂ emissions worldwide announced in May 2006. We are intensifying our efforts to attain these targets.

Reducing environmental impact: targets for FY2011

Issue	Scope	Item	Target	Area	
Energy/ global warming	Products	Automobiles	10% reduction (baseline: 2000) ¹	Per g/km	Worldwide (Global targets announced in 2006 (see pp 45–46))
		Motorcycles	10% reduction (baseline: 2000) ¹	Per g/km	
		Power products	10% reduction (baseline: 2000) ¹	Kg/h	
	Production	Automobiles	10% reduction (baseline: 2000) ¹	Per unit	
		Motorcycles	20% reduction (baseline: 2000) ¹	Per unit	
		Power products	20% reduction (baseline: 2000) ¹	Per unit	
	Production in Japan ²	CO ₂ emissions reduction	30% reduction (baseline: FY1991) ³	Units of energy used	Japan (announced in 1998)
Transportation ⁴	CO ₂ emissions reduction	10% reduction (baseline: FY2007)	As % of revenue		
SOCs	Production	VOC ⁵ emissions reduction	35% reduction (baseline: FY2001)	Per automobile painted	
Recycling	Total of corporate activities ⁶		Landfill waste	Zero waste for all facilities	New targets Japan (New targets for Japan announced in June 2007)
	Production ²	Waste	10% reduction (baseline: FY2001)	As % of revenue	
		Water use	30% reduction (baseline: FY2001)	As % of revenue	
	Transportation ⁷	Use of packaging materials	45% reduction (baseline: FY2001)	As % of revenue	
	Vehicle recycling	Automobiles	ASR recycle rate	70% or more ⁸	
Motorcycles		Recycling rate	At least 95% (by FY2016) ⁹		

1 Targets for CO₂ emissions reduction by 2010 announced in 2006 (For details, see pp 45–46)

2 Five Honda Motor production facilities

3 Targets for production announced in 1998

4 In accordance with the amendment to Japan’s Rationalization in Energy Use Law, this is the responsibility of Honda Motor Co., Ltd. as the transporting entity (transportation of completed vehicles/devices; transportation of parts between facilities; parts transportation, etc.)

5 Primarily SOC_s such as organic solvents included in paints and thinners that may cause photochemical oxidation

6 The primary 48 organizations involved in manufacturing and research & development (including academic institutions and Honda Motor Co., Ltd.)

7 Transportation of parts and component parts sets; export of completed motorcycles

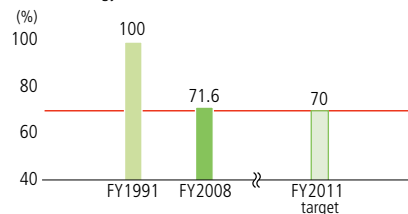
8 95% recycling defined as recycling of entire vehicle

9 Scale as used in former MITI Used Automobile Recycling Initiative

FY2008 results (in progress)

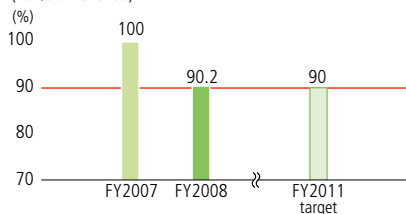
Production CO₂ reduction

(Units of energy used)



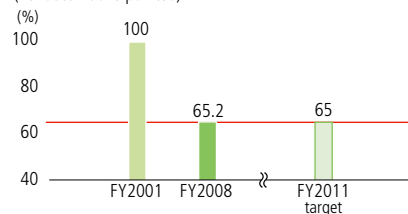
CO₂ emissions in transportation

(As % of revenue)



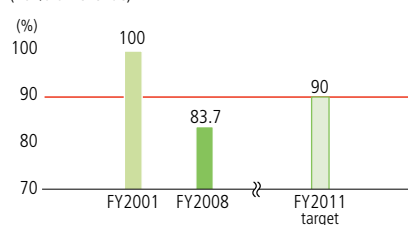
VOC emissions in production

(Per automobile painted)



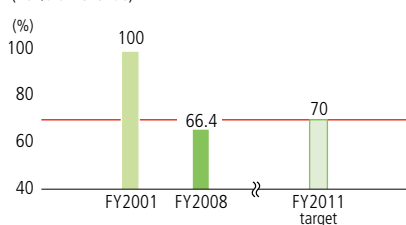
Waste in production

(As % of revenue)



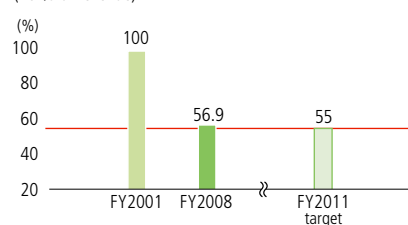
Water use in production

(As % of revenue)



Use of packaging materials in transportation

(As % of revenue)



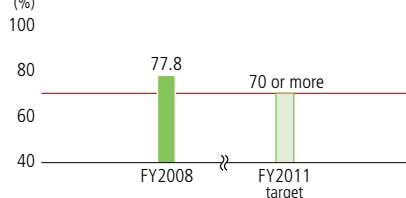
Landfill waste

(Total of corporate activities)

Zero waste for all facilities
(48 companies)

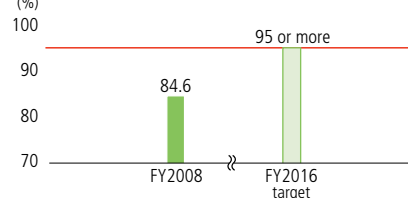
ASR recycling rate (automobiles)

(%)



Recycling rate (motorcycles)

(%)



Strategies for achieving targets

Item	Strategy	
Energy/ global warming	Fuel conversion	Conversion of all factories to natural gas completed (FY2007)
	Energy savings	Introduction in all factories of high-efficiency devices (boilers, refrigerators, compressors, etc.); reduction of air pressure loss; calibration of temperature in painting chambers; adjustment of cogeneration equipment for higher-efficiency operation; reduction of power consumption by robots in standby mode, etc.
		Reduction of CO ₂ emissions at dealers through use of environmental accounting
		Conversion from trucking to marine/rail transport, reduction of transport distances, improvements in fuel economy resulting in reduction in CO ₂ emissions
Alternative fuels / natural energy use, etc.	Proactive introduction of Honda-designed solar panels	
SOCs	VOC	Shift to water-based paints, increase in operational efficiency and reduction of losses resulting in VOC emissions
Recycling	Disposal	Zero landfill waste at factories and 32 manufacturing suppliers (by FY2008)
		Introduction of returnable containers, conversion to simpler packaging and other means of reducing the volume of packaging materials
		Strengthening authorized recycling facilities, expansion of full recycling
Water use	Recycling forging coolant, use of rainwater, etc.	
Environmental strategies to be implemented at new facilities	Yorii Plant (scheduled to begin operation in 2010)	Energy/resource consumption at world-leading levels, resulting in per-unit production CO ₂ emissions levels 20% lower than those of FY2001 (Energy/resource recycling Green Factory)

Results of FY2008 initiatives and targets for FY2009

Major objectives		Strategies		FY2008 Targets	
Product development	Exhaust emissions	Automobiles	Increase availability of low-emissions vehicles	Further increase availability of low- and very low-emission vehicles ¹	
		Motorcycles	Expand implementation of fuel injection technology	Implement fuel injection on all scooters released in Japan	
		Power products	Comply with pending regulations	Further expand compliance	
	Fuel efficiency improvements	Implement technologies for better fuel efficiency		Automobiles	Further improve fuel efficiency
				Motorcycles	Continue improving fuel efficiency
				Power products	Further improve fuel efficiency
Development of alternative energy products	Automobiles			Continue expansion of product offerings/sales	
	Power products				
Purchasing	Green purchasing initiative	Reduce SOCs in suppliers' parts and materials		Promote compliance with SOC guidelines	
		Promote environmental impact management by suppliers ²		Ensure that suppliers reduce CO ₂ emissions	
				Ensure that suppliers reduce landfill waste	
				—	
		Promote introduction of environmental management systems by suppliers		Promote ISO 14001 certification for all suppliers	
Production	Green factory initiative	Improve energy efficiency		Per-unit energy consumption reduced 25.5% (baseline: FY1991)	
		Zero landfill waste		CO ₂ emissions: 490,000 CO ₂ tons	
		Reduce waste (byproducts)		Maintain zero landfill waste	
		Reduce VOC emissions		Waste recycling rate: 99.0% or more	
				Reduce internally incinerated waste at least 90% (baseline: FY1999)	
Transportation	Green logistics initiative	Implementation of environmental management systems by transport partners		VOC emissions (automobiles): 34.0 g/m ²	
		Improve transportation efficiency		Continue implementation by three main partners	
		Reduction of packaging used in component parts sets		CO ₂ emissions: 40,847 CO ₂ tons (transportation of completed automobiles) ³	
Sales	Green dealers initiative	Automobiles	Promote implementation of environmental management at dealers	—	
		Motorcycles	Promote implementation of environmental management at dealers	Expand Eco Drive program and its promotion	
		Power products	Promote environmental conservation at dealers	Dream Dealer network expansion	
Recycling	Improve recyclability	Increase recyclability rate	Automobiles	Minimum 90% recyclability for all newly introduced or remodeled vehicles	
			Motorcycles	Maximum 1% chloride in ASR for all newly released or redesigned models	
			Power products	Minimum 95% recyclability for all newly introduced or remodeled models	
	Increase parts recovery, reuse and recycling	Promote remanufacturing and reuse		Strengthen recycling system	
	Technical support for proper disposal and recycling of end-of-life products	Develop technologies for proper disposal and recycling of end-of-life products	Automobiles	Expand range of vehicles using recycled parts	
Administration	Green office initiative	Promote integration of environmental impact management at offices		Maintain recycling systems for automobiles	
				Maintain recycling systems for motorcycles To increase recycling, strengthen communications regarding plastic parts used	
				CO ₂ emissions for 9 office buildings: 12,913 CO ₂ tons ⁴	
				Reduce landfill waste generation for nine office buildings to 502 tons ⁵	

Targets announced, progress

Target		Progress as of FY2008
Automobiles	Hexavalent chromium: elimination by December 2005	Attained
Motorcycles	Hexavalent chromium: elimination by December 2005	Attained
Power products	Hexavalent chromium: elimination by December 2006	Attained



For more information, please visit:

<http://world.honda.com/environment/ecology/2008report/target/target10/>

	FY2008 Results	Status	FY2009 Targets
	2 additional models (5 types) approved	○	Further increase availability of low- and very low emission vehicles ¹
	Implemented fuel injection on nearly all scooters released in Japan	○	Continue to improve emissions performance
	Complied with CARB Tier 3 emissions standards for power products	○	Further expand compliance
	Complied with FY2011 Japanese fuel economy standards in all seven categories	○	Further improve fuel efficiency
	Improved fuel efficiency with low-friction engines and fuel-injection models	○	Expand implementation to products other than scooters
	Improved fuel efficiency for outboards through lean-burn control	○	Further improve fuel efficiency
	Leased more fuel cell vehicles	○	Continue expansion of product offerings/sales
	Expanded sales of ECOWILL cogeneration systems	○	Continue expansion of product offerings/sales
	Elimination of lead in bearing shells and bushing: nearly complete	○	Promote reduction of lead
	Reduced per-unit CO ₂ emissions by 13.5% (baseline: FY2001)	○	Ensure that suppliers reduce per-unit CO ₂ emissions
	Continue to maintain landfill waste by suppliers at zero	○	Ensure that suppliers reduce per-unit CO ₂ emissions by 1.0% for specific shipments (baseline: FY2008)
	—	—	Ensure suppliers continue to reduce landfill waste
	—	—	Ensure suppliers reduce per-unit waste generation by 1.1% (baseline: FY2008)
	—	—	Reduce supplier per-unit water use
	407 (99%) suppliers ISO14001 certified	△	Promote alternative certification for non-certified suppliers
	Reduced per-unit energy consumption by 28.4% (baseline: FY1991)	○	Reduce per-unit energy consumption 27.0% (baseline: FY1991) ³
	CO ₂ emissions: 479,000 CO ₂ tons	○	CO ₂ emissions: 494,000 CO ₂ tons ³
	Maintained zero landfill waste	○	Maintain zero landfill waste
	Waste recycling rate: 99.5%	○	
	Internally incinerated waste reduced 93.1% (baseline: FY1999)	○	Control waste generation
	VOC emissions (automobiles): 32.1 g/m ²	○	VOC emissions (automobiles): 33.0 g/m ² ³
	Continued implementation by three main partners	○	Continue joint implementation
	CO ₂ emissions: 39,927 CO ₂ tons (transportation of completed automobiles)	○	CO ₂ emissions: 90.29g/CO ₂ kiloton per unit (responsibility of transporting entity)
	—	—	Reduce component parts set packaging by 43% (baseline: FY2001)
	Created safe driving instruction featuring Eco Drive	○	Automobile dealer (individual affiliates) per-unit CO ₂ emissions: 1% reduction (baseline: FY2008)
	Launched 13 environmentally responsible Dream Dealers (total: 100)	○	Motorcycle dealer (individual affiliates) per-unit CO ₂ emissions: 1% reduction (baseline: FY2008)
	Reduced CO ₂ emissions and monitored Environmental Registers for power products dealers	○	Power products dealer (individual affiliates) per-unit CO ₂ emissions: 1% reduction (baseline: FY2008)
	Minimum 90% recyclability for all newly introduced or remodeled vehicles	○	Minimum 90% recyclability for all newly introduced or remodeled vehicles
	Automobiles: Maximum 1% chloride in ASR for all newly released or redesigned models	○	Maximum 1% chloride in ASR for all newly released or redesigned models
	Motorcycles: Achieved minimum recyclability of 95%	○	Strengthen recycling system
	Power products: Achieved minimum recyclability of 95%	○	Strengthen recycling system
	Added 8 models of remanufactured ⁵ torque converters	○	Expand range of vehicles using recycled parts (consider 6 models of remanufactured power steering)
	Maintained recycling systems for automobiles and motorcycles	○	Continue to maintain recycling systems
	Strengthened communications regarding plastic parts used Commenced recycling tests of waste plastic	○	Adopt waste plastic recycling and engine recovery to improve recycling rates
	CO ₂ emissions for 9 office buildings: 13,131 CO ₂ tons ⁶	△	CO ₂ emissions for the Honda Group (16 companies and 27 facilities) ⁷ : 38,188 CO ₂ tons
	Landfill waste generated for 9 office buildings: 512 tons ⁶	△	Landfill waste generated by the Honda Group (16 companies and 27 facilities) ⁷ : 1,894 tons

¹ Low-emissions vehicle defined as having emissions 50% lower than FY2006 standards; very low-emissions vehicle defined as having emissions 75% lower than FY2006 emissions standards

² 32 target suppliers

³ FY2009 target figures for CO₂ and VOC emissions are higher than those for FY2008 results due to changes in business conditions and to increased production and launch of new businesses

⁴ Revised numbers reflect calculation methods in the amendment to Rationalization in Energy Use Law of Japan

⁵ Remanufactured parts have been assembled from reused parts

⁶ Total for Aoyama, Wako, Shirako, Yaesu, Sapporo, Sendai, Nagoya, Osaka, Fukuoka

⁷ Starting in FY2009, targets and results will be reported for the Honda Group, including not only Honda Motor and its nine buildings (Aoyama, Wako, Shirako, Yaesu, Sapporo, Sendai, Nagoya, Osaka and Fukuoka), but also several companies of the Honda Group in Japan—Mobility Land, Honda Kaihatsu, Honda Sun, Honda Comtec, Honda Technical College, Honda Airways, Honda Trading, Honda Finance, Rainbow Motor School, Kibo no Sato Honda, Honda R&D Sun, KP Tech, Chu-o Air Survey Corp., Circuit Service Creates and Japan Race Promotion—for a total of 16 companies and 27 facilities

Highlights of environmental initiatives in FY2008

Product development initiatives

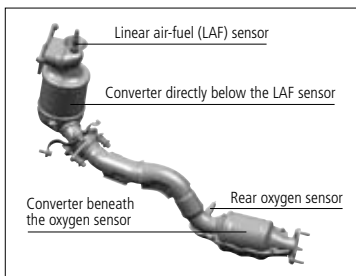
The new Fit: enhanced environmental performance

● Emissions enhancements

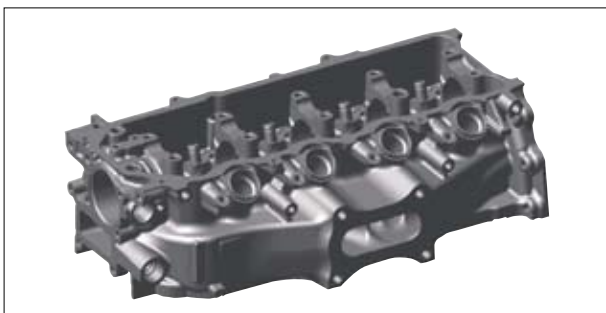
The completely remodeled, second-generation Honda Fit was released in October 2007. It is available with a 1.3-liter or 1.5-liter i-VTEC engine, both of which are certified by Japan's MLIT as very low-emissions engines. First introduced to Japan in 2001, the Fit is now sold in 115 countries worldwide, with cumulative sales surpassing 2 million units. With the new Fit we aimed to maintain a highly efficient system for cleaning exhaust emissions while decreasing the use of rare precious metals. The latest model features a newly developed integrated cylinder head exhaust manifold and an extremely heat-resistant catalytic converter. The aluminum of the exhaust ports speeds up catalytic activation immediately after the engine is started, allowing us to reduce the quantity of precious metals used in the converter. Instead of the conventional approach, in which two oxygen sensors are used for air-fuel ratio control, the Fit features a linear air-fuel ratio sensor, an oxygen sensor and an air-flow sensor. This high-precision air-fuel ratio control greatly improves environmental performance.



Honda Fit



Exhaust purification (high-precision air-fuel ratio control) system sensor



Integrated cylinder head exhaust manifold

● Fuel economy enhancements

The new Fit achieves a class-leading fuel economy of 24.0 kilometers per liter* thanks to its newly developed 1.3-liter i-VTEC engine and a newly designed torque converter–equipped continuously variable transmission (CVT). The Fit exceeds Japan's FY2011 fuel efficiency standards by 25%. Its 4-valve i-VTEC engine balances fuel economy and high power output. It boasts increased fuel economy with improved combustion efficiency through the use of only one valve and the implementation of low-friction technology. The pistons have a patterned molybdenum disulfide coating (a world's first) and an optimized piston skirt configuration. The Fit features various other friction-reducing technologies, including a crank embedded with molybdenum disulfide, a narrowed cam chain and an auxiliary belt automatic tensioner. The newly developed CVT with torque converter increases driving performance from a standing start while a broad lock-up clutch helps increase fuel economy. The Fit also features a new creep control system. This provides optimized creep control when idling, driving at low speeds and driving uphill (the latter is made possible using an inclination sensor). Pressing the brake stops creep force, slowing the car and moderating fuel consumption.

*Fit G FF without factory options

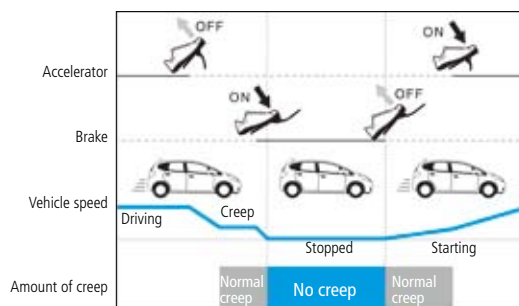


Torque converter-equipped CVT



1.3-liter i-VTEC engine

Creep control in action



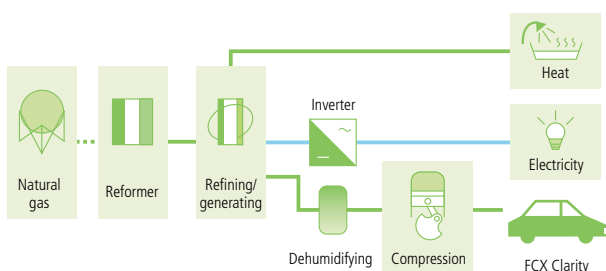
Home Energy Station IV and solar cell hydrogen stations: experimental operation continues

Honda is moving ahead with research into hydrogen production and supply systems to promote the widespread adoption of fuel cell vehicles. In FY2004 we began experimental operations of our Home Energy Station, a cogeneration system that generates hydrogen from natural gas to provide heat and electricity for the home and fuel for a hydrogen-powered vehicle. In 2007 we introduced the Home Energy Station IV, beginning experimental operations in Torrance, California. To make the new technology even more suitable for the average household, the focus was placed on high efficiency and compactness. Previous Home Energy Station systems were equipped with a separate purifier and fuel cell. By unifying these components and introducing the ability to switch from hydrogen refining to power generation, the system's size has been reduced 70% compared to the first-generation model. A household with a Home Energy Station IV and an FCX Clarity could reduce its carbon footprint by approximately 30% and its energy costs by approximately 50% compared to a household driving a gasoline-powered vehicle and using conventionally generated electricity. In California, Honda is also continuing to develop its solar-powered Hydrogen Stations, which use solar energy to produce hydrogen from water.



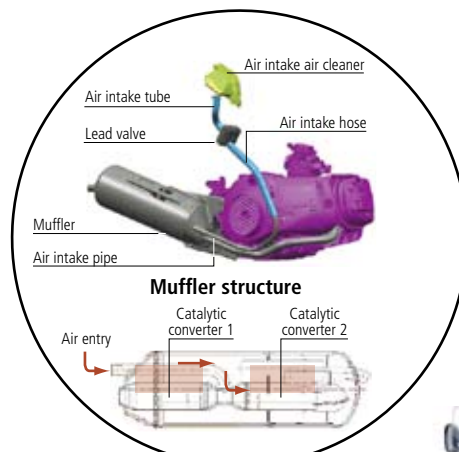
Home Energy Station IV

Schematic: Home Energy Station IV



The SDH 125-T23: complying with China's emissions regulations

Introduced to the Chinese market in July 2007, the SDH 125-T23 is a carburetor-equipped scooter that complies with China's National Standard III emissions standards, which went into effect in July 2008. Its primary exhaust-cleaning technology consists of streaming the exhaust into two inline catalytic converters and introducing a secondary airflow between them. The upstream catalytic converter reduces NOx levels, while the downstream catalytic converter oxidizes CO and HC, reducing emissions of these substances. Ignition optimization and modifications in the structure of the carburetor have allowed for quicker startup operation of the catalytic converter. This results in improved emission levels and an extremely clean-running vehicle.



SDH 125-T23

Operations initiatives: purchasing, production, transportation, sales

North America: advances in paint technology help reduce environmental impact

In collaboration with The Ohio State University, Honda of America Mfg., Inc. developed a new paint booth air-conditioning control system that reduces energy consumption by as much as 25%, thanks to a predictive control mechanism that allows for the continuous, automatic control of temperature and humidity. Following a pilot demonstration at the Marysville Motorcycle Plant in 2006, the company began using this Intelligent Paint Booth system at its Marysville Automobile Plant in October 2007. Honda of America Mfg., Inc. has applied for a patent on this unique, energy-saving technology. Other Honda plants in North America are preparing to implement it, while Honda manufacturing operations around the world are considering implementation.



The Marysville Automobile Plant

Europe: green electricity powers new Aalst logistics center

Honda Belgium has constructed a warehouse in Aalst that can run solely on environmentally responsible electric power. The 7,000-m² photovoltaic solar panels installed on its roof generate 880 kW of electricity, enough to meet all the facility's energy needs, with any excess power sold to the local power utility. When inclement weather or other conditions prevent the panels from functioning at sufficient capacity, hydroelectricity is purchased from hydroelectric power stations in the nearby Alps. Other measures have also been implemented to reduce the warehouse's environmental impact, including strict wastewater disposal restrictions and the use of rainwater in sanitary facilities.



Our new Aalst warehouse boasts solar panels

Asia/Oceania: VOC reduction in India

As Honda Siel Cars India continues to rapidly expand its operations,

doubling annual output to 100,000 vehicles as of December 2007, it has simultaneously introduced a range of environmental reforms. One is a VOC-reduction initiative that curbed VOCs by 35% via the introduction of 12 robots to its body finishing line. The introduction of electrostatic spray guns to the bumper painting line has also reduced VOC emissions by 30%.



Body finishing robots



Bumper electrostatic spray guns

China: reducing CO₂ via a modal shift

In China, completed vehicles are being transported to market more efficiently, reducing environmental impact. To reduce CO₂ emissions, Dongfeng Honda in Wuhan now uses the railway to transport products to Beijing, Guangzhou and Urumchi, while maritime transportation along the Yangtze River is used in shipping product to Chongqing and Shanghai. Guangzhou Honda developed the industry's first railway transportation model at the end of 2003, with the number of direct shipments and destinations gradually expanding each year. It now uses rail to ship to Shanghai, Beijing and beyond.



Transporting vehicles by rail

South America: core sand recycling in Brazil

Moto Honda da Amazonia once could only repurpose as cement the core sand used in casting, but since August 2007 it has been reused in casting. This was done with help from Amazon Sand, which, like Moto Honda da Amazonia, is located in Manaus. Consumption of core sand has been greatly reduced.



Core sand used in casting



Recycling

Once found only in the world of science fiction, the humanoid robot has become a reality. Honda began development in 1986, and at that time the dream of its engineers was to create mobility of new value, in harmony with society.

Taking up the challenge of making the robot mobile, the engineers bypassed the easy choice for an automaker—wheels—accepting instead the ultimate challenge. After a long process of trial and error, in 2000 the team completed development of ASIMO*, whose independent bipedal movement was a mobility achievement of historic proportions.

*ASIMO is an acronym for **A**dvanced **S**tep in **I**nnovative **M**obility.

Independent bipedal movement— a mobility achievement of historic proportions and a source of new value for society.



Since then, Honda has given ASIMO voice and facial recognition and other capabilities requiring the deployment of advanced control and information-processing systems. Today, ASIMO continues to evolve, getting faster, better at communication and closer to people's ideal of the humanoid robot.

Honda believes the day is not far off when ASIMO will provide people valuable support at home, in the office and in care facilities.



For more information on ASIMO, please visit:
<http://world.honda.com/ASIMO/>