**North American Corporate Profile**

**Capital Investment**
More than $8.2 billion in North America

**Employment**
More than 33,000 associates in North America

**Suppliers/Purchasing**
More than $14 billion in North American parts and materials purchased by Honda from more than 600 original equipment manufacturing suppliers in the fiscal year ending March 31, 2005

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**Key Locations**
- Major Manufacturing Facilities
- Research and Development Centers
- Parts Centers
- Sales and Marketing Headquarters

**Honda Companies Covered by the Report**

**United States**
- American Honda Motor Co., Inc.
- Honda North America, Inc.
- Honda of America Mfg., Inc.
- Honda Manufacturing of Alabama, LLC
- Honda Power Equipment Mfg., Inc.
- Honda of South Carolina Mfg., Inc.
- Honda Transmission Mfg. of America, Inc.
- Honda Engineering North America, Inc.
- Honda R&D Americas, Inc.
- Honda Trading America Corp.

**Canada**
- Honda Canada, Inc.
- Honda of Canada Mfg., a division of Honda Canada, Inc.

**Mexico**
- Honda de Mexico, S.A. de C.V.

---

**Major Segments**

<table>
<thead>
<tr>
<th>MAJOR SEGMENTS</th>
<th>PRODUCTS</th>
<th>FY 2005 SALES</th>
<th>DEALER NETWORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobiles</td>
<td>Passenger cars, minivans, sport utility vehicles, and light trucks</td>
<td>Almost 1.57 million cars and light trucks</td>
<td>More than 1,500 Honda and Acura dealers</td>
</tr>
<tr>
<td>Power Sports</td>
<td>Motorcycles, scooters, all-terrain vehicles, and personal watercraft</td>
<td>More than 640,000 motorcycles, all-terrain vehicles, and personal watercraft</td>
<td>More than 1,300 Honda dealers</td>
</tr>
<tr>
<td>Power Equipment</td>
<td>Lawn-and-garden equipment, generators, general-purpose engines, and outboard engines</td>
<td>More than 2.5 million engines and power equipment products</td>
<td>More than 2,000 Honda dealers</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS

A Letter from Our Chief Operating Officer 2
Environmental Philosophy and Vision 4
Environmental Management 6
  North American Environmental Organization 6
  ISO 14001 Certification 7
  Environmental Audits 7
  Training 7
  Risk Management 8
  Product Recall Policy 8
  Compliance with Environmental Laws and Regulations 8
  Emergency Response 8
  Accidental Spill and Release Prevention 9
  Spill and Release Tracking and Reporting 9
Environmental Technology Milestones 10
Environmental Goals, Status, and Commitments 12
Environmental Impact of Honda Products 14
  Automobiles 15
  Power Sports 22
  Power Equipment 24
Environmental Impact of Honda Manufacturing 26
  Production Output Increases in North America 27
  Green Factory Initiative 29
  Energy Conservation 30
  Water Conservation 32
  Minimizing Landfill Waste 33
  Minimizing Air Emissions 34
  Reducing Chemical Releases — TRI/NPRI Reporting 35
Waste Minimization and Recycling 36
  Product Lifecycle 36
  Reducing Substances of Concern in Products 38
  Green Purchasing for Manufacturing Operations 43
Environmental Community Activities 44

This report covers Honda’s activities in North America in fiscal year 2005, April 1, 2004, through March 31, 2005. It includes certain accomplishments prior to that time period. This is Honda’s first environmental report for the North American region.

ISSUED BY
Honda North America Inc.
700 Van Ness Avenue
Torrance, California 90501-1490

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For more information, or to access an electronic copy of this report, please visit http://corporate.honda.com

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Corporate Affairs and Communications
1919 Torrance Boulevard
Torrance, California 90501-1490
e-mail: honda_environmental_report@ahm.honda.com
A Letter from Our Chief Operating Officer

More than 35 years ago, a still very young Honda company faced a major challenge. We were making plans to sell cars in North America when our engineers began reading scientific reports that forecast serious global pollution problems unless something could be done to reduce air emissions produced by our modern industrial society.

We understood the importance of this trend and the need to minimize the environmental impact of our products and operations on society. Although this was a major challenge, from the beginning our engineers viewed it positively. They considered it the company’s social responsibility and commitment for the future to ensure “blue skies for our children.” This became the rallying cry for Honda’s efforts to create a cleaner internal combustion engine.

In November 2004, American Honda Motor Co. Inc. delivered the first of two 2005 Honda FCX fuel-cell vehicles to the state of New York, the first state customer for Honda fuel-cell technology.

New York Governor George Pataki (right) greets Koichi Kondo, chief operating officer of Honda’s North America Regional Operation.

One of our first successes was the development of the cleaner-burning CVCC engine. In the fall of 1974, this engine made the Honda Civic the first vehicle to meet the 1970 U.S. Clean Air Act amendments solely through cleaner engine performance. More important, Honda also demonstrated that we could meet the environmental needs of our customers with products that are fun to drive and to use, while also meeting the challenge of reducing negative impacts on the environment.

Over the past three decades, environmental issues have evolved, and the technologies required to meet them have advanced. But the fundamental challenge is the same. We need to provide mobility to people while we protect the environment in which we live. For Honda, this means looking at the total impact of product development, production, use, and end-of-life treatment with a special emphasis on more efficient engine and emission technology. We continue to challenge ourselves to achieve this with a positive spirit.
Our efforts focus on three pathways. First, because gasoline will remain the dominant transportation fuel for some time to come, Honda wants to make cleaner internal combustion engines for our automobile, motorcycle, and power equipment products to achieve maximum reduction of air pollutants. Today, we have reached a point at which many of our vehicles produce almost none of these pollutants. A second critical path is our commitment to improve fuel efficiency as a means of reducing energy consumption as well as reducing greenhouse gases that might contribute to global climate change. This includes a technological challenge to maximize the efficiency of the basic internal combustion engine and to improve it further with the application of technologies such as gas-electric hybrid technology. But even the cleanest and most efficient hybrid vehicles still burn gasoline. So the third path is to create products powered by alternative fuels, to reduce our demand on the dwindling supply of petroleum-based fuel. This path includes alternatives such as natural gas, but ultimately leads to hydrogen fuel cell technology. The bottom line is that we must invest in both short- and long-term technologies. Honda is not only aggressively pursuing all three of these paths, we are bringing these technologies to our customers today.

We are also challenging ourselves to ensure that all of our facilities in North America — especially those involved in manufacturing — operate as efficiently as possible. In order to cause the least impact on the environment, this requires conserving energy, water, and other resources, and minimizing waste and chemical releases.

When it comes to the environment, Honda has always been a leader in providing direction to the industry. But “leadership” is not our goal. Even as we provide our customers with products they can use and enjoy, “blue skies for our children” remains our rallying cry. To achieve it, we will continue to advance our technologies for the benefit of today’s customers and future generations.

This environmental report is the first concerning Honda’s activities and operations in North America and focuses primarily on our efforts over the fiscal year ending March 31, 2005. We welcome your comments regarding this report and our environmental activities in North America.

Koichi Kondo
Senior Managing Director, Honda Motor Co., Ltd.
Chief Operating Officer, North America Regional Operation
President & CEO, American Honda Motor Co., Inc.

“We need to provide mobility to people while we protect the environment in which we live ... we continue to challenge ourselves to achieve this with a positive spirit.”
Honda has long viewed environmental preservation as a fundamental management responsibility. Reducing emissions, fuel consumption, waste, and noise from the development, production and use of Honda products has been a goal of the company from its earliest days.

Honda’s focus on environmental conservation is based not only on its obligation to comply with all government regulations. Honda’s intent is to pass down a clean environment to future generations.

Honda’s commitment is reflected in both its products and production processes, and in the positions the company takes before policy-makers. For instance, to address climate change concerns, Honda has urged higher federal fuel economy standards in the United States, as long as those standards are technologically feasible, applied nationwide, and all manufacturers are held to the same standards within the same timeframe. The Canadian government ratified the Kyoto Protocol, requiring Canada to reduce its annual greenhouse gas (GHG) emissions to 6 percent below 1990 levels by 2010. To help meet these national objectives, the auto industry in Canada signed a voluntary agreement with the government in April 2005, to reduce the growth of GHG emissions. As the third-largest manufacturer in Canada (2004), Honda will continue to play a lead role in the introduction and sale of fuel-efficient and environmentally-responsible vehicles.
Global Climate Change

“Climate change” is among society’s most important environmental concerns of the 21st century. Consumption of fossil fuels in motor vehicles and other products with internal combustion engines has increased tremendously since the Industrial Revolution. This has generated a rapid increase in emissions to the atmosphere of greenhouse gases (GHG).

As a result, many experts now forecast an increase in the pace of climate change, including rising temperatures that could negatively affect the earth’s ecosystem and increase the risk of a natural disaster. The only known means to address this issue is to reduce GHG emissions in the atmosphere. The primary greenhouse gas is carbon dioxide (CO₂).

Toward that end, as a company fully part of a major manufacturing industry, Honda seeks to reduce CO₂ emissions generated throughout the life cycle of its products.

Reducing Air Emissions

Since the late 1960s, when Honda began to design what would become the CVCC engine — the first internal combustion engine to meet the strict requirements of the U.S. Clean Air Act solely through engine performance — the company has been committed to reducing tailpipe emissions and improving fuel efficiency through the introduction of advanced technologies in real-world products.

Removing Substances of Concern

Honda is working to identify the amount and application of certain substances of concern (SOCs) in its products as the starting point for the complete elimination of their use.

Life-Cycle Assessment

Honda has begun a life-cycle assessment (LCA) project to determine how best to lower the environmental burden of its business activities in North America.
Environmental Management

Honda established its World Environmental Committee in 1995, to fulfill the Honda Environment Statement throughout Honda’s operations around the world. In keeping with Honda’s environmental philosophy and vision, the committee sets the directions and goals for Honda’s companywide environmental efforts, both long-term and mid-term. Inspired by the goals of the World Environmental Committee, regional environmental committees set their own goals in each of Honda’s six regional operations (North America, South America, Europe, Asia/Oceania, China, and Japan).

The North America Environmental Committee is a forum in which the directions and goals of Honda’s environmental initiatives in this region are discussed and coordinated. For each of those initiatives, key goals are integrated into local business plans throughout the company.

Honda manufacturing facilities in North America have adopted an environmental policy and implemented environmental management systems to ensure compliance with that policy. The policy addresses three key commitments. Honda will:

1. Achieve and maintain compliance with all environmental requirements mandated by federal, state/provincial, and local laws and meet or exceed all of Honda’s voluntary environmental commitments
2. Maintain and continually improve systems to manage environmental policies
3. Implement methods to prevent pollution, conserve natural resources, and reduce waste
ISO 14001 Certification

Honda is committed to maintaining a highly-effective structure to oversee and manage the company’s commitment to protect the environment. The central element of that structure was implemented in 1998, when Honda committed itself to achieving and maintaining third-party ISO 14001 certification for environmental management at Honda’s North American manufacturing facilities. ISO is the internationally accepted standard for environmental management systems.

**In fact** Currently, all manufacturing sites, with the exception of Honda Manufacturing of Alabama, have achieved ISO 14001 certification. The Alabama site, Honda’s newest factory, is pursuing certification.

Environmental Audits

To confirm that the environmental management systems are appropriately implemented and that continuous system improvement is achieved, Honda conducts internal environmental audits and works with third parties who perform surveillance inspections at each factory.

The third-party external surveillance inspections are conducted annually or semiannually by an accredited registrar. In addition, periodic ISO 14001 recertification audits are conducted in accordance with the third-party registrar requirements.

Training

Honda believes that an effective environmental management system begins with a high level of environmental awareness and the active participation of all Honda production associates (Honda employees are known as associates) who take responsibility for protecting the environment. They know that they are expected to use sound environmental judgment based on a solid understanding of the principles and rules laid out by Honda’s environmental policy.

**In fact** Honda manufacturing associates in North America are provided with environmental training, which includes environmental orientation for new associates. The training covers general environmental topics as well as each associate’s specific responsibilities. Department-specific training helps associates understand the potential environmental impact of their jobs and the benefits of good environmental practices. It also provides them with the detailed information they need to perform their jobs competently in an environmentally-responsible manner. In addition, the training provides associates with context. It helps them to see the importance of their individual responsibility within the facilities’ environmental management systems and the potential environmental consequences of failure to perform.

In addition, contractors to Honda in North America receive training on environmental requirements before they work at Honda sites. Janitorial service, food service, security, and waste management contractors must sign agreements that they will adhere to Honda waste-management requirements.

Regulatory and Specialized Compliance Training

Honda conducts training as required for associates whose jobs are covered by specific government regulations or other specialized requirements. Such job areas include:

1. Waste management — associates working with regulated wastes, including waste generation, management, storage, and/or shipment
2. Maintenance and repair of equipment containing ozone-depleting substances
3. Maintenance and repair of pollution-control equipment and pollution-control monitoring equipment
4. Record keeping for compliance-related equipment operation and maintenance
5. Work that may result in the accidental or unintentional release of pollutants to wastewaters being discharged to local municipal treatment works, stormwater runoff, and other off-site discharges
6. Work related to ISO 14001 in areas of environmental policy, management systems, operations standards, and work instructions

Department-specific training is given to help associates achieve good environmental performance.

Honda manufacturing associates in North America are provided with environmental training, which includes environmental orientation for new associates.
Risk Management
Honda considers risk management an integral part of environmental management. Honda’s risk management approach is reflected in various activities, including systems in place in an effort to prevent spills and releases, reduce volatile organic compounds (VOCs) and other air emissions, and recycle products and components to minimize landfill waste. From long-term planning to daily operations, Honda makes efforts to understand the risk of environmental damage and tries to make prudent decisions to minimize that risk whenever possible.

Product Recall Policy
Honda’s policy on product recalls, including emissions-related recalls, is in accordance with the procedures of its Quality Committee, which is composed of executives from various divisions of the company. Based in Japan, the Quality Committee makes decisions about Honda products manufactured and sold throughout the world, relying upon recommendations from regional experts. There were no environmentally related recalls in FY2005.

Compliance with Environmental Laws and Regulations
Environmental compliance is fundamental to the performance philosophies of Honda products and operations in North America. All Honda companies have systems in place to ensure that their activities are in compliance with all applicable legal requirements. Honda did not receive any material ($100,000, as specified in the regulatory disclosure guideline) environmental-related fines in the past five years, including the fiscal year that ended March 31, 2005.

Emergency Response
In today’s world, it is vital to be in a position to respond to any emergency incident. All of Honda’s North American manufacturing facilities have response plans that define the policy and procedures to be followed in emergencies. Honda’s major manufacturing operations have well-trained, experienced on-site emergency responders and emergency equipment. These responders are well-equipped to respond to environmental releases.

In Fact: The emergency response plans are tested periodically through tabletop exercises, periodic in-plant drills, and drills conducted in cooperation with local responders.

Additionally, a North America-wide emergency response management system is being organized. The Emergency Management System will cover all aspects of response, including response to emergencies that may result in an impact to the environment.

Community Partnerships
Honda facilities work in close cooperation with, and in support of, local community emergency response organizations. Many Honda factory emergency responders are also members of local fire departments and medical response teams.
Accidental Spill and Release Prevention

Prevention of potential environmental spills and releases is a key design consideration for all Honda manufacturing facilities. All Honda exterior chemical and wastewater storage tanks and transfer systems are constructed with materials and design techniques that minimize the risk of leaks and spills. Exterior tanks and piping systems have backup containment systems to facilitate recovery of any material that might be accidentally spilled or leaked.

Additionally, storage tanks are equipped with alarms to give advance warning of overfilling. Virtually all materials with the potential for release or spillage are handled within enclosed buildings.

Spill and Release Tracking and Reporting

Learning from accidental releases of petroleum products and chemicals is critical to preventing such occurrences in the future. Honda’s North American operations track these incidents and report them to regulatory authorities as required by compliance regulations. Major incidents are also analyzed to determine the root causes and prevent them from happening again. The lessons learned are then quickly communicated to all Honda North American companies to improve spill/release prevention efforts.

Tank Farm Minimizes Risk of Fluid Releases

The Honda auto and engine plant in Lincoln, Alabama, stores all the fluids that will be installed into the Odyssey minivans and Pilot SUVs it produces in an above-ground tank farm. Liquids such as gasoline, engine oil, transmission fluid, antifreeze, and brake fluid are all safely stored in above-ground tanks in a roofed area designed to contain any possible leaks. The roof shelters all fluid, storage, and transfer areas from rainfall, thereby reducing the quantity of rainfall that could potentially be contaminated.

The tank farm is also surrounded by a concrete dike. Secondary containment dikes are designed to prevent the escape of stored materials and the possible contamination of rainwater runoff and groundwater resources. Further, the tank farm is located in a high-traffic area adjacent to the plant buildings where it can be easily observed, to reduce the potential for an unnoticed leak.

Prevention of potential environmental spills and releases is a key design consideration for all Honda manufacturing facilities.
# Environmental Technology Milestones

**2005**
- First fuel-cell family: Honda makes Jon and Sandy Spallino of Southern California the world’s first individual customers of a fuel-cell vehicle, with the lease of a Honda FCX.
- The city of Las Vegas, Nevada, leases two Honda FCX vehicles.
- No. 1 fuel economy status maintained: Honda has the highest corporate average fuel economy (CAFE) rating among the six major automakers. Honda makes four of the top five most fuel-efficient vehicles, according to the U.S. EPA.
- First natural gas home refueling device, “Phill,” is offered for lease in California together with Honda Civic GX natural gas vehicle.
- Honda introduces the iOX, a revolutionary intelligent computer-controlled general-purpose engine. It sets an even higher standard for fuel efficiency and quiet operation.

**2004**
- FCX vehicles are leased to the state of New York, the city of San Francisco, the city of Chula Vista, and the South Coast California Air Quality Management District.
- 2005 FCX, Honda’s second-generation fuel-cell vehicle, is certified by CARB as a zero-emission vehicle (ZEV) and by the U.S. EPA as a Tier 2 Bin 1 (ZEV).
- First V-6 hybrid car is introduced: 2005 model year Honda Accord.
- Union of Concerned Scientists gives Honda its Greenest Automaker award.

**2003**
- The Civic Hybrid, is the first hybrid vehicle certified as an advanced technology partial zero-emission vehicle (AT-PZEV) by the California Air Resources Board.
- Honda begins experiments with a hydrogen Home Energy Station (HES).
- Honda develops breakthrough fuel-cell stack: It starts and operates at temperatures below freezing while improving fuel economy, range, and performance with reduced complexity.

**2002**
- First application of hybrid technology is made to an existing mass-market car: the Civic Hybrid.
- Honda FCX becomes the first and only hydrogen-powered fuel-cell vehicle to receive both U.S. EPA and California Air Resources Board certification for commercial use, and the first to meet applicable federal motor vehicle crash safety standards.
- Honda is first with an entire personal watercraft lineup of 4-stroke engines. Honda has produced only 4-stroke PWCs.
- World’s first commercial application of a fuel-cell vehicle occurs.
- The city of Los Angeles begins a lease program for five Honda FCX vehicles.

**2001**
- First production motorcycle to meet California Air Resources Board 2008 emission standards, the Honda Gold Wing is sold.
- Honda is the first mass-market automaker to offer an entire lineup of cars and light trucks as low-emission vehicles (LEV) or better: 2002 Honda and Acura models.
- First solar-powered hydrogen production and fueling station for fuel-cell vehicles built and operated by an automaker opens at Honda R&D Americas Los Angeles Center.

**2000**
- First 50-state ultra-low-emission vehicle (ULEV), the 2001 Civic, is introduced.
- First product of any kind receives the Sierra Club Excellence in Environmental Engineering Award: the 2000 Honda Insight.
- First vehicle is certified as an advanced technology partial zero-emission vehicle (AT-PZEV) by the California Air Resources Board: the 2001 Civic GX.
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>U.S. EPA recognizes the 1998 Honda Civic GX natural gas vehicle as the cleanest internal combustion engine it has ever tested. Honda introduces ultra-quiet portable inverter generators that achieve substantially higher fuel economy and lower emissions than conventional generators. Honda becomes the first company to introduce an entire line of high-performance outboard motors that meet the U.S. EPA emission standard proposed for the year 2006.</td>
</tr>
<tr>
<td>1997</td>
<td>First gasoline ultra-low-emission vehicle (ULEV) introduced: the 1998 Honda Accord. Honda becomes the first automaker to introduce low-emission vehicle (LEV) technology voluntarily in mass-market vehicles (Honda Civic) throughout the U.S. and Canada. World’s first 360° inclinable, mini 4-stroke engine for handheld power equipment introduced by Honda. It is more fuel-efficient, virtually smoke-free with ultra-low noise. First four-passenger advanced battery-powered electric vehicle introduced and leased to customers: the 1997 Honda EV PLUS.</td>
</tr>
<tr>
<td>1996</td>
<td>The Honda Civic HX Coupe with a continuously variable transmission is the only automatic transmission vehicle to make the U.S. EPA’s top-10 list of fuel-efficient cars.</td>
</tr>
<tr>
<td>1995</td>
<td>First gasoline low-emission vehicle (LEV) introduced in the industry in California: the 1996 Honda Civic. Fuel economy leadership puts four Honda models on the U.S. government’s list of the 10 most fuel-efficient cars.</td>
</tr>
<tr>
<td>1994</td>
<td>Foundation technology for Honda’s achievements in low-emission, high-fuel-efficiency, and high-performance engines is achieved with the announcement of the Variable Valve Timing and Lift Electronic Control auto engine (VTEC).</td>
</tr>
<tr>
<td>1989</td>
<td>Honda becomes the first automaker in America to use waterborne basecoat paint in mass production.</td>
</tr>
<tr>
<td>1988</td>
<td>First car meets U.S. Clean Air Act standards solely through engine performance: the 1975 Honda Civic CVCC. Honda introduces 4-stroke marine engines that are cleaner, more fuel-efficient and quieter than the 2-stroke outboard motors standard at the time. Honda has manufactured only 4-stroke outboard motors since 1973. Honda announces Compound Vortex-Controlled Combustion (CVCC) engine technology that meets U.S. Clean Air Act standards without a catalytic converter.</td>
</tr>
<tr>
<td>1974</td>
<td>A Honda car is No. 1 on the U.S. EPA list of most fuel-efficient cars: the Honda Civic.</td>
</tr>
<tr>
<td>1973</td>
<td>1973 Honda Civic CVCC. First car meets U.S. Clean Air Act standards solely through engine performance: the 1975 Honda Civic CVCC. Honda introduces 4-stroke marine engines that are cleaner, more fuel-efficient and quieter than the 2-stroke outboard motors standard at the time. Honda has manufactured only 4-stroke outboard motors since 1973. Honda announces Compound Vortex-Controlled Combustion (CVCC) engine technology that meets U.S. Clean Air Act standards without a catalytic converter.</td>
</tr>
<tr>
<td>1971</td>
<td>1973 Honda Civic CVCC. First car meets U.S. Clean Air Act standards solely through engine performance: the 1975 Honda Civic CVCC. Honda introduces 4-stroke marine engines that are cleaner, more fuel-efficient and quieter than the 2-stroke outboard motors standard at the time. Honda has manufactured only 4-stroke outboard motors since 1973. Honda announces Compound Vortex-Controlled Combustion (CVCC) engine technology that meets U.S. Clean Air Act standards without a catalytic converter.</td>
</tr>
</tbody>
</table>
Environmental Goals, Status, and Commitments

Honda always strives to conserve energy and to minimize the impact of its products and operations on the environment. This requires continuous improvement, a commitment to advancing technology, and the involvement of all Honda associates. These efforts are guided by the following goals and commitments that Honda has established in order to ensure ongoing progress. In future reports, Honda will update its progress in achieving these goals and fulfilling its commitments.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>GOAL</th>
<th>CURRENT STATUS</th>
<th>COMMITMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVIRONMENTAL MANAGEMENT</td>
<td>Achieve and maintain ISO 14001 certification at each major manufacturing operation in North America</td>
<td>11 of 12 plants in North America are certified to ISO 14001:1996 (See page 26 for detailed information on ISO Certification)</td>
<td>Certify Alabama plant to ISO 14001:2004 by June 2006</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Recertify all other manufacturing sites to ISO 14001:2004 by June 2006</td>
</tr>
<tr>
<td>PRODUCTS</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Automobile</td>
<td>Honda will maintain top-level fuel economy in its combined car and truck fleet among six major manufacturers</td>
<td>Best overall corporate average fuel economy (CAFE) among six major manufacturers (29.09 mpg for 2004 model year)</td>
<td>Honda will maintain top-level corporate average fuel economy in its combined car and truck fleet among six major manufacturers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In 2004, Honda became the first automaker to offer three distinct hybrid models in North America</td>
<td>Honda will continue to develop technologies that improve fuel efficiency and reduce greenhouse gases, including hybrid technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In 2005, Honda offered the first natural gas home refueling device, Phill™, for lease in California with the Civic GX natural gas vehicle</td>
<td>Honda will continue its support of alternative fuel vehicles</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>Continuous improvement in fuel efficiency worldwide</td>
<td>A 34.2% improvement in global fleet average fuel economy in fiscal year 2005 compared to fiscal year 1996 level (total average in Japan, U.S., EU, and Thailand)</td>
<td>Continuous improvement through new technology</td>
</tr>
<tr>
<td>Power Equipment and Marine</td>
<td>Continuous improvement in fuel efficiency worldwide</td>
<td>A 28% improvement in fiscal year 2005 in the worldwide average fuel economy compared to fiscal year 1996 level</td>
<td>Continuous improvement through new technology</td>
</tr>
<tr>
<td>EMISIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automobile</td>
<td>In 2005, about 80% of Honda/Acura vehicles will achieve the U.S. EPA and Transport Canada Tier 2 requirement for 2007 (Tier 2 Bin 5 or better)</td>
<td>Honda will achieve virtually 100% Phase-in of the Tier 2 Bin 5 or better standard level in 2006, a year ahead of U.S. EPA and Transport Canada requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Civic GX and compressed natural gas home refueling appliance are available for retail customers</td>
<td>Honda will continue its support for alternative fuel vehicles</td>
<td></td>
</tr>
<tr>
<td>Motorcycle</td>
<td>In 2004, about 80% of Honda/Acura vehicles will achieve the U.S. EPA and Transport Canada Tier 2 requirement for 2007 (Tier 2 Bin 5 or better)</td>
<td>Honda will continue to reduce emissions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Honda accomplished the complete integration of 4-stroke products 4 years ago, except for a few special off-road models</td>
<td>Expand application of fuel injection</td>
<td></td>
</tr>
<tr>
<td>Power Equipment</td>
<td>In 2005, Honda achieved 38% reduction as a worldwide average of HC+N0x emissions from fiscal year 1996 level</td>
<td>Honda will continue to reduce emissions</td>
<td></td>
</tr>
</tbody>
</table>

See pages 14-25 for detailed information on the environmental impact of Honda products.
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>GOAL</th>
<th>CURRENT STATUS</th>
<th>COMMITMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANUFACTURING</td>
<td>Air Emissions: Reduce releases of air pollutants</td>
<td>North America auto body painting volatile organic compound (VOC) emissions in fiscal year ending March 31, 2005, were 22 g/m²</td>
<td>Reduce average VOC emissions from auto body painting to less than 20 g/m² by 2010 at Honda’s NA automobile assembly plants</td>
</tr>
<tr>
<td></td>
<td>Landfill Waste: Achieve zero waste to landfill</td>
<td>Landfill waste in North America in the fiscal year ending March 31, 2005, was 10,700 metric tons (excluding mineral waste and certain construction debris)</td>
<td>By 2010, reduce total landfill waste (excluding mineral waste and certain construction debris) by 70% from a fiscal year 2001 baseline</td>
</tr>
<tr>
<td></td>
<td>Energy: Improve manufacturing energy efficiency</td>
<td>Canadian auto plant is currently reporting CO₂ emissions</td>
<td>Expand reporting of greenhouse gas emissions to include all major manufacturing operations</td>
</tr>
<tr>
<td></td>
<td>ISO Certification: Promote achievement of ISO 14001</td>
<td>48 of 55 key suppliers are now 3rd party certified; 50% of all OEM suppliers are now 3rd party certified</td>
<td>Promote certification of key suppliers to ISO 14001:2004 by December 2006</td>
</tr>
<tr>
<td></td>
<td>Transportation Management: Expand the use of returnable containers</td>
<td>All auto models exceed 90% returnable container use (see page 43)</td>
<td>Continued effort to increase use of returnable containers</td>
</tr>
<tr>
<td></td>
<td>Enhance parts delivery logistics</td>
<td>Implementation of transportation management system has been initiated</td>
<td>Promote implementation of a transportation management system</td>
</tr>
<tr>
<td>WASTE MINIMIZATION</td>
<td>Products: Increase the design recyclability of automobiles in North America (see page 37)</td>
<td>Every 2004 model year vehicle has achieved 90% or greater recyclability.</td>
<td>Maintain 90% or greater design recyclability of future autos and light trucks based on Honda calculation method based on the ISO standard.</td>
</tr>
<tr>
<td></td>
<td>Substances of Concern: Reduce and, if possible, eliminate substances of concern including lead, mercury, hexavalent chromium, cadmium, brominated substances, and polyvinyl chlorides (PVCs)</td>
<td>Mercury: Honda uses mercury only for HID headlights and for navigation and entertainment video screens in automobiles</td>
<td>Phase out mercury in components when technically feasible and economically practical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lead: Converted lead wheel weights to steel wheel weights in automobiles and to zinc wheel weights in motorcycles, with the exception of a small percentage in steel wheel hubs on ATVs, in all production facilities in North America; eliminated lead from machined steel and electrode deposition coatings for automobiles</td>
<td>Eliminate lead in ATV wheel hubs in MY2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continue reduction of lead in other components</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hexavalent chromium: Eliminated hexavalent chromium from paint pretreatment post rinse; phasing out hexavalent chromium used for anticorrosion purposes</td>
<td>Phase out hexavalent chromium in automobiles for anticorrosion purposes by the end of calendar year 2006, with the exception of replacement parts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cadmium: Eliminated all but a very small amount of cadmium used in electronic components such as IC chips</td>
<td>Work with suppliers to eliminate cadmium from components</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PVC: Developed and started to apply PVC-free technologies for interior and exterior parts, trim, sealants and adhesives</td>
<td>Expand PVC-free technologies for remaining applications wherever feasible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brominated Substances: Phased out all applications of penta- and octa-bromodiphenylethers (BDE) for automobiles</td>
<td>Assessment of all brominated substances and continue to study opportunities for eliminating all brominated substances</td>
</tr>
<tr>
<td></td>
<td>Green Building: Improve the energy efficiency of Honda facilities in North America as well as waste reduction at these facilities</td>
<td>American Honda’s Northwest Regional Center, in Gresham, Oregon, earned the US Green Building Council’s Gold LEED-NC Leadership in Energy and Environmental Design Certification</td>
<td>Certify two new buildings to LEED-NC by July 2007</td>
</tr>
</tbody>
</table>

See pages 26-35 for detailed information on the environmental impact of Honda manufacturing.

See pages 36-43 for detailed information on Honda’s waste minimization.
Environmental Impact of Honda Products

Honda’s North American operations are integral to the company’s efforts to reduce the environmental impact of Honda and Acura products. A key phase in product life cycle — and the one in which Honda has the most significant opportunity to reduce impact on the natural systems of the Earth — begins with effective design and introduction of advanced technologies that help minimize the environmental burden caused by Honda and Acura products throughout the years of their use.

Even as it pursues new alternative fuel technologies, Honda continuously strives to reduce exhaust gas emissions and to improve fuel efficiency of its conventional engine technologies in the global challenge to cope with air pollution, climate change, and resource depletion.
Automobiles

Scientists Rate Honda Greenest Automaker

The Union of Concerned Scientists (UCS) gave its 2004 Greenest Automaker award to Honda, the company with the best environmental performance of all six full-line automakers. The analysis, conducted every two years by the independent nonprofit alliance of more than 100,000 concerned citizens and scientists, places the Honda/Acura vehicle fleet at the top of the big six large-volume automakers. Honda demonstrated the lowest average emission levels and highest average fuel economy.

In fact: “[Honda vehicles] . . . produce less than half the smog-forming pollutants of the industry average and 18 percent less heat-trapping emissions,” according to the UCS report.

Honda Civic GX and Honda Insight Ranked Greenest Vehicles of 2005

Honda’s natural gas-powered Civic GX was judged the Greenest Vehicle of the Year in 2005, a title it also captured in 2004. The title is conferred annually by the American Council for an Energy-Efficient Economy (ACEEE), a nonprofit organization dedicated to advancing energy efficiency. In addition, the Honda Insight, a hybrid-electric two-seater, was rated a close second by ACEEE, and the Honda Civic Hybrid came in fourth. The Honda Civic HX tied for seventh. The 2005 Honda Odyssey minivan earned top marks in its category.

In fact: A Honda vehicle has received the No. 1 ranking in this study for the past five years; 2005 is the fourth consecutive year that Honda vehicles have held at least four of the top 12 positions — more than any other company.

The rankings appear in ACEEE’s 2005 Green Book Online, a widely used buyers’ guide that ranks vehicles on the basis of unhealthy tailpipe emissions and the emission of gases that cause global warming. The report describes the vehicles as either environmentally green or mean. “Once again, Honda is prominent among the ‘greenest’ and absent from the ‘meanest,’” said Therese Langer, transportation program director for ACEEE.

Honda is in a class of its own when it comes to producing clean cars and trucks.” — David Friedman, research director, UCS Clean Vehicles Program.
Automobiles

Keeping the Air We Breathe Clean

Since 1974, when Honda became the first automaker to meet the strict new requirements of the landmark 1970 U.S. Clean Air Act, Honda has led the auto industry in introducing vehicles designed to protect the air.

Honda has consistently led the advancement and application of gasoline vehicle technology. It has led the industry in meeting the low-emission requirements of the California Air Resources Board (CARB) and the U.S. EPA National Low Emission Vehicle (NLEV) Program, as well as the new Tier 2 Bin 5 U.S. EPA standards and requirements of Transportation Canada. The Tier 2 Bin 5 standards seek significant reductions for several emissions, including oxides of nitrogen (NOx) and nonmethane organic gases (NMOG).

Honda and Acura cars and trucks demonstrate this commitment. In 1995, the 1996 Honda Civic became the first gasoline low-emission vehicle (LEV). The company then followed up with the 1998 Honda Accord, the industry’s first gasoline ultra-low-emission vehicle (ULEV), the 2000 Honda Accord, the first gasoline super-ultra-low-emission Vehicle (SULEV); and the 2001 Civic GX natural gas vehicle, the industry’s first advanced technology – partial-zero-emissions vehicle (AT-PZEV). For the 1998 model year, Honda voluntarily began nationwide sales of vehicles meeting California’s Low Emission Vehicles standard, ahead of the federal compliance schedule and resulting in a significant reduction in NMOG emissions.

Honda is ahead of the rest of the auto industry in reducing vehicle emissions to meet the U.S. EPA requirements for 2007 under the U.S. Clean Air Act and the Canadian Environmental Act. Honda’s fleet is nearly 80 percent compliant.

For 2005, Honda has certified 14 of the company’s 18 models to the Tier 2 Bin 5 U.S. EPA standards (or better). These standards call for reductions of principal air pollutants, including nonmethane organic hydrocarbons (NMOG), oxides of nitrogen (NOx), carbon monoxide (CO), and particulate matter (PM). As an example, to achieve the Tier 2 Bin 5 classification, a vehicle must reduce NOx emissions by at least 75 percent over the previous standards.

Honda Ahead of Schedule in Meeting Tier 2 Bin 5 Air Emissions Targets in the United States and Canada

Honda has achieved an 82 percent NMOG reduction for its combined car and truck fleet since 1994, well beyond the reductions required by regulations and ahead of its competitors.
Automobiles

Honda Fleet Leads the Industry in Fuel Economy

Honda and Acura continue to lead the industry overall in corporate average fuel economy (CAFE) in the United States and company average fuel consumption (CAFC) in Canada. The Honda Civic topped the first list the U.S. EPA issued when it began rating all cars and light trucks sold in America for fuel economy. Honda has dominated the annual rankings ever since. Honda models won four of the top five spots in the agency’s 2004 fuel economy rankings, led by the Honda Insight and Civic Hybrid.

![Graph: U.S. Car and Light Truck Fuel Economy (CAFE)]

- The U.S. Environmental Protection Agency (EPA) calculates “fuel economy” based on the amount of miles traveled per gallon of gasoline (below) for cars and light trucks and offers a Corporate Average Fuel Economy (CAFE) number for both passenger cars and light trucks. Honda is including the combined number (below) in this report for comparison.

![Graph: Canadian Car and Light Truck Fuel Consumption (CAFC)]

- Transport Canada calculates “fuel consumption” based on the amount of fuel consumed per kilometer traveled. Transport Canada does not issue a combined number for cars and light trucks, but Honda is including the combined number (below) in this report for comparison.

Honda Earns Three EnerGuide Awards from Natural Resources Canada

Honda earned three EnerGuide Awards from Natural Resources Canada for offering the most fuel-efficient vehicles in Canada.

Honda models won three of the 13 model segments. The Insight Hybrid vehicle won in the two-seater class, the Civic Hybrid in the compact segment, and the Odyssey EX-L in the minivan segment. The annual EnerGuide Awards, administered by Natural Resources Canada’s Office of Energy Efficiency, are presented to the most fuel-efficient vehicles for the current model year. Winning vehicles are determined through tests that simulate annual travel of 20,000 kilometers (55 percent city, 45 percent highway).
Automobiles

Hybrid Vehicle Leadership in North America

With the introduction of the Accord Hybrid in fall 2004, Honda became the first automaker to offer three distinct gas-electric hybrid model platforms in the U.S. and Canada. In 1999, Honda sold the first gasoline-electric hybrid vehicle in the U.S., the Honda Insight, followed by the Civic Hybrid in 2002.

While offering greater performance compared with the regular V-6-powered Accord, the Accord Hybrid achieves substantial improvements in fuel economy as measured by the U.S. EPA’s Corporate Average Fuel Economy program (CAFE) and Transport Canada’s Company Average Fuel Consumption program (CAFC). In the United States, the Accord Hybrid boosts fuel economy by 39 percent over the V-6 Accord in city driving (29 mpg vs. 21 mpg) and by 23 percent in highway driving (37 mpg vs. 30 mpg). In Canada, the Accord Hybrid shows a 29.5 percent improvement in fuel consumption over the V-6 Accord in city driving (7.9 liters/100km vs. 11.2 liters/100km) and a 19.2 percent improvement in highway driving (5.9 liters/100km vs. 7.3 liters/100km).

The world’s first V-6 powered hybrid vehicle, the Accord Hybrid, combines Honda’s advanced Integrated Motor Assist (IMA) hybrid system with new Variable Cylinder Management (VCM) cylinder deactivation technology.

How IMA and VCM Increase Fuel Efficiency

The IMA system provides acceleration assist, captures energy usually lost to the brakes during deceleration, and shuts off the motor while the vehicle is stopped in traffic. When cruising at steady speeds where less engine power is required, the VCM system deactivates the V-6 engine’s rear bank of cylinders, closing both the intake and exhaust valves to save fuel. The IMA system is also used to provide additional torque during 3-cylinder operation to extend the operating range of the VCM system for further fuel savings.

Two Honda Vehicles Certified State-of-the-Art AT-PZEV

Advanced technology partial zero-emission vehicles (AT-PZEVs) are the elite among vehicles designed to achieve low emissions. In 2001, the Honda Civic GX natural gas vehicle became the first car ever to be certified by the California Air Resources Board (CARB) as an AT-PZEV. Two years later, in 2003, the Honda Civic Hybrid became the first-ever hybrid vehicle to be certified as an AT-PZEV by CARB.

The AT-PZEV classification is a select category. It was established by the state of California to recognize vehicles that make use of highly-advanced technologies, including alternative fuels or hybrid-electric drive systems, that produce almost no pollution.

In addition to having advanced technologies, an AT-PZEV must also meet the strict exhaust standards set for super-ultra-low-emission (SULEV) vehicles as well as virtually zero levels set for evaporative emissions from fuel system components. It must also have extended warranties for emission-control performance and the hybrid battery.
Automobiles

Honda Supports CE-CERT Program to Advance Cleaner Technologies

To advance the real-world performance of its environmental technologies and to contribute further to industry advances in cleaner technologies, Honda consistently collaborates with various government, industry and academic programs. One example is the University of California Riverside (UCR) Bourns College of Engineering’s Center for Environmental Research and Technology (CE-CERT). The UCR study began evaluating ultra-low-emission vehicles (ULEV), super-ultra-low-emission vehicles (SULEV), and partial zero-emission vehicles (PZEV) under real-world conditions in 2000. Other participants in the project are the U.S. EPA, the California Air Resources Board (CARB), Chevron Corporation, and the Manufacturers of Emission Controls Association.

For Honda, the program has provided an accurate method to field-test the reliability and effectiveness of its emissions-reduction technologies. The program has also helped Honda develop a wide range of vehicles that meet California’s strict limits on non-methane organic gases (NMOC), oxides of nitrogen (NOx), and carbon monoxide (CO).

In fact, Through the program, Honda was able to verify its belief that Honda low-emission gasoline vehicles can maintain near-zero emissions in real-world use.

Home Refueling Infrastructure Created for CNG Vehicles

For the past seven years, Honda has marketed the Civic GX, a compressed natural gas (CNG) vehicle, to fleet operators who refuel primarily at their own dedicated fueling stations. A limited number of retail customers also purchased the Civic GX, relying on the few public natural gas stations.

Despite the benefits of reduced emissions and reduced greenhouse gases, owning Honda’s natural gas-powered Civic GX was a challenge for individual customers because of the limited number of public natural gas stations for refueling. That is changing now, with a program through Honda dealers in California that offer “Phill™,” a home CNG refueling appliance, with the purchase or lease of the Civic GX.

The Phill™ refueling appliance is manufactured by FuelMaker Corporation of Toronto, Canada. By connecting to a residential natural gas line, it gives Civic GX customers the ability to refuel at home.

In fact, The Civic GX is the cleanest internal combustion vehicle ever certified by the U.S. EPA. With the introduction of home refueling, consumers may lower their fuel costs, because natural gas generally has a lower fuel cost per mile than gasoline vehicles. Phill can be mounted on a garage wall, indoors or outdoors. Its operation is simple, with start and stop buttons. It turns itself off when the tank is full.

The combination of the Civic GX and the Phill home-refueling appliance help Honda achieve its goal: providing consumers not only with vehicles that are more environmentally conscious, but also with the necessary infrastructure to make operating them practical.

Local governments in Southern California see the new system as offering cleaner transportation and relief from air pollution. To encourage consumers to use the system, both the federal government and the California South Coast Air Quality Management District are offering incentives. In addition to offering freedom from the gas station and from fluctuating gasoline prices, California buyers of the Civic GX also get high-occupancy vehicle (HOV) lane access statewide. The GX is built in Ohio, on the same line that produces gasoline-powered Civics.

Honda is offering home refueling to increase the use of compressed natural gas (CNG) as an alternative fuel.

Phill™ is the CNG refueling appliance.
Honda FCX Hydrogen Fuel-cell Vehicle

Honda is pioneering the next generation of vehicles that may eventually replace vehicles with internal combustion engines.

**In fact** In addition to introducing the Honda FCX, the only fuel-cell vehicle to receive certification for public use by both the U.S. EPA and the California Air Resources Board (CARB), Honda has created breakthrough technology in its own fuel-cell stack, which is capable of starting and operating in subzero temperatures. Fuel-cell vehicles (FCV) represent a radical departure from gasoline- and diesel-powered vehicles. FCVs are propelled by electric motors. The electricity is generated by onboard fuel cells that use hydrogen as a fuel. FCVs create their own electricity; they don’t need to be recharged. Fuel-cell vehicles using pure hydrogen emit no pollutants, only water and heat. They can be more than twice as efficient as similar-size conventional vehicles.

**In fact** The FCX already meets applicable federal motor vehicle safety standards (FMVSS), including crash test requirements. It is a real car certified for commercial use, like any other vehicle on the road today. To date, it remains the only fuel-cell vehicle to have accomplished this.

Honda introduced practical fuel-cell vehicles in December 2002, when it delivered the first of five Honda FCX vehicles to the city of Los Angeles. In 2004, Honda expanded its customer lease program to include the city of San Francisco, California’s South Coast Air Quality Management District, and the city of Chula Vista, California. In addition, the company placed two new 2005 FCX vehicles with the New York state government in applications chosen to demonstrate the vehicles’ cold-weather capabilities. With the addition of two FCX vehicles to the fleet of the city of Las Vegas, Nevada, and the first FCX lease to individual consumers in June 2005, Honda now has 15 FCX vehicles in regular daily use with U.S. customers.

**Second-Generation Design**

The 2005 FCX is Honda’s second-generation fuel-cell vehicle and the first to be powered by a Honda-designed and manufactured fuel-cell stack. Compared to the 2004 FCX, the 2005 model FCX achieves almost a 20 percent improvement in its U.S. EPA fuel economy rating and a 33 percent gain in peak power (107 hp vs. 80 hp). The 2005 FCX has a driving range of 190 miles and a U.S. EPA combined economy rating of 57 miles per kilogram of hydrogen.

The increased range and improved performance are the result of breakthrough technology in the design and construction of the vehicle’s fuel-cell system.

**In fact** The Honda fuel-cell stack is capable of starting in temperatures as low as minus 20 degrees Celsius (minus 4 degrees Fahrenheit). It also performs well in hot weather situations. Until now, cold temperatures were a major hurdle to the marketability of fuel-cell vehicles.

With its new structure made of stamped-metal separators and new aromatic membrane material, the Honda FC stack features 50 percent fewer components. It can be manufactured more easily than an earlier prototype Honda stack design, and it significantly reduces the complexity of the fuel-cell system.

The Honda FCX fuel-cell vehicle performed exceptionally well in its first real-world use in cold weather conditions during the winter of 2004-2005, as part of Honda’s two-year lease of two FCX vehicles to the New York state government. The hydrogen-powered Honda FCX has been certified by CARB as a zero-emission vehicle (ZEV) and by the U.S. EPA as Tier 2 Bin 1, the best possible national emission rating.
Automobiles

Hydrogen Fuel: Creating the Infrastructure

Honda believes the development of a hydrogen-fuel infrastructure is as important as the development of the vehicles themselves and the company is working to develop the infrastructure that will make use of fuel-cell vehicles practical.

Hydrogen from Solar Power

Four years ago, Honda began operating the first hydrogen production and fueling station for fuel-cell vehicles near Los Angeles at Honda’s research and development center in Torrance, California. Not only is the fueling station the first in the area to produce hydrogen for a fuel-cell vehicle, it is also unique technologically because it uses the power of the sun to create the hydrogen fuel from a proton exchange membrane electrolyzer.* The station has backup electrical power to increase the hydrogen production capacity if needed. But the station is designed to supply enough hydrogen to drive a single fuel-cell vehicle (up to 10,000 miles a year) from renewable energy.

This is the first hydrogen station established by an automaker to use solar energy to extract hydrogen from water. The station uses solar cells to produce electricity. It then extracts hydrogen from water through electrolysis. A compressor pressurizes the extracted hydrogen, which is stored in tanks at the station.

In fact, the fueling station, which opened in 2001, was recently fitted with new-generation solar cell panels — also an original Honda technology. The solar panels feature technology made from copper, indium, gallium and selenium (CIGS). These panels require less electricity to manufacture than ordinary silicon-crystal type solar cells. The fueling station electrolysis unit has also been upgraded with a new Honda-developed compact unit that achieves higher efficiency using a new ruthenium-based catalyst.

*Note: A solar-electrolysis station was in place in the Los Angeles area prior to the Honda station. But it used an alkaline (chemical) electrolyzer, and it was not used for fuel-cell vehicles.

Hydrogen from Natural Gas

Just a few years ago, the concept of the second-generation Home Energy Station (HES II) would have sounded like science fiction. It would have been inconceivable to own an at-home device that provides heat for hot water, electricity for the home, and fuel for a hydrogen-fuel-cell vehicle all from one unit.

However, in 2004, Honda’s fuel-reforming operation in upstate New York. HES II is the second-generation Home Energy Station (HES II) in upstate New York. HES II is the evolution of a joint effort by Honda and Plug Power to produce a home fueling unit that efficiently converts natural gas to hydrogen, heat and electricity. The HES II is being tested as part of a cold-weather operations evaluation of Honda’s FCX hydrogen fuel-cell vehicle in New York state.

This new, more compact HES II represents significant advancements in this industry-leading program.

The HES II experimental hydrogen station incorporates several subsystems that use Plug Power proprietary technology. Because this system optimizes the home production and storage of hydrogen, and because it integrates that function with natural gas reforming and hydrogen compression, the space needed is significantly reduced. Previously housed in two separate units, it now has been combined into one significantly smaller package. The single unit includes the natural gas reformer, hydrogen purifier, fuel-cell stack, compressor, and fuel storage and delivery system. As a fully integrated system, the HES II also provides improvements in overall operation and efficiency.
**Power Sports**

Reducing Air Emissions

Honda has worked for years to reduce emissions and to increase fuel efficiency of its power sports products, including on-road motorcycles, off-road motorcycles, all-terrain vehicles (ATV), and personal watercraft (PWC) in North America. Honda continues to lead efforts to encourage the responsible use of motorcycles and ATVs, both on-road and off-road.

Motorcycle Emission Regulations

More stringent exhaust emission standards for on-road motorcycles adopted by the California Air Resources Board (CARB) went into effect for the 2004 model year. Those same standards were also adopted by the U.S. EPA, which scheduled them to go into effect for the 2006 model year.

On-Road Motorcycle Emissions

The new standards for Class I (50 to 169 cubic centimeters displacement) and Class II (170 to 279 cubic centimeters displacement) motorcycles are 1.0 gram per kilometer for combined hydrocarbon and oxides of nitrogen emissions (HC + NOx). The standard for Class III (larger than 279 cubic centimeters displacement) is 1.4 grams per kilometer for HC + NOx.

The Class III standard will become more stringent (0.8 grams per kilometer for HC + NOx) in California for the 2008 model year. That becomes a requirement for the rest of the U.S. for the 2010 model year. That is a significant reduction from the past 5.0 grams per kilometer standard for hydrocarbon emissions for all models except motorcycles with displacement less than 50cc, set earlier by the U.S. EPA.

New and more stringent controls for fuel-related evaporative emissions for on-road motorcycles were also adopted by the U.S. EPA to take effect for the 2008 model year.

Scooters and other motorcycles of 50 cubic centimeters or less will be regulated as Class I A; they will be subject to different test procedures.

### Off-Road Recreational Vehicles

In addition to controls for on-road motorcycles, the CARB and the U.S. EPA have also recently adopted new and more stringent emission-control standards for off-road recreational vehicles, including off-road motorcycles and ATVs.

The California standard for ATVs is 12 grams of HC and NOx per brake horsepower-hour (g/bhp-hr) for Class I vehicles (less than 235 cubic centimeters displacement) and 10 grams for Class II vehicles (225 or greater cubic centimeters), effective with the 2006 model year.

The new U.S. EPA adopted national exhaust standards for ATVs and off-road motorcycles take effect in the 2006 model year. These new standards are being phased in, with 100 percent compliance required in the 2007 model year. The new standard is 1.5 grams per kilometer combined HC + NOx emissions for ATVs and 2.0 grams per kilometer for off-road motorcycles.


Honda has a comprehensive compliance plan to address these new on-road and off-road standards. The standards may require the development of new emissions-control technology, including oxygen sensors, followed by more advanced linear-air fuel oxygen sensors and programmable fuel injection.

By 2004, Honda already had 26 percent of its new fleet of on-road motorcycles in compliance with the new CARB and U.S. EPA standards. This comprehensive early adoption of emission regulations has resulted in a steady decrease in the average of combined HC + NOx emissions. That average dropped from 1.31 grams per kilometer for model year 2000 to 1.08 grams for model year 2004.
**Power Sports**

**Use of 4-Stroke Engine Technology to Reduce Pollution**

Since its beginnings, Honda has been developing motorcycles equipped with 4-stroke engines, which have inherently cleaner exhaust than 2-stroke engines. **In fact**, today, all Honda on-road motorcycles and off-road recreation vehicles marketed in North America are equipped with less polluting, more fuel-efficient 4-stroke engines, with the exception of off-road competition motorcycles. Additionally, in the United States, Honda has voluntarily applied emissions-control technology to motorcycles ahead of regulatory requirements (see page 22). The company continues to invest in research and development to further improve the design of Honda 4-stroke engines.

**Honda 4-stroke PWCs**

When Honda entered the personal watercraft (PWC) market in 2002, it was the first to introduce a 4-stroke powered PWC. In addition to recreational enjoyment, Honda PWCs are used for a wide variety of purposes: safety and law enforcement, environmental conservation, marine research, and research of animals in their native habitat. Every PWC ever made by Honda has featured a 4-stroke engine. Like its other marine engines, Honda PWC models provide significant reductions in noise levels, greater fuel efficiency, and less pollution. Not only do Honda PWCs produce less air pollution, they also reduce pollution to the waters in which they operate. Oil emissions into the water are much lower with Honda 4-stroke PWCs than with 2-stroke PWCs.

**Encouraging the Responsible Use of Honda Products**

Encouraging and facilitating the responsible use of its products is an important issue for Honda, both for human safety and for environmental protection. Honda has made a significant commitment to educate and provide hands-on training for motorcycle and ATV riders about ways to use their products safely and responsibly.

The Honda Environmental Learning Centers are a unique and critical part of its environmental and safety effort. Honda Off-Highway Vehicle (OHV) and Environmental Learning Centers were created as expansions of the existing Honda Rider Education Centers — which began more than 15 years ago. The four original regional Rider Education facilities were established in Colton, California; Troy, Ohio; Irving, Texas; and Alpharetta, Georgia. These training facilities use Motorcycle Safety Foundation and ATV Safety Institute curricula to teach riders proper operation of on-road and off-road motorcycles, as well as ATVs, in a realistic setting. They also teach overall responsible land-use ethics.

The OHV Environmental Learning Centers are the only educational facilities in the United States that provide state-of-the-art rider safety training and environmental education within the same facility. Over the past five years, Honda has almost doubled the number of people trained annually.

Honda works closely with the American Motorcyclist Association, the Specialty Vehicle Institute of America, the U.S. Bureau of Land Management, the Motorcycle Industry Council, the National Off-Highway Vehicle Conservation Council, the U.S. Forest Service, and other key stakeholder groups regarding on-road and off-road recreational vehicle noise control as well as the responsible use of public lands.

Another initiative by Honda provides chemical and lubricant disposal services and educational sessions at off-road motorcycle events in California and Nevada. Educational sessions focus on motorcycle exhaust-noise pollution and sound measurement, in addition to correct chemical/lubricant waste-disposal procedures. The U.S. Honda Riders’ Club reimburses its members for training. Membership is provided free by American Honda to first-year owners of Honda motorcycles and ATVs.
Power Equipment

Honda’s Power Equipment business consists of three product groups: marine outboard engines, general-purpose engines (small engines used in hundreds of applications for commercial, rental and residential applications), and Honda manufactured products (generators, lawn mowers, pumps, snowblowers, tillers and trimmers).

Reducing Environmental Impact

Honda’s power equipment products are used outdoors, often in residential settings. Honda has long believed that these products must produce low emissions and low noise with high fuel efficiency, while remaining easy to use, tough, and durable. The environmental impact of small engines used in power equipment products tends to get little public attention. But Honda considers improvements in power equipment performance an important factor in the overall quality of the air as well as an important factor in the reduction of greenhouse gases. In calendar year 2004, Honda’s Power Equipment business sold more than 2 million units in the U.S. market.

Emissions Reductions

Honda achieved its goal three years early to reduce the average power equipment exhaust emissions of hydrocarbon (HC) and oxides of nitrogen (NOx) by 30 percent from the level of the fiscal year ending March 31, 1996. Honda’s original global target date was the fiscal year ending March 31, 2006. By the fiscal year ending March 31, 2005, Honda achieved an additional 8 percent reduction by applying additional technological advancements.

Fuel Efficiency Improvements

Honda has improved fuel efficiency across its entire global power equipment lineup. The target was to improve the average fuel economy 30 percent from the fiscal year ending March 31, 1996 by the the fiscal year ending March 31, 2006. Honda is still working on that goal. It had improved average fuel efficiency 28 percent worldwide, by the end of the 2005 fiscal year.

Honda Lawn Mowers Meet Voluntary Emission Standard

Honda has chosen to meet a voluntary emission standard called a Family Emission Level (FEL), for its walk-behind lawn mowers with the GCV 160 and GCV 190 engines. The FEL is set at 13.4 g/kW-hr, which is set 16.8 percent below the EPA standard of 16.1 g/kW-hr. In California, Honda lawn mowers with these engines are certified to an emission level more than 30 percent below the required standard.

Honda 2005 NORTH AMERICAN ENVIRONMENTAL REPORT
**Power Equipment**

**Improving Marine Engines**

For more than 25 years, Honda has been committed to designing and producing 4-stroke marine engines. Honda decided 4-stroke engines were the best choice environmentally because they emit less pollution to water and air, attain significantly better fuel economy and create less operating noise. Additionally, the 4-stroke engine uses a lubrication system similar to an automobile. The oil is contained within the engine crankcase to prevent oil contamination to water.

When introduced in 1973, Honda’s 4-stroke marine engines were among the cleanest in the world. In 1990, Honda introduced its BF series marine engines. The BF series enabled Honda to achieve early compliance with the world’s first strict marine emissions regulation, which took effect in 1993. The BF series has led the industry’s global shift to 4-stroke engines, which has resulted in considerably cleaner water worldwide.

U.S. EPA marine emissions regulations were first implemented in 1998 and scheduled to become more stringent every year through 2006.

California accelerated the U.S. EPA program and adopted regulations that required marine emissions be reduced to the U.S. EPA’s 2006 levels by 2001. California’s regulations required another 20 percent reduction in 2004 and an overall reduction of 65 percent of combined HC and NOx in 2008.

Honda has been well ahead of the regulations. By 2001, Honda was working to certify its outboards to the California 2008 standard.

Honda marine outboard engines were in compliance with the more stringent California marine emission standards three to four years ahead of the requirement. California uses one, two, and three stars on consumer labels to indicate low, very low and ultra-low emission levels. These levels correspond to the 2001, 2004 and 2008 model year requirements, respectively. Two stars mean 20 percent lower and three stars 65 percent lower than the U.S. EPA requirement for 2006. Honda now has a three-star outboard in each horsepower category, for complying with future regulations ahead of the requirement.

**Improving Small Engines to Reduce Environmental Impact**

Honda has adapted 4-stroke technology to be small and light enough for applications in handheld products. Honda power equipment is currently on target to meet the California emissions standards beginning in 2006.

Honda has adapted 4-stroke technology to be small and light enough for applications in handheld products. Honda power equipment is currently on target to meet the California emissions standards beginning in 2006.

All Honda power equipment products are powered by 4-stroke engines that are among the quietest, most fuel-efficient and cleanest-burning engines in the industry.

**Fewer Greenhouse Gases with Honda Eco-Throttle**

Honda has developed a technology called the “eco-throttle” for electric power generators.

The innovation adjusts engine speed according to the electric power load being placed on the generator. The technology, found in several of Honda’s generator models, enables the throttle to vary automatically based on the load, resulting in better fuel efficiency, lower emissions, and less noise. This technology reduces greenhouse gas emissions by more than 30 percent compared with previous models.
Environmental Impact of Honda Manufacturing

The core values of the Honda global manufacturing group are applied by Honda’s North American manufacturing group to guide all activities that have environmental impacts. The 12 North American manufacturing plants, located in the United States, Canada, and Mexico, all share Honda’s commitment to minimizing impact on the environment.

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>FACILITY</th>
<th>ISO 14001</th>
<th>CAPACITY/PRODUCTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>Marysville, Ohio</td>
<td>1998</td>
<td>440,000 vehicles</td>
</tr>
<tr>
<td></td>
<td>Automobile Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Motorcycle Plant</td>
<td>1999</td>
<td>150,000 motorcycles 75,000 engines</td>
</tr>
<tr>
<td></td>
<td>Anna, Ohio</td>
<td>1998</td>
<td>1.16 million engines</td>
</tr>
<tr>
<td></td>
<td>Engine Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>East Liberty, Ohio</td>
<td>1998</td>
<td>240,000 vehicles</td>
</tr>
<tr>
<td></td>
<td>Automobile Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Russells Point, Ohio</td>
<td>1998</td>
<td>1 million transmissions</td>
</tr>
<tr>
<td></td>
<td>Transmission Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swepsonville, North Carolina</td>
<td>2002</td>
<td>380,000 power equipment products</td>
</tr>
<tr>
<td></td>
<td>Power Equipment Plant</td>
<td></td>
<td>1.5 million engines</td>
</tr>
<tr>
<td></td>
<td>Timmonsville, South Carolina</td>
<td>2003</td>
<td>280,000 ATVs and engines</td>
</tr>
<tr>
<td></td>
<td>All-Terrain Vehicle Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personal Watercraft Plant</td>
<td>2003</td>
<td>100 personal watercraft (daily)</td>
</tr>
<tr>
<td></td>
<td>Lincoln, Alabama</td>
<td>Planned for 2006</td>
<td>300,000 vehicles and engines</td>
</tr>
<tr>
<td></td>
<td>Automobile and Engine Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>Alliston, Ontario</td>
<td>1999</td>
<td>390,000 vehicles</td>
</tr>
<tr>
<td>Mexico</td>
<td>El Salto, Estada de Jalisco, Mexico</td>
<td>1999</td>
<td>520,000 stamped parts 500,000 bumpers 30,000 vehicles</td>
</tr>
<tr>
<td></td>
<td>Automobile Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Motorcycle Plant</td>
<td>1999</td>
<td>30,000 motorcycles</td>
</tr>
</tbody>
</table>

Each Honda plant in North America is empowered to find, assess, and invest in ways to reduce environmental impact. Associates are encouraged to understand how their daily and long-term decisions affect the natural world and the sustainability of the environment. The practical outcome is Honda manufacturing facilities that operate efficiently, causing the least impact on the environment — facilities that minimize the use of energy, water and other resources.

This approach to the manufacturing of Honda products has resulted in continuous improvement. The objective is for Honda manufacturing facilities to achieve a level of environmental performance commensurate with the outstanding environmental performance of the company’s products.
Production Output Increases in North America

As Honda continues to expand the production of automobiles, motorcycles, power equipment, engines and other products in North America, the company is working to reduce the environmental impacts of these operations. Following is a look at Honda’s expanding production in North America.

Automobile, Engine and Transmission Production Expansion

Honda has five automobile production plants in North America, housing eight assembly lines. The company has two auto-engine production facilities. Honda is now constructing its second automobile transmission plant. These plants have the capacity to produce more than 1.4 million cars and light trucks and more than 1.4 million auto engines using domestic and globally sourced parts. The Honda engine plant in Anna, Ohio, has undergone significant expansions: a 38,000-sq.-foot addition to increase crankshaft manufacturing capacity, and a 48,000-sq.-foot addition to add a new engine assembly line for V-6 production, including use of spin cast technology that allows the production of cylinder sleeves without sand casting. The engine plant also began in-house production of camshafts and connecting rods. Other expansions in North America include a second production line for light trucks at the auto plant in Lincoln, Alabama, which added 1.3 million square feet, and a new, 16,100-sq.-foot transmission technical center at Russells Point, Ohio.

Left: Honda assembled its 10 millionth automobile in the U.S. in 2004, using domestic and globally sourced parts.

Right, top: Honda now has the capability to assemble more than 1 million transmissions per year in Ohio. A second plant is under construction in Georgia.

Right, bottom: Honda has the capability to produce 1.4 million 4-cylinder and V-6 engines per year in the United States to equip automobiles and light trucks produced in North America.
Production Output Increases in North America

Honda’s three power sports products production operations in North America have the capacity to build more than 450,000 motorcycles, all-terrain vehicles (ATVs), and personal watercraft a year using domestic and globally sourced parts. Expansions at Honda power sports production facilities include the addition of an engine assembly operation for Honda motorcycles in Marysville, Ohio, and the retooling of the assembly line to focus solely on two-wheel motorcycles. In Timmonsville, South Carolina, Honda added engine assembly, machining, and aluminum die-casting operations to its ATV plant, and it built a new 88,000-sq.-ft. plant for the assembly and painting of personal watercraft.

Honda has increased power equipment production in the United States, using domestic and globally sourced parts, from 650,000 units in FY2001 to 1.9 million units in FY2005 by expanding plant operations in Swampsonville, North Carolina, from 142,000 square feet to 212,000 square feet. Among other things, power equipment includes lawn mowers, string trimmers, snow blowers, and small engines.

Power sports equipment production in North America increased by 28 percent between FY2001 and FY2005.

Most of the overall increase in power equipment production can be attributed to a more than 300 percent increase in general-purpose consumer (GC) engine production from 370,000 units in FY2001 to 1.56 million units in FY2005.
Green Factory Initiative

Late in 1998, in keeping with the global vision and direction established by Honda Motor Co., Ltd. in Japan, Honda launched the Green Factory initiative in North America. The initiative has brought more focus to Honda’s long-standing goal of reducing the impact of its manufacturing operations on the environment by maximizing the efficient use of resources and minimizing environmental releases. The initiative also reinforces Honda’s long-term commitment to its core value of environmental responsibility.

Honda’s newest manufacturing plant in North America is in Lincoln, Alabama.

Lincoln, Alabama

Honda’s Newest Green Factory

Design for environment was the guiding principle in building Honda’s newest manufacturing plant in North America — in Lincoln, Alabama. From the ground up, this facility was constructed with distinctive environmental features in mind.

The plant includes a state-of-the-art painting facility that uses lead-free electro-deposition coating; low volatile organic compound (VOC) waterborne primer and basecoat; solvent-borne clearcoat with emissions reduction control of the clearcoat painting booths; and waterborne primer for plastic parts coating.

The plant is also a zero-landfill-waste facility. [See related item on page 33.]

IN FACT Water resource protection was a high priority in the design of the plant. Runoff retention basins protect nearby Logan Martin Lake. To make inspection and maintenance easy, all product piping was built above ground. Double-walled piping was used for wastewater transferred to the local municipal wastewater treatment plant.

Energy efficiency is important too. The buildings have highly efficient lighting and white reflective roofs to reduce air conditioning load. The plant was designed to accommodate Honda’s new manufacturing system, which uses electrically-actuated welding robots. Dynamometer cells feed generated power back into the plant’s electrical system during dynamometer tests.

The site is also managed to enhance the local wildlife habitat and to minimize noise and visual intrusion into the surrounding community.

Russells Point, Ohio

Building a Green Technology Center

Environmental sustainability and occupant functionality were the primary goals in the construction of a technical center at Honda’s transmission plant in Russells Point, Ohio. The facility won the 2002 Ohio Governor’s Award for Excellence in Energy Efficiency.

The technologically advanced 16,100-sq.-foot building incorporates 10 key green technologies in its design and construction. It is registered with the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) Certification Program. That organization’s requirements and evaluation criteria guided the building’s design and construction.

The plant achieved the targets set for the project that included an improved working environment and a 50 percent reduction in energy use through advanced technologies such as geothermal heating. More than 25 percent of the building is made of recycled materials.

The Honda Technical Center building in Russells Point, Ohio, uses 50 percent less energy than typical non-LEED buildings.
**Energy Conservation**

Honda manufacturing facilities use energy in various forms for various purposes. The primary forms of energy are purchased electricity and natural gas. Electricity typically is used for lighting, motors, compressed air, and for cooling the spaces where people work. Natural gas is primarily used to heat and condition fresh air in those same spaces. Gas is also used for manufacturing processes, including the melting furnaces that produce iron and aluminum cast parts, the painting bake ovens, and the air-emissions control equipment.

Total energy use at Honda manufacturing facilities in North America increased by about 24 percent from fiscal year ending March 31, 2001 through March 31, 2005. This increase is due to the continued expansion of production operations in North America. Energy use per vehicle produced in North America increased during that time by about 3 percent. That was primarily due to the changing mix of models produced in North America, the ramp-up of the new Alabama line, and the choice to perform more production and assembly processes in-house.

### North American Energy Conservation

Honda manufacturing facilities are designed to use energy sources with lower carbon content whenever practical.

**FACT:** All boilers use natural gas as the primary fuel. Honda energy management teams at each North American manufacturing operation oversee energy-reduction activities.

### ENERGY REDUCTION PROJECTS

#### East Liberty, Ohio — Replacing Steam

In 2005, the Honda auto plant in East Liberty, Ohio, was awarded a 2005 Ohio Governor’s Award for Excellence in Energy Efficiency for its efforts to replace steam technology with alternative technologies to save energy.

Steam is less energy-efficient than a primary energy source such as electricity or natural gas. Over a two-year period beginning in 2003, steam used in eight major processes at the East Liberty plant was replaced with more energy-efficient technology. Direct-injection burners replaced steam-to-water heat exchangers. An economizer was installed to capture waste heat from emission-control equipment and was also used to replace a steam-to-water heat exchanger. Cool-fog misting systems replaced steam humidification systems in painting.
ENERGY REDUCTION PROJECTS

Electric Welding Equipment Saves Energy

One key initiative that complements Honda’s Green Factory program is the flexible New Manufacturing System that began in 1998, and the introduction of more flexible and efficient welding equipment to Honda’s auto manufacturing plants in North America.

Honda’s major auto plants in the United States and Canada are making good progress in replacing older hydraulic and pneumatic welding robots with electric robots. The new robots use 20 percent less electricity and eliminate the hydraulic fluids required by the old system. The new system reduces the risk of leaks and spills while eliminating the generation of used hydraulic oil.

Program to Cut Compressed-Air Energy Use

Honda manufacturing facilities require large volumes of compressed air for various purposes.

Reducing the energy required for compressed air has been a key energy-reduction theme. All facilities have been working to find ways to provide compressed air more efficiently. Each North American facility has implemented programs to find and repair leaks that waste air and energy. Honda strives to operate equipment at the minimum air pressure needed for the process. In addition, compressor-control systems have been implemented to ensure that the minimum number of air compressors and the most efficient equipment are operated. Processes that use compressed air are evaluated for alternatives that consume less energy. All of these activities enable air compressors to be shut down for periods of time, which reduces energy use.

Reduced Paint Booth Energy Use

For a number of reasons, painting booths represent a large percentage of the total energy requirement in auto manufacturing facilities. Honda’s North American operations have considered this a key area for reducing energy use.

Large volumes of fresh air must be brought into paint booths and conditioned to the right temperature, humidity, and pressure to ensure a safe, high-quality painting environment. Variable-speed drives have been installed on the paint booth ventilation systems to allow the air flow rates to be greatly reduced during nonproduction periods. This saves electricity by reducing fan operation. It also reduces natural gas use by decreasing the amount of fresh air flow that must be heated and humidified.

Reducing Energy Used for Lighting

All of Honda’s North American facilities are working to decrease the energy used for lighting.

The work involves replacing less efficient older lighting, such as T12 fluorescent lamp fixtures, with new energy-efficient models, including T8 and T5 fluorescent lamps. Further, in sunny El Salto, Estada de Jalisco, Mexico (left), Honda’s manufacturing plant has been able to eliminate the need for daytime high-bay lighting. Translucent panels in the roof provide sufficient light on sunny days. All plants continuously review lighting requirements. Motion sensors and control systems have been installed to ensure that lights are off when they are not needed.
Water Conservation

Honda’s North American production operations use water from various sources for both non-manufacturing and manufacturing purposes. All of the water, whether purchased from local water companies or extracted from the ground, is treated prior to use in the manufacturing plants. In addition, the Honda auto plant at Marysville, Ohio, has a system to capture and reuse rainwater. When the source of water is groundwater, the manufacturing facility using it implements a wellhead protection plan to ensure that the groundwater resource is protected from contamination.

Once fresh water has been used in process operations, it becomes industrial wastewater. Industrial wastewater typically is treated on-site to remove contaminants, then released to a local municipal wastewater facility for further treatment and discharge.

**In Fact** Honda’s East Liberty, Ohio, auto plant is unique in that it was designed with piping to allow treated industrial wastewater to be reused in toilets prior to discharge to municipal treatment facilities. About 500,000 gallons of treated wastewater are recycled each month in this system.

Despite water conservation efforts, at Honda’s manufacturing facilities in North America, overall water use increased by about 32 percent from the beginning of fiscal year 2001 through the end of fiscal year 2005. This increase is due to the continued expansion of production operations in North America, including the ramp-up of the second Alabama assembly line, the changing mix of models produced in North America, and the choice to perform more production and assembly processes in-house. Water use per vehicle produced during that time increased by about 12 percent.

### OHIO AUTO PLANT REDUCES GROUNDWATER USE

The new Marysville auto plant pond system consists of two ponds, a 20-million-gallon summer pond and a 2-million-gallon winter pond. A two-pond system allows seasonal optimization of cooling tower operations.

**In 2004, the Marysville Auto Plant completed a cooling-tower pond system that captures rainwater for use in cooling towers in place of groundwater.**

The pond system is expected to reduce groundwater use by about 40 million gallons each year. The pond system improves on-site storm water management by increasing rainfall retention time and reducing storm water runoff velocity and quantity. The pond system also reduces the risk that any spill will escape the site.

The southwest Ohio section of the Ohio Water Environmental Association honored the plant with the Karl G. Voelkel Award for outstanding environmental achievement in 2005 for the pond project.

### NORTH AMERICAN MANUFACTURING TOTAL WATER USE

<table>
<thead>
<tr>
<th></th>
<th>FY01</th>
<th>FY02</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
</tr>
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<tbody>
<tr>
<td>Total water use*</td>
<td>0.79</td>
<td>0.67</td>
<td>0.75</td>
<td>0.71</td>
<td>0.79</td>
</tr>
<tr>
<td>Total water use per auto produced**</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Total water use includes all North American operations.
** Water used per auto produced includes all auto-related manufacturing operations excluding power equipment and power sports.

### EL SALTO, ESTADA DE JALISCO, MEXICO

**Reusing Wastewater**

In February 2003, the Honda auto and motorcycle plants located in El Salto, Estada de Jalisco, Mexico, began to reuse treated wastewater from the plant for on-site landscape irrigation. The plants are in an area that receives little rainfall. Since the project startup, the plant has been able to use about 80 percent of treated wastewater it creates for irrigation.

### ANNA, OHIO

**Recycling of Die-Casting Lubricating Fluid**

The aluminum casting department of the Honda engine plant in Anna, Ohio, began four years ago to design a system to recycle lubricating fluid used as a die-casting release agent (used to prevent molten aluminum from sticking to the die). This system, now installed, provides significant reductions in water use and related wastewater generation. The recycling system is able to capture and reuse 80 percent to 90 percent of the lubricant. It has reduced water use by more than 3 million gallons annually. Similar systems for recycling die lubricant have been implemented at the Honda transmission manufacturing facility in Russells Point, Ohio, and at the Honda power equipment manufacturing plant in Swepsonville, North Carolina.
Minimizing Landfill Waste

Honda’s North American operations actively work to minimize the amount of landfill waste they generate. This begins with the design of manufacturing systems that do not generate much waste in the first place. However, when waste generation is unavoidable, Honda works to achieve the next best option — to recycle or reuse the waste, either on-site or off-site.

If recycling is not feasible, the next priority is to use the waste as fuel. Any wastes that cannot be recycled, reused, or used as a fuel are disposed of, primarily in landfills.

A key priority of Honda’s North American manufacturing operations is to eliminate waste to landfill in accordance with Honda’s waste management philosophy.

Honda Plants Achieve Zero Waste Sent to Landfill

Two Honda manufacturing plants have achieved zero waste to landfill — the Honda manufacturing site at Lincoln, Alabama, and the Honda site in El Salto, Jalisco, Mexico. The Alabama plant, which began operation in 2001, actually started with a commitment to maintain zero waste to landfill and was the first U.S. auto assembly plant to achieve that goal.

Waste Minimization Initiatives in Manufacturing

To reduce landfill waste from its manufacturing facilities, Honda has successfully implemented several key initiatives to reduce, reuse, and recycle. Some of the activities reflect the unique operations of each manufacturing facility, but some steps Honda is taking to minimize waste from its manufacturing operations apply to all facilities in North America.

- Recycling of paint-sludge overspray particles as an additive for cement
- Recycling of used oil, batteries, fluorescent bulbs
- Reuse of waste concrete and asphalt in roadbed construction

- Recycling of metal contaminants removed from wastewater as an additive for cement
- Recycling or reuse of office waste, including paper, newspapers, magazines, and transparencies
- Reclamation of zinc from iron cupola dust collected in bag houses for use in fertilizer

- Recycling of scrap painted bumpers to make splash guards
- Recycling of wood
- Implementation of cafeteria waste management, including bulk containers, reusable plates and utensils, and the recycling of organic matter, packaging, plastics, and metals

- Recycling of scrap steel
- Washing and reuse of rags, gloves, and floor mats

- Recycling of scrap aluminum chips and turnings
- Recycling of spent sands from foundry and casting processes as cement additives and roadbed construction material
- Recycling of scrap copper, used wiring, and used welding tips
Minimizing Air Emissions

Honda’s North American operations release various air contaminants as a result of their manufacturing operations. The primary contaminants released are volatile organic compounds (VOC), particulate matter (PM), oxides of nitrogen (NOx), and carbon monoxide (CO).

VOC emissions typically come from painting operations. PM emissions typically come from metal casting and finishing processes and painting operations. NOx and CO emissions typically result from combustion of natural gas for comfort and process heating, and from the use of engine and full-vehicle dynamometers for product testing. Air emissions are discharged in accordance with all applicable laws and regulations.

Emissions are routinely monitored and tracked. They are reported to regulatory agencies in accordance with local laws. Most factories are periodically inspected by regulatory agencies for compliance with legal requirements.

<table>
<thead>
<tr>
<th>NORTH AMERICAN VOC EMISSIONS FROM AUTOMOBILE BODY PAINTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY01</td>
</tr>
<tr>
<td>28.7</td>
</tr>
</tbody>
</table>

Reducing VOC Emissions

Volatile organic compounds are the primary air contaminants released by Honda’s North American manufacturing operations. The primary source is auto-body painting, which accounts for about 60 percent of total VOC emissions.

It has always been Honda’s policy to minimize the release of VOCs by adopting less-polluting processes wherever possible.

Honda Canada Receives Awards for Greenhouse Gas Reductions

As a result of its efforts to reduce greenhouse gas emissions, Honda’s auto plant in Alliston, Ontario, Canada won the Canadian government’s Voluntary Challenge and Registry (VCR) program Best New Submission Award in 2002, and the VCR Transportation Sector Award in 2003. Between 2000 and 2003, Honda of Canada Mfg. reduced overall greenhouse gas emissions by more than 4,000 metric tons annually through energy conservation activities. That amounts to a 15.6 percent reduction in carbon dioxide emissions per vehicle produced.
Reducing Chemical Releases — TRI/NPRI Reporting

Honda operations in the United States and Canada report total chemical releases annually in accordance with regulatory requirements. In Canada, National Pollutant Release Inventory (NPRI) data are submitted to Environment Canada and to the Ontario Ministry of the Environment. These data are available for public review at www.ec.gc.ca/pdb/npri. In the United States, Toxic Release Inventory (TRI) data are submitted to both state and federal environmental protection agencies. These data are available for public review at www.epa.gov.

Total TRI/NPRI releases have been reduced by more than 4 percent despite significant expansions in production capacity since calendar year 2000. Auto-specific TRI/NPRI emissions have been reduced by about 19 percent per automobile produced in the United States and Canada.

Honda’s automobile plants in East Liberty, Ohio (left), and Marysville, Ohio (right).

Honda’s U.S. and Canadian manufacturing operations report TRI (Section 8.1) and NPRI (Schedule 1, Part 1) releases and transfers for disposal.

Honda’s U.S. and Canadian manufacturing operations report TRI (Section 8.1) and NPRI (Schedule 1, Part 1) releases and transfers for automobiles and automobile parts (engines and transmissions) per automobile produced.
Honda has a strong commitment to minimizing its environmental impact and to conserving natural resources. This commitment is especially evident in Honda's efforts to reduce the environmental pollution created by waste and its disposal.

Evaluation of each stage in the life of a product is important.

Environmental factors are considered early in the design phase for Honda products. This provides greater potential for environmental benefit and cost reduction.

**IN FACT** Honda strives to reduce waste and to conserve energy in its operations and to eliminate substances-of-concern (SOCs) in the design of its products. The company also works with stakeholders in the recycling industry in North America to minimize shredder residue — the leftover waste from products at the end of their lifecycle.

In North America, Honda acts in accordance with the company's global guidelines for product design choices and material selection. Government regulations in North America covering end-of-life products, recycling, or substances of concern may differ from those in other parts of the world, but Honda's ultimate goal is the international harmonization of environmental management.
Design for Environment

When they select materials and choose design features, Honda engineers consider both avoiding use of substances of concern (SOCs) and the environmental impact of their choices at product end-of-life.

The engineers focus specifically on design for recycling, design for disassembly, design for energy efficiency, design for remanufacture, and design for substances-of-concern minimization. Honda’s method for gathering information on substances of concern, outlined on page 38, is an example of how Honda works with suppliers to minimize environmental impact.

Honda Autos and Light Trucks Produced in North America are 90 Percent Recyclable

Honda has achieved 90 percent or greater design recyclability for every model designed and produced in North America as of the 2004 model year.

Honda calculates vehicle recyclability by using the International Standards Organization (ISO) standard 22628, titled “Road Vehicles - Recyclability and Recoverability - Calculation Method.”

This calculation method bases its estimates of recyclability/ reusability and recoverability/ reusability on existing and proven treatment technologies for end-of-life road vehicles. This formula takes into account the mass of materials recycled, reused, recovered for energy, or otherwise diverted from landfill disposal.

Honda will continue to look for ways to improve the design recyclability of future new models of automobiles in North America and, at a minimum, maintain 90 percent or greater recyclability for its future automobiles and light trucks. Additionally, Honda has a goal of achieving 95 percent or greater recyclability for its motorcycles and power equipment.

Collaboration with Vehicle Recycling Industry

Honda considers it important to collaborate with stakeholders in the recycling infrastructure in North America. These collaborations benefit both Honda and the recycling industry. The information gained from these collaborative efforts helps Honda achieve better product design and remanufacturing capability, as well as waste minimization. It also helps increase recycling, reuse, and recovery.

Hybrid Battery Recycling

Honda is a leader in North America in bringing hybrid electric vehicles to market. These vehicles provide significant improvements in fuel efficiency by using a combination of an internal-combustion engine and an electric motor.

A critical component of this power-train package is a nickel-metal hydride (NiMH) battery pack. It stores electrical energy for the electric motor to use in powering the vehicle. The battery is recharged as the vehicle is driven.

This battery pack is durable, long-lasting and reliable. But when it must be disposed of, Honda uses a recycling system to keep batteries from being discarded as waste.

Honda has contracts with well-established NiMH battery recycling companies and has created a closed-loop system to collect, transport and process the batteries from the cars. To facilitate this process, each battery has a label with easy-to-read instructions on how to recycle the battery, accompanied by a toll-free number.

Honda has achieved 90 percent or greater recyclability of its cars and light trucks, including the Odyssey and the Accord. Honda will maintain 90 percent or greater design recyclability for its vehicles.
Reducing Substances of Concern in Products

Lead, cadmium, hexavalent chromium, mercury, brominated substances, and polyvinyl chloride (PVC) are substances of concern (SOCs). Honda has been working for the last several years to reduce its use of these substances or to eliminate them from its vehicles. Honda’s global policy has been to set standards for the voluntary reduction and control of substances that, if not properly managed, are considered harmful to people and the environment, and to apply these standards to all of its products around the world.

In 2002, Honda created the North America Chemical Substance Guideline. Its purpose was to minimize substances of concern in Honda products purchased in North America. The guideline sets forth a schedule for suppliers to reduce or eliminate substances of concern. Honda has worked with its suppliers to create a data collection system that allows them to put their data directly into the Honda Supplier Portal, an Internet-based tool. Honda uses this collection system to help it meet the reduction targets set forth in the guideline. There are technical challenges to finding substitutions for certain applications due to the inability of alternative substances to meet performance goals and design specifications. However, Honda continues to explore ways to reduce the use of SOCs in all of its products.

Eliminating Lead Use

Over the past few years, Honda has found ways to reduce the use of lead in electronics, light bulbs, and corrosion-resistant (electro-deposition) paints. Honda has replaced the lead used in steel bars with nonhazardous material. The company has also begun to eliminate the lead used in the soldering of circuit boards. Most recently, in 2005, Honda replaced all of the lead wheel weights in new automobiles and light trucks with steel wheel weights, and it replaced lead wheel weights in new motorcycles with zinc wheel weights.

Honda continues to use lead-acid batteries. However, an effective system is in place for recycling these batteries to prevent their disposal in landfills. Honda will continue to reduce the use of lead in its products.

Replacing Hexavalent Chromium

Hexavalent chromium was used extensively in much of the auto industry in the past for coatings that protect exterior parts such as bumpers against corrosion. Honda has used it primarily on fasteners, bolts, brackets, and aluminum wheels for corrosion protection, friction reduction, and for its self-healing (corrosion resistance) properties.

In their search to replace hexavalent chromium, Honda and its suppliers have found an equally effective, more environmentally friendly, zinc chromate coating alternative that uses trivalent chromium. Honda has begun to replace hexavalent chromium coating with this alternative in its automobiles and power sports products.

Starting in the 2005 model year, Honda began to produce vehicles with dramatically decreased levels of hexavalent chromium. Anticorrosion hexavalent chromium applications in automobiles will be phased out by the end of calendar year 2006, with the exception of replacement parts.

Cadmium Removal

Cadmium has been used in the auto industry in the past because it improves mechanical and fatigue strength and helps create complex alloys that have useful properties for applications in automotive electronics. At this time, Honda is aware of only a small amount of cadmium use in electronic chips. Honda is currently working with its suppliers to identify and reduce or eliminate any remaining uses of cadmium in product components.

Honda has begun to eliminate hexavalent chromium from many parts: aluminum wheels, front engine mounts, synchronizer assemblies, wheel assemblies, fuel pump modules, e-ring collars, damper locks, solenoid assemblies, seat weight sensor assemblies, door lock assemblies, knuckles, plugs and tube joints.

Above: Hexavalent chromium-free brake caliper.
Eliminating Mercury

Honda has made a high priority of eliminating mercury in its vehicles. When mercury can’t be eliminated, Honda wants to facilitate its safe removal before recycling and disposal.

The elimination of mercury is a priority for Honda because of its potential to cause adverse human health and environmental effects at very low levels. The electrical properties of mercury, its wide functional temperature range, and its unique chemistry have made it useful in a range of applications in the auto industry. Other automakers have used it in switches, radios and ride leveling devices. **In fact** Honda has never specified mercury for these applications. Currently, Honda vehicles use mercury only in high-intensity discharge (HID) headlamps and in navigational and entertainment video screens. The HID headlamps used in Honda vehicles contain, at most, one milligram of mercury. The entertainment screens contain less than 10 milligrams of mercury. Honda is working with suppliers to find alternatives for these two uses. Honda also employs a reliable closed-loop recycling system for navigational and entertainment screens that are damaged or in need of replacement. The damaged screens are returned to the supplier by Honda or Acura dealers. The suppliers then repair them or remove parts for reuse.

Alternatives for Polybrominated Diphenyl Ethers

Polybrominated diphenyl ethers (PBDE) are used as flame retardants in seat fabric, carpets, vehicle engine-control units (ECU) and plastic substrates.

Commonly used forms in the automobile industry are octa-, penta- and deca-bromodiphenyl ether. Honda has chosen not to use octa- and penta-PBDEs because of their potential environmental impacts. Honda has worked with its suppliers to confirm that these chemicals are no longer present in fabrics or parts.

Phasing Out PVC

Plastic materials, including polyvinyl chloride (PVC), have been important in vehicle design because they help achieve weight reduction, a critical factor in reducing fuel consumption.

Typical applications for PVC include uses in wiring harnesses, as sound deadeners, for window encapsulation, as floor insulators, in steering wheels, and in exterior trim and upholstery. Many of these applications are highly visible; they must meet rigid expectations from customers for appearance and longevity. PVC has been used by Honda because it has many important characteristics, including durability, low-temperature stability, and resistance to fading. However, PVC parts are often difficult to recycle. To date, Honda has worked with its suppliers to implement PVC-free technologies for interior and exterior parts such as trim, sealants and adhesives, including sash tape, sunroof drain hoses, washer tubes, window molding, weatherstrips, door molding, roof molding, floor mats, seat coverings, and change lever boots. Also, some PVC once used in instrument panels, inner-door weather stripping, rear-door quarter seal and shift knobs, is now being replaced with a variety of other base materials. For remaining applications, Honda plans to apply PVC-free applications across its entire North American product line wherever feasible.
Complementary Methods to Minimize Waste:

Remanufacturing and Reuse of Honda Parts

Remanufacturing of parts recovered from vehicles in service helps to divert materials from landfills. Reusing processed materials from castings and other components, that are still valuable and can be reprocessed economically and efficiently, to minimize the input to the wastestream.

Honda has established a remanufacturing system for many components in its passenger cars and light duty trucks and vans. On occasion in the life of a vehicle, product upgrades will be necessary. This frequently involves component replacement at a Honda dealership.

Rather than discarding the components or assemblies removed from the vehicle, these components are collected from Honda dealerships and sent to the original suppliers, where they undergo an assessment of their condition and their potential for remanufacturing. They are then remanufactured to the original specifications. Factory assembly standards and performance test standards ensure they are the same quality as the original parts.

Typical parts recycled in this program are drive shafts, air conditioner compressors, starter motors, antilock-brake system modulators, brake calipers, power-steering racks and pumps, audio components, navigation and entertainment video screens, and automatic transmissions.

The total number of parts in this program has tripled since 2000, and Honda is working to expand the types of remanufactured parts it offers.

This remanufacturing system also improves Honda’s total resource intensity by conserving energy and other resource consumption that would be required to manufacture new components.

In fact, Honda has successfully collaborated with the automotive dismantling and material recycling industries, and is working to improve the sustainability of each industry in North America.

Honda California Facility

Gets Top Waste-Reduction Honor

The U.S. headquarters of American Honda Motor Co. Inc. in Torrance, California, received the state of California’s top Waste Reduction Environmental Award (WRAP) for 2004. Honda received a lesser award the previous five years.

The California Integrated Waste Management Board sponsors the award as part of its Waste Reduction Awards Program. Awards are given for outstanding achievement in on-site recycling, materials reuse and diversion, and waste prevention.

In fact, one of only 10 businesses statewide to receive the award, the Honda facility was able to increase its waste diversion by 33 percent over the five year period. Honda kept 2,115 tons of materials out of landfills in 2004. This was accomplished by a 17 percent increase since 2003 in recycled office material (2.2 million pounds), a 63 percent increase in recycled metal since 2002 at Torrance, and an expansion of the recycling program to include shredded and other office equipment and supplies daily for donation to various nonprofit organizations.

Office Waste Recycling — U.S. Headquarters*

*TORRANCE, CALIF.
Honda Awarded Gold-Level Certification from U.S. Green Building Council

American Honda’s Northwest Regional Center, in Gresham, Oregon, was the first mixed-use industrial building in the country to earn the U.S. Green Building Council’s Gold LEED-NC (Leadership in Energy and Environmental Design) Certification for a new building. The building earned certification for its innovative use of natural resources to reduce its impact on the environment. These include: rainwater harvesting and passive heating, and air conditioning (HVAC) that uses winds from the nearby Columbia River Gorge. Honda also recycled 99.8 percent of the construction waste. Designed to be 42 percent more energy-efficient than Oregon’s Energy Code requires, the building sits on an east-west axis to reduce cooling requirements caused by solar heating. The building has sensor-controlled lighting and HVAC that turns off when people are not present. It also uses heavy insulation in warehouse areas, in-floor radiant heating, and low-energy fluorescent lighting. The design uses 30 percent less water inside the building and 57 percent less water for irrigation than a conventionally built facility. These reductions are achieved through efficient bathroom fixtures that use infrared sensors and rainwater collected in a 90,000-gallon underground storage tank. Recycled and recyclable material is used throughout. Chair seats are made from recycled seatbelts; conference table tops from crushed sunflower seeds in a resin base; flooring from recycled automobile tires; wallpaper from recycled telephone books. The building uses recycled steel extensively. Most fabrics are 100 percent recycled, recyclable, and biodegradable. Suppliers were selected for their active commitment to sustainability, both in their products and in their manufacturing processes.

Corporate Facilities Energy Conservation

The campus of the corporate headquarters of American Honda Motor Co. in Torrance, California, is an example of Honda’s active efforts to reduce purchased electricity in its office buildings. The central element of the Torrance effort is a 1.2-megawatt co-generation unit that when fully operational at the end of 2005 will produce enough heat for an adsorption chiller to produce 250 tons of cooling. Other innovative efforts are also resulting in significant energy efficiency improvements at the site. These include the connection of most heating, ventilating and air conditioning equipment to the building’s energy management system (EMS). Automating these systems allows the building to run chillers at their highest energy efficiency, which is only 70 percent to 80 percent of their maximum load. Techniques also involve adjusting the building cool-down hours; adjusting chilled water temperature from 40 to 43 degrees; converting computer monitors to more efficient flat screens; adding high/low dimming to high-bay lighting systems; connecting exterior lighting to the EMS system and setting it to change at sunrise and sunset; converting to more energy efficient T5/T8 light fixtures with motion sensors; decreasing temperatures in electric hot water heaters; and charging forklift batteries during off-peak hours.

**ENERGY-USE REDUCTIONS — U.S. HEADQUARTERS**

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*TORRANCE, CALIF.*

Installation of co-generation has resulted in a continuous reduction in purchased electricity at Honda’s Torrance, California, campus since the fiscal year that ended March 31, 2001. The 2.5 percent increase in fiscal year 2005 was the result of an increase in square footage.
Packaging Reductions for Products and Service Parts

Since 2001, Honda and its dealers in North America have significantly reduced their use of packaging materials in the shipment of parts and products.

Started as a pilot program with the launch of Honda’s first personal watercraft (PWC), the Honda Returnable Crate System was intended to reuse packaging that would otherwise go to a landfill.

The program rapidly grew to include large segments of Honda’s U.S.-built all-terrain vehicles (ATV) and motorcycle products in 2002. In FY2005, more than 107,000 ATV, motorcycle and personal watercraft crates were returned and reused. This resulted in the prevention of 15.6 million pounds of packaging waste being sent to landfills.

For exported parts, parts packaging initiatives from FY2002 to FY2005 include a 28 percent reduction in the use of volatile corrosion inhibitor (VCI), a 15 percent reduction in corrugated material, a 64 percent reduction in steel, a 23 percent reduction in poly-foam, and a 15 percent reduction in wood. In addition, Honda has also reduced the use of protective oils on exported parts subject to surface rust by 92 percent.

By using more returnable containers for parts manufactured in North America and exported around the world, Honda has reduced the use of expendable packaging by about 21 percent.

Honda parts centers have replaced 75 percent of wood shipping crates with folding metal crates. The metal crates require far fewer repairs, and they eliminate the need for shrink-wrap and cardboard. Use of bumper crates at these centers was reduced by 75 percent. The goal is 100 percent replacement.

In addition, American Honda Motor Co. delivers more than 50 percent of service replacement parts to dealers in reusable steel roll-on/roll-off cages and recyclable multiple-use plastic totes through its Dedicated Delivery Service (DDS). DDS also allows Honda and its contract carriers to maximize use of trailer space and efficiently schedule dealer deliveries, often in off-peak evening and early morning hours. This can result in a significant fuel savings in major metropolitan areas.

Since fiscal year 2004, Honda has reduced the corrugated material sent to landfills by more than 41 million pounds. Honda now uses returnable plastic containers for all remanufactured automatic transmissions and transmission core shipments and returns.
Green Purchasing for Manufacturing Operations

Honda manufacturing operations in North America are working with suppliers to encourage them to minimize environmental impact.

Honda is encouraging suppliers to take a “green factory” approach to their operations by adhering to ISO 14001, by minimizing expendable packaging, and by adopting other green, energy-efficient techniques.

In 1998, Honda required 42 key original equipment manufacturer (OEM) suppliers of both Honda of America Mfg. and Honda Canada Mfg. to implement an environmental management system and obtain third-party certification of that system to the ISO 14001 standard. Forty-one of these suppliers, or 98 percent, are currently certified. In 2005, this requirement was extended to additional key OEM suppliers that support Honda Manufacturing of Alabama.

In 1998, Honda also encouraged all other OEM suppliers to strive to obtain ISO 14001 certification. To date, 50 percent of Honda’s OEM suppliers have been certified. Honda works closely with key suppliers to promote a program called “Lean, Green, and Safe” manufacturing. Through the program, an annual environmental conference is conducted to help provide information to suppliers about opportunities to improve environmental compliance and performance. Honda is expanding this effort in North America to include on-site evaluations and support. It will also promote improved benchmarking and activity sharing among suppliers.

Honda also annually honors a supplier with a Green Partner Award to recognize and promote good environmental stewardship among Honda’s first-tier suppliers in North America.

Parts Supplier Returnable Packaging

One significant area of waste generation in manufacturing operations is expendable packaging used to ship parts to the manufacturing facilities. A formal program aimed at reducing expendable packaging materials began in 2001. Although Honda’s manufacturing operations were already collecting and recycling much of the waste from expendable packaging, the replacement of expendable packaging with returnable containers further reduced overall waste generation.

As of early 2005, several Honda facilities had significantly reduced incoming parts packaging material. The numbers reflect the percentage of parts supplied in returnable containers, excluding certain parts supplied from Japan and other Asian countries.
Environmental Community Activities

Honda considers working to help make the world a better place as important as offering customers excellent products and services. This philosophy is incorporated in the actions of Honda associates and in corporate policies that set the standard for Honda business activities. Honda tries to make business decisions that benefit society by listening to and valuing input from Honda associates and members of the community at large.

Honda measures the success of its efforts to be a good corporate citizen by the quality of its long-term relationships with people, including customers and the communities where it operates. Ultimately, through the way Honda conducts its business, it is the company’s goal that society will want Honda to continue to exist. This objective has a profound impact on the way Honda operates.
Environmentally-Responsible Land Management

Honda’s North American manufacturing facilities encompass more than 12,000 acres of land. As stewards of this land, Honda is committed to practices that protect and enhance the land in a manner compatible with manufacturing operations, farmland management, and environmental conservation.

The site of Honda’s Marysville and East Liberty, Ohio, auto and motorcycle manufacturing plants is near the headwaters of Big Darby Creek, a state and national scenic river and one of the Nature Conservancy’s Last Great Places. It is home to more than 100 species of fish and 40 species of freshwater mussels.

More than 35 percent of this site remains in active agricultural use through a system of leases. Various crops are grown on the land, including about 150 acres of organic produce. Best practices in farmland management are used, including conservation-tillage and no-tillage techniques, waterway buffer zones, grassy drainage areas, and minimal use of agricultural chemicals. Crop rotations include organic soybeans that are exported to Japan.

Wetland conservation and restoration are a top priority for the site, which includes more than 43 acres of wetlands. As part of the East Liberty Auto Plant’s original development, and in keeping with state and federal rules, a 20-acre wetlands area was preserved and then enhanced by the restoration of 12 acres that had been lost before Honda acquired the property. The area provides a unique ecosystem for a multitude of wetlands flora and fauna, and it serves as a rainfall runoff buffer to protect the headwater tributaries of the Big Darby Creek.

To help support the Big Darby Creek, Honda has maintained a partnership with the Nature Conservancy’s Ohio chapter for more than 10 years. Honda has provided grants for various support activities, including land acquisition in the headwaters, water-quality monitoring, research, and volunteer watershed protection programs.

To further protect the Big Darby Creek, the Honda plants have implemented a comprehensive stormwater management program. A 300-foot-wide buffer zone spanning the Flat Branch Creek, a small Big Darby tributary draining the site, has been created. In the past two years, 6,000 feet of loose stone material has been added to on-site retention ponds to prevent bank erosion and more than 50 acres of under-vegetated areas have been seeded.

Forestation in Canada

In Canada, Honda associates at the auto plant near Alliston, Ontario, have worked to create a band of green forest around that site. The project began in 2002. Since that time, 45,000 tree seedlings have been planted on more than 200 acres around the plant site. The green buffer will be completed in 2006. Since 2000, Honda of Canada associates have also volunteered time to enhance Spring Creek, a stream on the east side of the manufacturing facility. Spring Creek has been recognized by the local Conservation Authority as a significant coldwater stream. It is home to several environmentally-sensitive species, including brook trout. Honda of Canada has also helped establish a walking trail with trail markers.
Environmental Corporate Citizenship Programs

Honda provides philanthropic support to community-based activities in North America through several Honda foundations, direct corporate giving, and individual Honda associates who work as community volunteers. A significant portion of this support focuses on environmental activities. Among these programs are the following initiatives.

Promoting the Health of the Hudson River
Honda has donated outboard engines to the “floating classroom” of the River Project, a private marine monitoring station on the Hudson River in New York. River Project lets students become directly involved in the protection of a significant urban wildlife habitat.

Honda Outboard Engines Benefit Riverkeeper Projects
Honda supports several Riverkeeper projects by donating fuel-efficient low-emission Honda outboard engines. These projects remove debris, report polluters, and monitor river water quality.

Sponsoring Student Ecology Education in South Carolina
Honda’s major grant to the Savannah River Ecology Laboratory in South Carolina supplements the fourth- and fifth-grade science curriculum with hands-on activities that highlight research by local scientists.

Wildlife Encounters in Ohio
Honda supports Wildlife Encounters, a day camp in central Ohio that focuses on making youth aware of wildlife conservation, biological principles, and the rehabilitation of species negatively impacted by humans.

Wetlands Education in Ohio
The 1,000-acre Glacier Ridge Metro Park near Dublin, Ohio, houses a solar education center and a 180-acre wetland education center. Honda’s sponsorship assisted in the construction of the wetlands education center.
Renewing Rivers in Alabama
Since 2001, Honda has teamed up with a local organization to clean up Lake Logan Martin near Lincoln, Alabama. Each year, Honda associates and local volunteers spend two days cleaning debris from the lake’s shoreline. In March 2005, the clean up effort netted more than 15 tons of trash.

Supporting Earth Rangers in Canada
Honda sponsors the Earth Rangers, an in-school program in Canada that encourages students to learn how their actions affect the environment. Honda also provides a resource kit for educators.

Supporting Pacific Marine Conservation
In 1998, Honda became a founding sponsor of the Aquarium of the Pacific in Long Beach, California, a world-class venue for aquarium education, entertainment and environmentalism. Honda also funds important marine conservation, aquarium education, and community outreach programs.

Student Environmental Education in Illinois
An educational grant from Honda helps Illinois educators who teach nearly 40,000 students about recyclable materials, renewable and nonrenewable natural resources, energy, natural habitats, climate change, and groundwater and watershed protection.

Environmental Education in Washington, D.C., Schools
As a partner of the Living Classrooms Foundation, Honda helps that organization provide unique environmental educational opportunities for at-risk youth.

Helping Restore the Mississippi River
Honda actively supports the Mississippi River Beautification and Restoration Project. The company is helping to clean up the Mississippi River by contributing necessary equipment including generators, engines and parts.

Helping Clean California Coasts
Each year, Honda associates and other volunteers take part in California Coastal Clean Up Day, an event designed to preserve the California coastline and marine environment. Since 1985, almost 8.5 million pounds of debris have been removed from more than 400 sites.

Preserving the Madrona Marsh in California
Honda associates annually volunteer their time and services in Torrance, California, which has the last vernal wetland in the Los Angeles basin. Honda associates and their families are helping with the preservation and restoration of the natural habitat, land and water systems of the Madrona Marsh Preserve.
Commitment to Safety

Honda’s Commitment for the Future (see page 4) includes advancing motor vehicle safety beyond what is required by government regulations. Importantly, Honda is demonstrating that it is possible to offer products that advance both environmental and safety performance.

Safety for Everyone

Honda’s commitment to safety is based on a unique approach Honda calls Safety for Everyone. Honda is enhancing occupant protection in all Honda and Acura cars and trucks — regardless of size or price — as well as promoting increased compatibility with other vehicles and improved pedestrian safety.

Honda’s commitment extends well beyond current technology. Honda studies real-world situations to develop new safety technologies that advance safety for everyone.

Airbag Designs

Independent Honda research has led to advances such as driver and front passenger air bags that can adjust their deployment force to the severity of the crash. Honda also introduced the first system that can sense when a child or a small-stature adult in the front passenger seat is not in the proper position and stop deployment of the side air bag. By the end of 2006, nearly every seat row of Honda and Acura vehicles will have side-curtain air bags* designed to help protect the head and neck and cover the side windows in any severe side-impact collision.

Enhancing Vehicle Stability

Honda has added a safety feature called Vehicle Stability Assist® (VSA), which enhances handling stability. It will be standard equipment on all new light truck models and many passenger car models by the end of 2006.

Pedestrian Protection

As part of Honda’s Safety for Everyone commitment, the company is helping to protect pedestrians in the event of an accident. Because of Honda’s pioneering research, more than 4 million Honda and Acura vehicles on the road today feature technologies designed to reduce injuries to pedestrians in the event of an accident.

Collision Compatibility Leadership

Honda is introducing its groundbreaking Advanced Compatibility Engineering™ (ACE) body design that greatly reduces the potential of a mismatch in a frontal collision between vehicles of different sizes. The ACE structure is being added to all Honda and Acura models as vehicle platforms are redesigned.

*Not all features are available on limited-volume specialty vehicles, which include the Honda Insight, and Honda S2000.
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