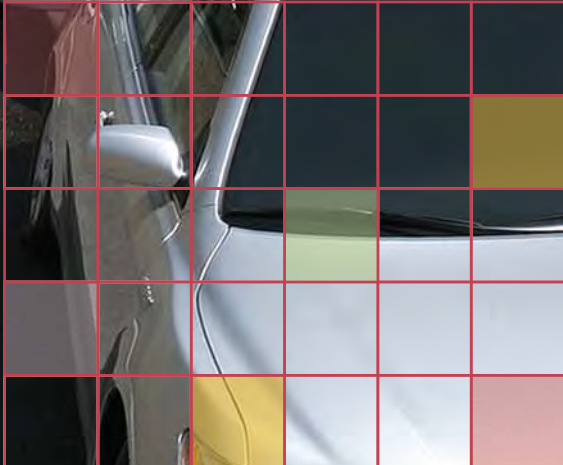
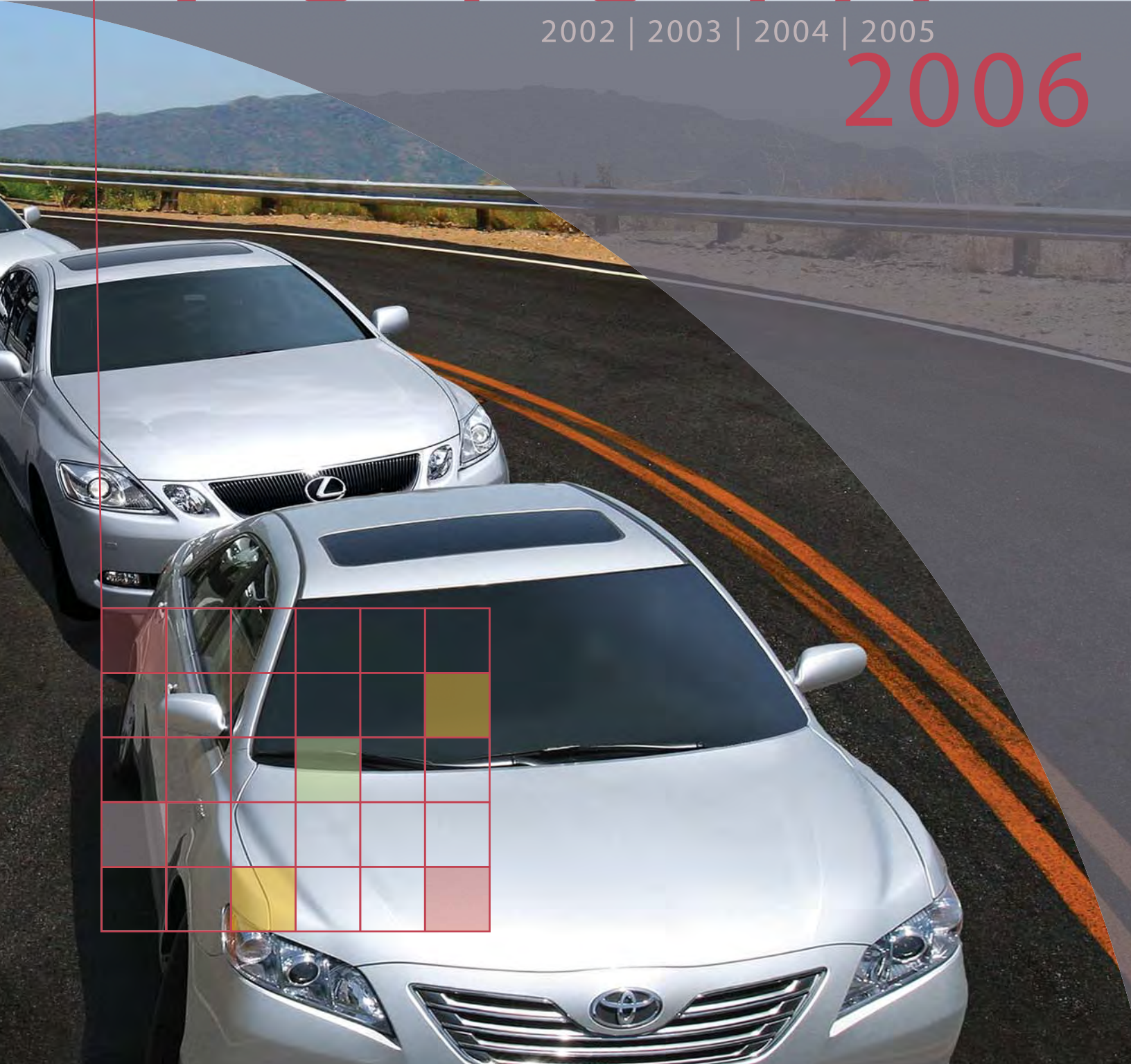
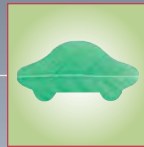


# TOYOTA

2002 | 2003 | 2004 | 2005

2006





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### SCOPE OF THIS REPORT

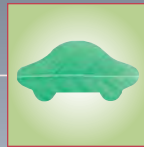
The period covered in this North American Environmental Report is fiscal year 2006 (April 1, 2005 through March 31, 2006) and product model year 2006. We also report on the five-year period beginning April 1, 2001. If data are presented with different dates, this is clearly indicated. This report was published in November 2006.

This report discusses the environmental aspects of our products and processes, outlines environmental action plans to address them, and includes progress updates against those plans. We have structured this report to correspond to the life cycle of our business, from design through manufacture, and sales and distribution to end-of-life management. We also provide information on how we engage with various stakeholders, internal and external to Toyota, on environmental issues, and on our company's overall economic investment in North America. The report covers activities across the North American region — the United States, Canada and Mexico. Please see the back cover of this report for our country Web sites and contact information.

This report is published in hard copy and on the Web in English (using United States spelling). French and Spanish versions are provided on the Web only. We listened to your comments and suggestions about last year's report, and used them to improve this report. We would appreciate hearing from you again. A reader feedback form is provided on the Web.

**Front and Back Cover:** Shown here from front to back is our hybrid fleet: Toyota Camry Hybrid, Lexus GS 450h, Toyota Highlander Hybrid and Lexus RX 400h, followed by a second generation Prius and a first generation Prius.

**Inside Front Cover:** The 2007 Camry Hybrid, North America's best-selling vehicle, joins Toyota's hybrid product line. As hybrid technology becomes increasingly mainstream, our expanding hybrid offerings aim to satisfy the growing diversity of customer needs. Hybrid vehicles represent a key element of our strategy to reduce the overall environmental footprint of our products.



# DEAR READER

**WE ARE PLEASED TO PRESENT** our sixth annual environmental report for Toyota North America. In several respects, this report represents a milestone. We report as usual on our performance in the past year. However, we also announce the successful completion of our First Consolidated Five-Year North American Environmental Action Plan (2002-2006); and we publish for the first time our Second Consolidated Five-Year Environmental Action Plan (2007-2011), in a special section at the back of this report.

This report has given us an opportunity to reflect. Five years ago, Toyota was the first automobile company to launch a commercially viable hybrid car, the Prius. This year, we launched our fifth hybrid vehicle, the Camry Hybrid, assembled in Georgetown, Kentucky. With the Camry, hybrid technology has moved out of the domain of “early adopters” and is now available in North America’s most popular midsize car. We are gratified that market take-up has been strongest here in North America, where we have sold more hybrid vehicles than in the rest of the world combined.

Toyota’s First Consolidated North American Environmental Action Plan was the foundation for environmental management in all areas of Toyota’s business activities in the region, including products, manufacturing, sales and logistics, recycling end-of-life vehicles, and cooperation with society. Here are some highlights from the past year and the past five years:

In design, we achieved one of our major targets, to introduce additional new hybrid electric vehicles by 2005. Since the North American introduction of the Toyota Prius in 2000, we have steadily increased our hybrid product offering to include Highlander Hybrid,

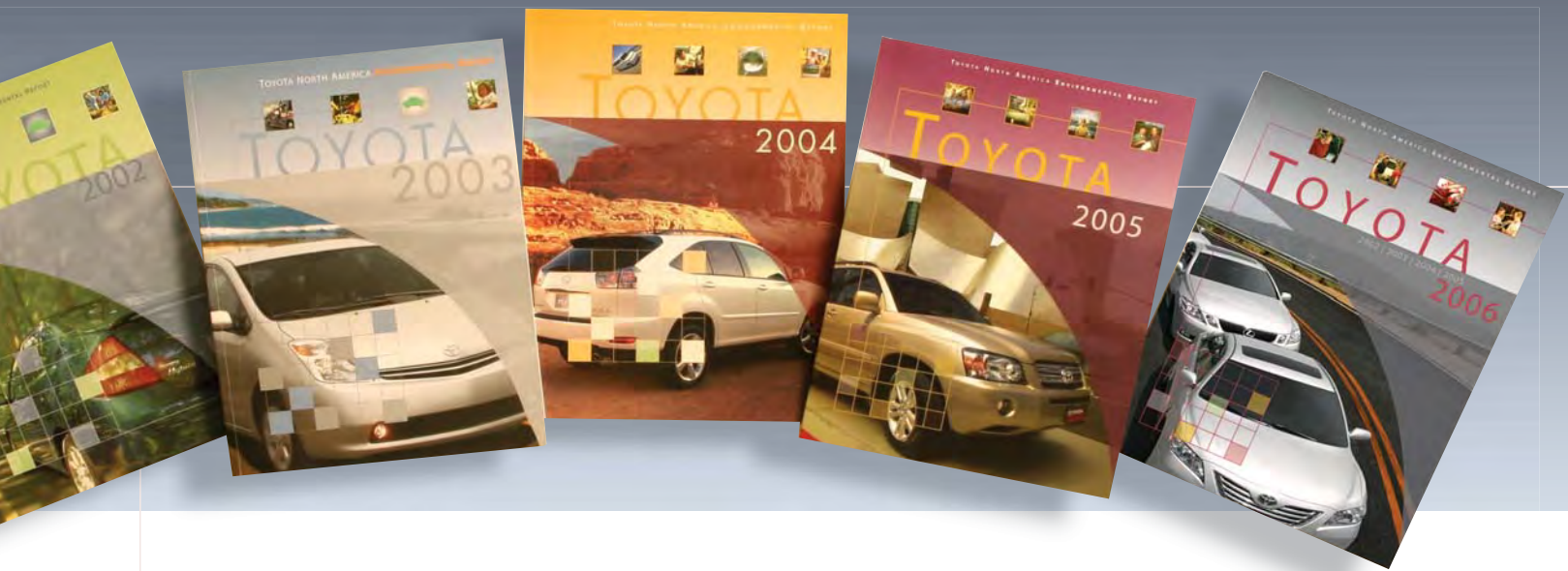
Camry Hybrid, Lexus RX 400h and GS 450h. We also achieved our target to exceed regulatory fuel-efficiency requirements for passenger cars and light-duty trucks.

In manufacturing, 2006 marked the completion of our second five-year environmental action plan. We reduced emissions of volatile organic compounds (VOCs) by 56% from 1998 levels. We also reduced energy use by 30% since 2000, twice the amount required by our 2006 action plan. Our land disposal of nonhazardous waste in North America as a whole has declined by 96% since 1999, resulting in the achievement of zero landfill (defined as a 95% or greater reduction from 1999 levels).

In sales and distribution, the culmination of our five-year efforts to reduce waste was to turn our division-specific efforts into a corporate program. We also extended our efforts to reduce waste and energy use to our construction and renovation projects. In the U.S., we have two buildings certified by the U.S. Green Building Council as Gold LEED® — the South Campus of our corporate headquarters in southern California, and our vehicle distribution center in Portland, Oregon.

Toyota’s Recycle Vision lays out long-term goals for designing vehicles with a 95% recovery rate. We are working toward achieving this recovery rate and continue to do so through commitments made in our new Five-Year Action Plan.

Finally, we report on commitments to environmental education and to working with stakeholders to address the important environmental issues of our times. Stakeholder engagement will remain a vital element of environmental management as we move into our new Five-Year Action Plan.



*Yukitoshi Funo*

**Yukitoshi Funo**  
 Chairman and Chief Operating Officer  
 Toyota Motor North America, Inc.  
 Toyota Motor Sales, U.S.A., Inc.



*James E. Press*

**James E. Press**  
 President  
 Toyota Motor North America, Inc.



*James E. Lentz*

**James E. Lentz**  
 Executive Vice President  
 Toyota Motor Sales, U.S.A., Inc.



*Seiichi Sudo*

**Seiichi Sudo**  
 President and Chief Operating Officer  
 Toyota Motor Engineering & Manufacturing  
 North America, Inc.



*Yasuhiko Ichihashi*

**Yasuhiko Ichihashi**  
 President  
 Toyota Technical Center  
 Executive Vice President  
 Toyota Motor Engineering & Manufacturing  
 North America, Inc.



*Gary Convis*

**Gary Convis**  
 Executive Vice President  
 Toyota Motor Engineering & Manufacturing  
 North America, Inc.



*Ray Tanguay*

**Ray Tanguay**  
 Executive Vice President  
 Toyota Motor Engineering & Manufacturing  
 North America, Inc.



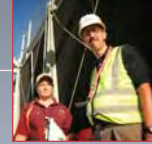
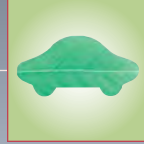
*Kenji Tomikawa*

**Kenji Tomikawa**  
 President and Chief Executive Officer  
 Toyota Canada Inc.

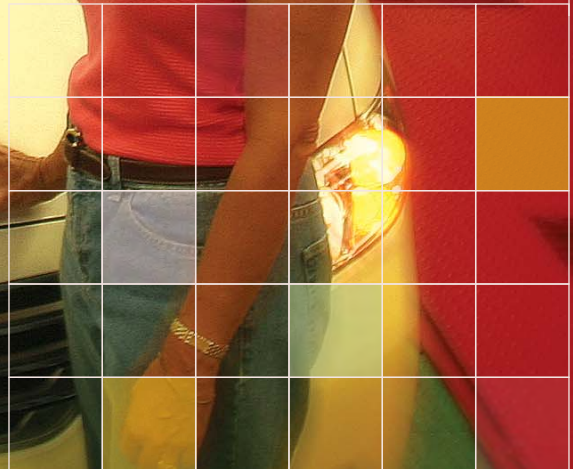


*Stephen Beatty*

**Stephen Beatty**  
 Managing Director  
 Toyota Canada Inc.



# MANAGEMENT

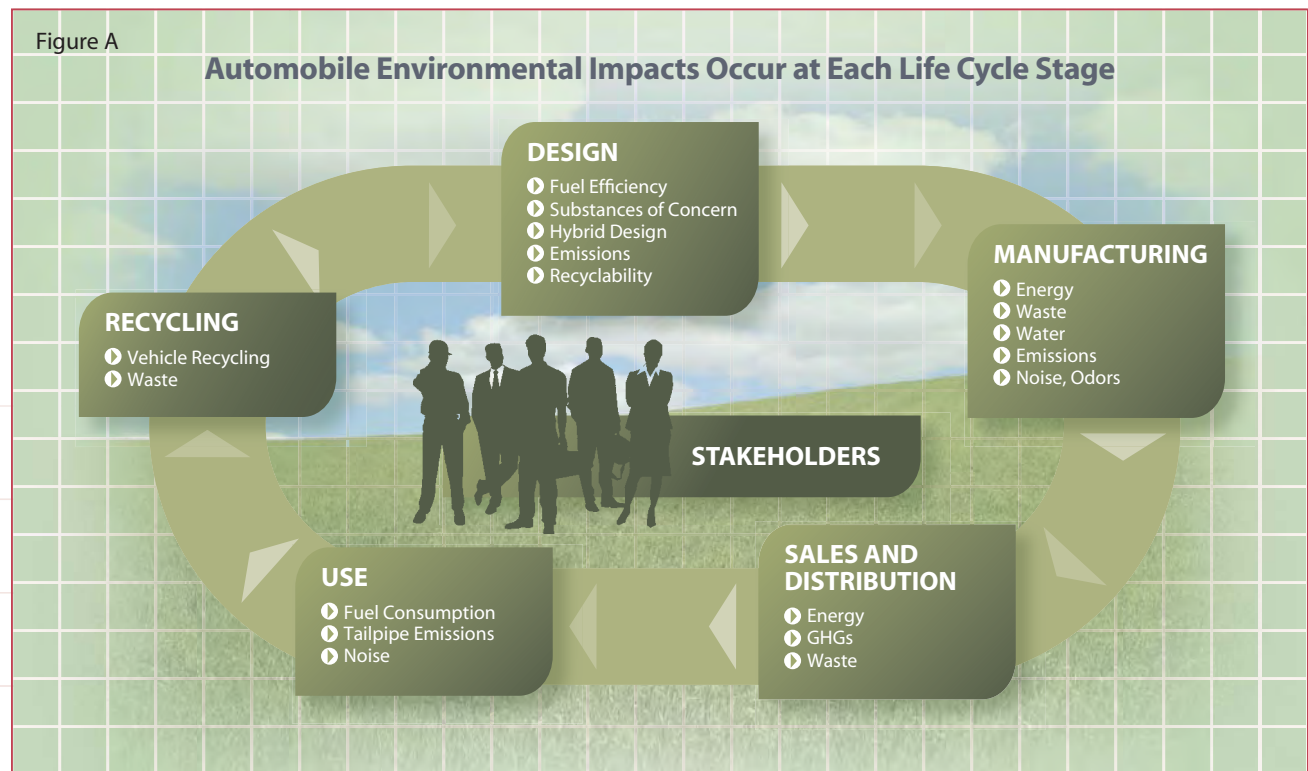


**“In just five years, Toyota brought advanced hybrid automotive technology to market and made it available to mainstream North American buyers.”**

**— Jim Press, President,  
Toyota Motor North America, Inc.**

THE SIX CARS ON THE COVER SPREAD of this report represent what can be fairly described as a revolution in the history of the automobile and in the development of automobile environmental technology — all in the last five years. Up front is the Camry Hybrid; behind it are the Lexus GS 450h, the Toyota Highlander Hybrid, the Lexus RX 400h, the second generation Prius, launched in North America in 2003, and the first generation Prius launched in 2000.

The launch of the Camry Hybrid this year is noteworthy. The Camry has been the best-selling car in America four years running. Providing a hybrid option represents the application of our advanced environmental engineering into North America’s quintessential family sedan. In addition to the Camry Hybrid’s list of standard features, it has an EPA-estimated fuel economy rating of 43 mpg city/37 mpg highway, and is equipped with an “ECO” button that limits energy consumption by the heating, ventilation, and air conditioning (HVAC) system and under certain conditions can help improve fuel



**Left:** Implementation of our Consolidated Five-Year Environmental Action Plan has resulted in emissions reductions at our facilities across North America. We are now applying our manufacturing excellence to the assembly of one of our newest low emissions vehicles, the Camry Hybrid. Standing with the Camry Hybrid as it comes off the assembly line at our plant in Georgetown, Kentucky, are team members Kerry Creech, Manager and Project Lead for the Camry Hybrid, and Dawn Wilson, Assistant Manager of Environmental Engineering, who oversees the plant’s environmental action plan.

Figure B

**TOYOTA'S GUIDING PRINCIPLES**

Adopted January 1992, revised April 1997

1. Honor the language and spirit of the law of every nation and undertake open and fair corporate activities to be a good corporate citizen around the world.
2. Respect the culture and customs of every nation and contribute to economic and social development through corporate activities in local communities.
3. Dedicate ourselves to providing clean and safe products and to enhancing the quality of life everywhere through our activities.
4. Create and develop advanced technologies and provide outstanding products and services that fulfill the needs of customers worldwide.
5. Foster a corporate culture that enhances individual creativity and teamwork value, while honoring mutual trust and respect between labor and management.
6. Pursue growth in harmony with the global community through innovative management.
7. Work with business partners in research and creation to achieve stable, long-term growth and mutual benefits, while keeping ourselves open to new partnerships.

**TOYOTA'S EARTH CHARTER (APRIL 2000)**

The Toyota Earth Charter, published in 1992 and updated in 2000, describes Toyota's Basic Action Policy and Action Guidelines regarding environmental improvements.

**I. Basic Policy**

- 1. Contribute toward a prosperous 21st century society**  
Aim for growth that is in harmony with the environment, and set a challenge to achieve zero emissions throughout all areas of business activities.
- 2. Pursue environmental technologies**  
Pursue all possible environmental technologies, developing and establishing new technologies to enable the environment and economy to coexist.
- 3. Take action voluntarily**  
Develop a voluntary improvement plan based on thorough preventive measures and compliance with laws, that addresses environmental issues on global, national and regional scales, while promoting continuous implementation.
- 4. Work in cooperation with society**  
Build close and cooperative relationships with a wide spectrum of individuals and organizations involved in environmental preservation, including governments, local municipalities and related companies and industries.

**II. Action Guidelines**

- 1. Always be concerned about the environment**  
Work toward achieving zero emissions at all stages, i.e., production, utilization and disposal;  
Develop and provide products with top-level environmental performance;  
Pursue production activities that do not generate waste;  
Implement thorough preventive measures;  
Promote businesses that contribute toward environmental improvement.
- 2. Business partners are partners in creating a better environment**  
Cooperate with associated companies.
- 3. As a member of society**  
Actively participate in social actions;  
Participate in creation of a recycling-based society;  
Support government environmental policies;  
Contribute to nonprofit activities.
- 4. Toward better understanding**  
Actively disclose information and promote environmental awareness.

economy. Secondly, this vehicle is now assembled here in North America at our Georgetown, Kentucky, facility — a clear indication of the importance of the North American marketplace to Toyota. We plan to sell over 45,000 Camry Hybrids a year.

The success of these vehicles could not have been imagined five years ago. Three years ago the Prius was still treated as a product for environmentalists and “early adopters” of new technology. Today our hybrids are a mainstream vehicle choice. Cumulative North American hybrid sales were over 400,000 by the end of May 2006. This is an amazing story particularly in the automobile industry, which is typically considered to lack innovation.

This 2006 Report is a major report for Toyota in North America. As we have done in previous reports, we describe the environmental performance of Toyota, Lexus and Scion in North America, over the life cycle stages of automobile design, production, distribution, sales and use (please see Figure A on page 5). Chapters in this report are arranged to correspond to this life cycle. At the center of everything we do are our various stakeholders, including our employees and customers,

business partners, shareholders, governmental agencies, local communities and environmental groups. These are the focus of the Engaging Stakeholders chapter.

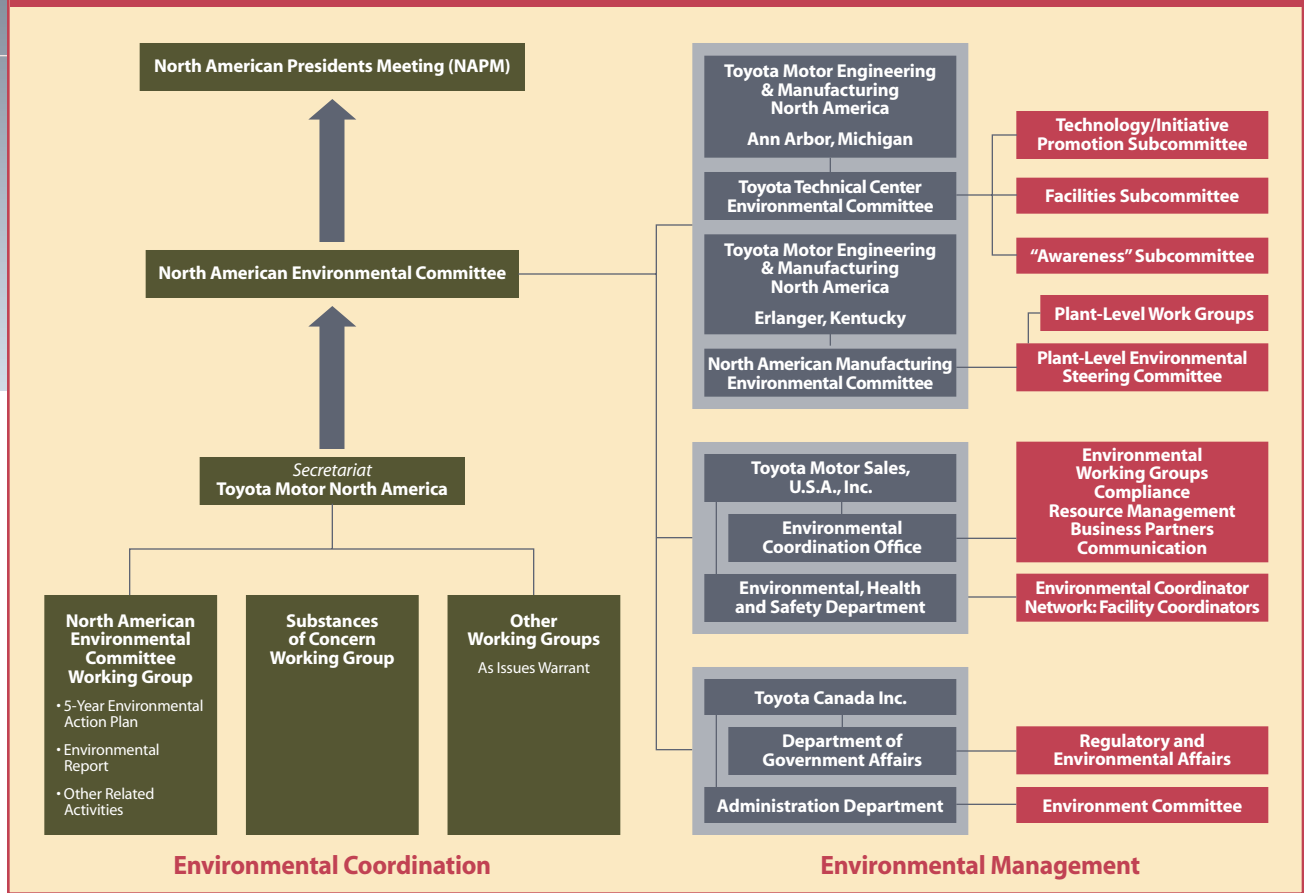
This report differs from past annual environmental reports in that it closes our First Five-Year Environmental Action Plan (2002-2006) and presents our new Action Plan (2007-2011). The Environmental Action Plan, normally reported as an annual plan, is here presented as a five-year plan. We show how we have performed against commitments and targets made five years ago. In each section, we present both an overview of achievements over the five-year and last-year (April 2005 – March 2006) timeframes.

Also in this report, we present our new Five-Year Environmental Action Plan. Starting in 2007, we will report against this plan, annually for five years.

We start this chapter by outlining the corporate principles that dictate how we conduct our business, the steps we are taking to reduce our environmental impact, and the processes we have in place to manage our progress.



Figure C ENVIRONMENTAL COORDINATION AND MANAGEMENT IN NORTH AMERICA



## GUIDING PRINCIPLES AND EARTH CHARTER

Toyota’s seven Guiding Principles serve as the fundamental management policy for all our operations. The principles reflect Toyota’s commitment to providing clean, safe and innovative products, while respecting the environment and culture of the local communities in which we operate. The Guiding Principles form a foundation for Toyota’s Earth Charter, adopted in April 2000 (please see Figure B). The Earth Charter describes our basic policy and action guidelines regarding concern for the environment and cooperation with society.

## ENVIRONMENTAL COORDINATION AND MANAGEMENT


To help us implement our Guiding Principles and the Earth Charter, each of Toyota’s North American affiliates has established an individual environmental governance and management structure (please see Figure C). In addition to that structure, the North American Environmental Committee (NAEC) and its associated working groups serve to establish strategy and policy to meet the environmental challenges facing North America, and generally to coordinate Toyota’s environmental activities in North America. Specifically, the NAEC oversees development of the Consolidated Five-Year North American Environmental Action Plan and the publishing of this report. The committee comprises the Chief Environmental Officer from each North American affiliate, as well as key executive coordinators from Toyota Motor Corporation in Japan. The committee’s working group comprises environmental representatives from each North American affiliate.

Figure D **CONSOLIDATED SUMMARY OF NORTH AMERICAN FIVE-YEAR ACTION PLAN**

FY2006 Action Plan Goal <sup>1</sup>	Targets	Status <sup>2</sup> ● Achieved ⊗ Missed	Page
<b>Life Cycle Stage I: Development and Design</b>			
<b>Clean Energy Vehicles</b>	<b>Target:</b> Introduce additional new hybrid electric vehicles by 2005	●	p. 17
<b>Goal:</b> Introduce cleaner energy vehicles	<b>Target:</b> Demonstrate fuel-cell technology by evaluating prototype beginning in 2001 <b>Target:</b> Apply real world knowledge from current FCHV fleet to second generation FCHV	● ●	p. 18 p. 18
<b>Fuel Efficiency</b>	<b>Target:</b> Exceed CAFE/CAFC requirements for passenger cars and light-duty trucks	●	p. 20
<b>Goal:</b> Achieve top levels of fuel efficiency in all vehicle classes			
<b>Emissions Reductions</b>	<b>Target:</b> Meet Tier 2 and LEV II emissions requirements for new vehicles	●	p. 22
<b>Goal:</b> Promote emissions reductions			
<b>Life Cycle Stage II: Manufacturing</b>			
<b>Energy Use and CO<sub>2</sub> Emissions</b>	<b>Target:</b> Reduce energy usage per unit of production by 15% from a base year of 2000, resulting in a 15% decrease in CO <sub>2</sub> emissions	●	p. 26
<b>Goal:</b> Implement aggressive plans to reduce energy consumption			
<b>Substances of Concern</b>	<b>Target:</b> Reduce body-painting emissions of VOCs to less than 30 g/m <sup>2</sup> for all paint shops	●	p. 27
<b>Goal:</b> Develop extensive reduction strategies to minimize emissions of concern	<b>New Target:</b> Reduce body-painting emissions of VOCs to 20 g/m <sup>2</sup> for all paint shops	●	p. 27
	<b>Target:</b> Reduce toxic chemicals emitted to air by vehicle assembly plants to 1.0 kg/vehicle	●	p. 27
	<b>New Target:</b> Reduce toxic chemicals emitted to air by vehicle assembly plants to 0.7 kg/vehicle <b>Target:</b> Continue R&D activities aimed at eliminating all VOCs and toxic chemicals from coolants and cutting oils used in unit plants	●	p. 27
<b>Waste Disposal</b>	<b>Target:</b> Reduce hazardous waste disposal to landfills by 95%	●	p. 28
<b>Goal:</b> Reduce waste and promote resource conservation activities	<b>Target:</b> Reduce landfill of all production waste to 10 kg/vehicle from a base year of 1999	●	p. 28
	<b>New Target:</b> Reduce landfill of all production waste to 7 kg/vehicle from a base year of 1999	●	p. 28
<b>Water Use</b>	<b>Target:</b> Reduce total water usage per unit of production by 15% from a base year of 2000	●	p. 29
<b>Goal:</b> Implement aggressive plans to reduce water consumption			
	<b>Environmental Management Systems</b>	<b>Target:</b> Certify/register key suppliers to ISO 14001 by December 2003 <b>Target:</b> Comply with Chemical Ban List/Environmental Data Sheet	⊗ ●
<b>Goal:</b> Implement Green Supplier Guidelines	<b>Target:</b> Develop procedures that ensure compliance with hazardous materials/dangerous goods transportation guidelines	●	p. 30

**PRIUS NAMED OFFICIAL CAR OF UN WORLD ENVIRONMENT DAY 2005**

Prius was named the official car and Toyota the exclusive automotive sponsor of United Nations World Environment Day in 2005. World Environment Day was held in San Francisco — the first time the event has been held in the United States. During the five-day event, mayors from around the globe met to create a plan for a sustainable urban future, culminating in the signing of the Urban Environmental Accords. Shown below is one of the 20 Prius that shuttled mayors to and from events at the conference.



**OUR ENVIRONMENTAL ACTION PLANNING PROCESS**

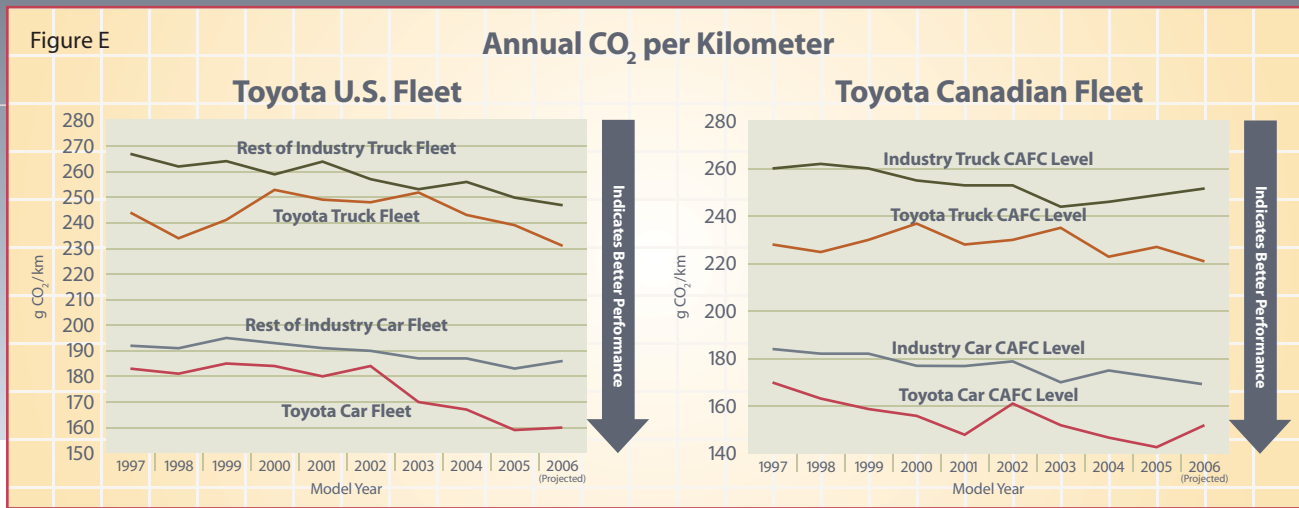
The Toyota Five-Year North American Environmental Action Plan is a long-term plan that summarizes our environmental goals and targets. Five-year goals and targets are designed to help us achieve Toyota’s higher-level environmental mission and vision as expressed in the Earth Charter and Guiding Principles. Our Action Plan is implemented at the affiliate level: Our five-year goals are translated into annual Affiliate Environmental Action Plans, each with its own supporting goals and targets.

**CONSOLIDATED SUMMARY OF NORTH AMERICAN FIVE-YEAR ACTION PLAN** continued

FY2006 Action Plan Goal <sup>1</sup>	Targets	Status <sup>2</sup> ● Achieved ⊗ Missed	Page
<b>Life Cycle Stage III: Sales, Distribution and Service</b>			
<b>Environmental Management Systems</b>	<b>Target:</b> Achieve ISO 14001 certification/registration at all parts and vehicle distribution centers by FY2005 in the U.S., and by FY2003 in Canada	●	p. 36
<b>Goal:</b> Establish an Environmental Management System			
<b>Waste</b>	<b>Target:</b> Implement a nationwide waste tracking program (U.S.) <b>Target:</b> Reduce waste from sales and distribution operations <b>Target:</b> Implement a returnable-packaging program at parts distribution centers <b>Target:</b> Increase returnable-packaging and direct shipment programs to vehicle distribution centers	●	p. 36
<b>Goal:</b> Reduce waste and conserve resources		●	p. 36
		●	p. 36
<b>Hazardous Materials</b>	<b>Target:</b> Maintain 100% compliance with all applicable HAZMAT/dangerous goods regulations	●	p. 38
<b>Goal:</b> Promote excellence in handling and transporting hazardous materials			
<b>Dealers</b>	<b>Target:</b> Launch the Environmental Assistance Network online <b>Target:</b> Enhance features of the Environmental Assistance Network (U.S. only) <b>Target:</b> Introduce Toyota Environmental Guidelines to the Toyota Canadian dealer network by 2004	●	p. 38
<b>Goal:</b> Promote environmental responsibility among dealers		●	p. 38
		●	p. 38
<b>Greener Building</b>	<b>Target:</b> Develop sustainable operations standards for U.S. facilities <b>Target:</b> Achieve LEED® Certification for the U.S. Sales Headquarters South Campus buildings by the end of 2003	●	p. 39
<b>Goal:</b> Promote greener building construction and maintenance operations		●	p. 39
<b>Energy and GHGs</b>	<b>Target:</b> Establish energy usage database <b>Target:</b> Reduce total energy consumption in the U.S. 15% by FY2006 <b>Target:</b> Compile an inventory of GHG emissions by FY2004	●	p. 40
<b>Goal:</b> Reduce energy use (U.S.)		●	p. 40
<b>Goal:</b> Reduce greenhouse gases (U.S.)		●	p. 41
<b>Life Cycle Stage IV: Recycling End-of-Life Vehicles</b>			
<b>Substances of Concern</b>	<b>Target:</b> Gather North American baseline data for selected SOCs <b>Target:</b> Develop North American substances of concern strategy	●	p. 43
<b>Goal:</b> Manage substances of concern		●	p. 43
<b>Vehicle Recyclability</b>	<b>Target:</b> Incorporate material and design strategies for increased vehicle recyclability	●	p. 43
<b>Goal:</b> Develop recycling designs and promote expanded use of recycled materials			
<b>Engaging Stakeholders</b>			
<b>Environmental Communication</b>	<b>Target:</b> Enhance environmental communication activities <b>Target:</b> Promote environmental communication with community and key organizations	●	p. 45
<b>Goal:</b> Enhance environmental communication activities in each region/country		●	p. 46
<sup>1</sup> Target dates in this Action Plan have not changed since the 2002 Environmental Report. We have converted all Action Plan goals and targets to a Financial Year calendar (April to March) for better comparability. Targets for FY2006 denote April 2005 to March 2006. <sup>2</sup> Status refers to progress toward achieving an individual target. Some targets were annual targets that, once achieved, were updated with new stretch targets. Details are provided in the body of the report.			

In the following pages and chapters, we report on our Consolidated Five-Year North American Environmental Action Plan (for a summary of this plan, please see Figure D). This Five-Year Action Plan ran from FY2002 – FY2006, i.e., to March 2006. Here we report on the final year of this Action Plan, and reflect on our progress over the past five years. We are pleased to report that we have

achieved or surpassed nearly all of our targets. In certain cases where targets were met early, we set new and more challenging targets. Our next Five-Year Environmental Action Plan has been finalized, and is published in the last chapter of this report. This new plan reflects broader global goals and targets as well as the goals and targets of our North American affiliate companies.



**REGIONAL CROSSCUTTING ISSUES**

Toyota has a long tradition of building on existing best practices and strengthening our regional business position. We recognize that sharing results of successful environmental initiatives that cut across affiliate company lines will improve our overall performance in North America. The following sections discuss several areas where we have begun to coordinate activities among our affiliate companies and prepare integrated environmental responses across the different life cycle stages.

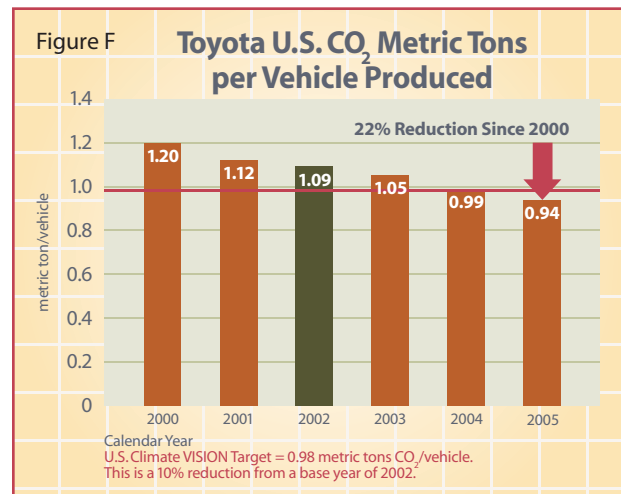
**GREENHOUSE GASES**

Toyota believes it is prudent to voluntarily minimize greenhouse gas (GHG) emissions at all stages of the vehicle life cycle. Many of our efforts are discussed in the individual chapters in this report.

Customer use of our products — driving cars and trucks— accounts for the largest portion of GHGs from a vehicle’s life cycle. While we cannot control the usage patterns and driving habits of our customers, we can and do aim to provide them with efficient vehicle choices to minimize fuel usage and associated GHG emissions from vehicles. Figure E shows that CO<sub>2</sub> emissions from Toyota’s new vehicles are below that of the industry average in both the U.S. and Canada, for both cars and light trucks (including SUVs). Our specific goals and targets for vehicle fuel efficiency and advanced technology deployment are reported beginning on page 14 of this report.

Energy use is the main source of greenhouse gases from our manufacturing plants, sales and distribution centers, and offices. Figure F shows our GHG emissions from energy use at our U.S. manufacturing plants. Toyota, along with other members of the Alliance of Automobile

Manufacturers, participates in the U.S. Department of Energy Climate VISION program. Member companies have committed to reducing the level of GHGs emitted from their U.S. manufacturing operations by 10% per vehicle produced by 2012, compared to a 2002 baseline. As we discuss on page 26, we have made great progress in reducing energy use at all of our plants throughout North America. We also report on our efforts to reduce GHG emissions from our sales and distribution division on page 41.



**SUBSTANCES OF CONCERN**

In 2004, Toyota made a voluntary commitment to minimize substances of concern (SOCs), defined as mercury, cadmium, lead and hexavalent chrome, in all North American vehicles and parts. Our North American SOC strategy involves partnerships with thousands of domestic and foreign suppliers to identify components that contain SOCs and develop a timetable to phase these out. Please see the Recycling End-of-Life Vehicles chapter for more information.

# Toyota believes it is prudent to voluntarily minimize GHG emissions at all stages of the vehicle life cycle.

## GREENING INVESTMENT

Over the last several years, we have made significant investments in greening construction and renovation projects. Our affiliates share best practices when planning these projects, resulting in reductions in energy use, greenhouse gas emissions, waste and water usage, as well as improvements in indoor air quality. Our first major accomplishment was achieving Gold LEED® (Leadership in Energy and Environmental Design) status on our sales headquarters South Campus in 2003. Since then, we have applied our learning from LEED to vehicle distribution centers in the U.S. and Canada, and to leased administrative offices. Most recently, our North American Production Support Center in Kentucky was awarded Silver-level LEED certification, and, as highlighted later in this report, the Toyota dealership in McKinney, Texas, is the first to apply for LEED certification.

Toyota is purchasing 396 megawatt-hours of wind energy renewable energy certificates (RECs) per year for five years for all of its downtown Washington, D.C., office energy needs. The office is in line to receive LEED recognition for smart energy and building material improvements. By purchasing RECs, Toyota offsets the GHG emissions created in the generation of electricity used in our D.C. offices. The purchase of RECs from a third party is a viable alternative to buying “green energy” directly from a utility.

## STAKEHOLDER ENVIRONMENTAL EDUCATION

Toyota provides environmental education to a number of its stakeholders, including dealers, suppliers and employees. Examples of these initiatives follow.

### Dealers

Toyota, along with other major auto manufacturers and suppliers in North America, is a member of NAAHAC, the North American Automotive HAZMAT Action Committee. The group’s primary focus is to review pending and current hazardous materials (HAZMAT) transportation regulations and to develop concise informed responses for submission to the appropriate regulatory agencies. The group also looks to develop programs that will standardize functions across the automotive industry to help ensure the safe transport of all hazardous products. One such program is the Dealer HAZMAT Training Program.

In partnership with the Coordinating Committee for Automotive Repair® and Shipmate®, a Web-based dealer training program has been developed and is available at [www.hazmatu.org](http://www.hazmatu.org). The course covers U.S. Department of Transportation regulations for the transport of hazardous materials typically shipped by dealerships, including air bags, seatbelt pretensioners, brake boosters, compressed gas shocks and lifts, batteries, paint, adhesives and solvents.

## Suppliers

The Toyota Operations Center requires ISO 14001 certification of many of our suppliers. To support the suppliers in accomplishing certification, we provide an ISO 14001 Guidance Manual. We also provide training for our suppliers on how to implement an environmental management system. We offer one-day training courses quarterly that provide a complete overview of ISO 14001, the certification process and a typical implementation plan. Over 80 representatives from suppliers attended this course last year.

## Employees

We provide classroom training at our operational sites on a number of subjects, including environmental management system (EMS) awareness, hazardous waste disposal, hazardous materials handling, stormwater management, and spill and emergency response. For example, employees in our Canadian sales and distribution offices participate in annual environmental awareness training and take ISO 14001 quizzes twice per year.

Environmental managers and specialists from our manufacturing plants attended our annual Production Environmental Conference in Long Beach, California. The *Genchi Genbutsu* (go and see environmental activities in person) included a visit to TABC and the “green” office buildings at Toyota Motor Sales in Torrance. Engineers at our technical center were also provided with in-depth information on vehicle-related emission reductions and corporate environmental initiatives through an environmental exposition that traversed three states.

In March 2006, our annual Environmental Coordinators Conference in Torrance, California, offered training classes and numerous panel discussions. We offset the conference’s CO<sub>2</sub> emissions from attendee air travel, commuter car travel and conference bus travel by planting 1,000 trees in Senegal through Trees for the Future. These trees will offset an average of 22.7 metric tons of CO<sub>2</sub> per year for 40 years.

### WHAT IS YOUR ECOLOGICAL FOOTPRINT?

During Earth Week this year, employees at our manufacturing plant in Cambridge, Ontario (TMMC) took the Ecological Footprint Quiz. This quiz helps team members understand how their day-to-day activities consume resources. The footprint estimates how much productive land and water area your lifestyle uses. It considers the resources you consume, the waste you generate, the food you eat, and how you travel from place to place. The footprint for team members at the plant ranged from six to 49 acres with an average of 22.2 acres per person. Team members who completed the quiz were eligible to win Earth Week shirts and other eco-friendly prizes.



# All of our North American plants that are in full production have implemented an enhanced EMS.

## COMPLIANCE AND AUDITS

Elsewhere in this report, we discuss ways in which we voluntarily go “beyond compliance,” such as our activities to reduce GHG emissions. At the same time, we must also have systems in place to check that our activities comply with all federal, state, provincial and local requirements.

Our logistics sites have enjoyed four consecutive years of zero environmental violations, and eight years with no hazardous materials/dangerous goods violations.

In January 2006, one of our manufacturing plants received a notice of violation for failure to submit a monitoring report. While this violation did not result in an adverse impact to the environment, Toyota takes any issue of noncompliance seriously, and corrected the problem immediately.

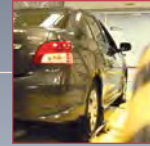
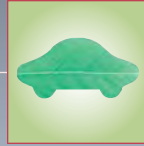
The auditing process at our manufacturing plants has evolved over the course of this five-year action plan. One reason is the implementation of an enhanced EMS. The enhanced EMS was designed by our parent company in Japan, and our auditors were initially trained by our Japanese counterparts. In FY2006, our auditors in North America began conducting these audits without assistance from Japan. All of our North American plants that are in full production have implemented an enhanced EMS, and have been audited against these more advanced requirements.



**Auditors from all over the world attended Global Auditor Training in Toyota City, Japan. Above, the auditors confirm the operation of a continuous environmental monitor at a boiler stack at the Kamigo facility.**

## ENVIRONMENTALLY RELATED LEGAL SETTLEMENTS AND LIABILITIES

Toyota has no new material environmentally related legal settlements or liabilities to report.



# DEVELOPMENT AND DESIGN





**“We want to have vehicles that provide freedom of mobility without compromising the quality of the air or the availability of natural resources.”**

**— Yasuhiko Ichihashi,  
President, Toyota Technical Center, and  
Executive Vice President, Toyota Motor Engineering  
& Manufacturing North America, Inc.**

**THE AUTOMOBILE ENVIRONMENTAL REVOLUTION** that we are part of was achieved through a systematic and evolutionary process of technology development and market preparation. *Fortune* magazine published an article about the history of Prius, in February this year. They note that the unusual aspect of Prius, which was revolutionary for Toyota, was that our reputation has always been for process — the Toyota lean production system — rather than for product. The development of Prius showed a countercultural emphasis on product over process.

The idea of Prius — although it was not yet so named — originated in 1993, the year after the Earth Charter was published, with its commitment to “pursue all possible environmental technologies.” Eiji Toyoda, Toyota’s chairman at the time, was concerned about the future of the automobile. He launched a project known as G21 (global 21st century) to develop a new small car that could be sold worldwide. He set two goals: to develop new production methods and to achieve better fuel efficiency from the traditional internal combustion engine. His target was 47.5 miles per gallon. Very quickly, the Toyota engineers focused on a hybrid technology solution, and Prius was launched in Japan in 1997 and in the U.S. in 2000.

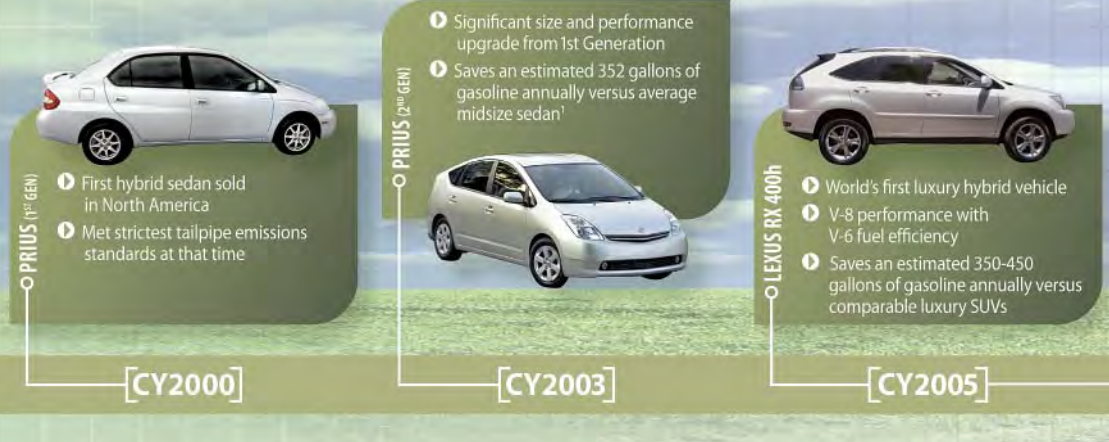
Toyota’s journey over the five years to the successful development of Prius involved an investment of \$1 billion. Further, this was not a simple technological development, with its share of fits and starts. In many respects this represents a triumph of the conviction of Toyota’s leadership, over the difficulties of its implementation, both in development and in marketing.

Once Prius had taken off in North America, Toyota designers have worked systematically to improve the technology with the view of reaching a global target of a million vehicle sales within a decade and a million each year soon after that. This chapter explains some of the improvements made in the technology, and how each of the hybrid vehicle products currently available represents the implementation of our traditional “Toyota Way” process of systematic continuous improvement. This chapter shows the activities we are engaged in to achieve the original vision of G21. For us, revolution can be accomplished by evolution.

**Left:** Senior Technician Maurice Goodwin evaluates a 2006 Toyota Yaris. Technicians and engineers at the Toyota Technical Center in Ann Arbor, Michigan, conduct emissions certification testing for Toyota, Lexus and Scion vehicles sold in North America. To ensure that vehicles meet federal and California in-use emission compliance standards, Toyota also conducts emission testing of vehicles on the road today.

## Hybrid Vehicle Timeline and Accompanying Facts

**THIS TIMELINE REPRESENTS** our growing lineup of hybrid vehicles, designed to meet a wide range of customer needs. Our hybrids not only offer superior fuel efficiency, but are also up to 80% cleaner for smog-forming emissions than the average new 2006 model year vehicle.



## THE EVOLUTION OF HYBRID TECHNOLOGY

Toyota's ever expanding lineup of hybrid vehicle models reflects a commitment to hybrid technology that began over 15 years ago. Over the last five years, Toyota's engineers have made great strides in evolving the technology to the point that hybrid vehicles are no longer just about superior fuel efficiency and reduced emissions, but are also a driving experience that meets or exceeds that of similar nonhybrid products. A case in point is the 2007 Camry Hybrid, introduced this past April. The Camry's emissions are rated AT-PZEV just like the Prius, and it has an EPA combined fuel economy rating that is 55% better than the U.S. midsize class average. It also has a 0-60 mph acceleration time that is better than its class average.

Toyota's Hybrid Synergy Drive system, just as with our manufacturing processes, undergoes many *kaizen*, or continuous improvement, efforts. Through advances in battery chemistry and manufacturing processes, we have been able to boost battery specific power from 660W/kg to 1250 W/kg. This reduces battery size by over 65% and battery mass by nearly 50%. New materials and processes have shrunk the size and increased the efficiency of the power electronics used in Toyota's hybrid products. As a result of these improvements, Toyota hybrid vehicles have become more powerful, fuel efficient and spacious. The Prius embodies all of these characteristics as it has grown in size and power, yet at the same time has become cleaner and more efficient.

### SPOTLIGHT ON PRIUS

One of the challenges of building environmentally advanced automobiles is that customers want the added environmental benefit but will not sacrifice other features such as quality, power, price or comfort. So at the same time that Prius has achieved market acceptance, the pressure has increased for us to meet even higher consumer standards – even better performance at a lower price. This is a challenge we have systematically met.

As can be seen in the table, Prius' fuel efficiency and vehicle performance have steadily improved since 1998, even as the Prius has grown from a subcompact to a midsize sedan. Since Prius was first launched, its combined city-highway fuel economy (FE)/ fuel consumption (FC) has improved by nearly 30%; while 0-60 miles per hour (mph) acceleration has become faster by more than four seconds. In addition, Prius' emissions

have become cleaner, as the certification rating has evolved from Low Emission Vehicle (LEV) to Super Ultra-Low Emission Vehicle (SULEV) to Advanced Technology-Partial Zero Emission Vehicle (AT-PZEV). AT-PZEV vehicles are 80% cleaner than the average new car (based on 2005 model year vehicles) and have zero evaporative emissions. For an explanation of these emissions standards, please refer to page 22.

Toyota is working on all of our hybrid products to balance environmental and energy security concerns with the performance and features desired by different market segments. Going forward, our parent company, Toyota Motor Corporation,

strives to reduce hybrid vehicle system cost by half, extending our commitment to continuous environmental improvement and customer satisfaction.

#### PRIUS HISTORY

Model Years	1998-2000	2001-2003	2004-
City Label FE (FC)*	43 (5.5)	52 (4.5)	60 (4.0)
Highway Label FE (FC)	41 (5.7)	45 (4.7)	51 (4.2)
Combined Label FE (FC)	42 (5.6)	48 (4.6)	55 (4.1)
0-60 mph (seconds)	14.5	12.5	10.1
Emissions Rating	LEV	SULEV	AT-PZEV
Class Size	Subcompact	Compact	Midsize
North American Sales	(Available only in Japan)	~54,000 total	Currently over 110,000/year

\*Fuel economy (FE) and fuel consumption (FC) values for model years 2001 and later are determined through tests conducted by the U.S. EPA and Environment Canada, respectively. See page 23, footnote 2 for more information.



## GOAL: INTRODUCE CLEANER ENERGY VEHICLES

- Target Achieved: Introduce Additional New Hybrid Electric Vehicles by 2005

As we look to the future, development of automobiles that utilize advanced technologies beyond today's gasoline-powered vehicles will be the key to energy efficient transportation. Toyota is committed to pursuing a variety of these advanced technologies as part of our overall product environmental strategy, and in pursuit of the ultimate Eco-car.

Toyota surpassed its target of annually putting 300,000 hybrid vehicles on roads around the world, by 2005. As of the end of April 2006, 504,969 hybrids had been sold. Since the North American introduction of the Toyota Prius in 2000, we have steadily increased our hybrid product offering to include those shown in the Hybrid Vehicle Timeline above. Hybrid sales in North America have exceeded expectations, and account for more Toyota hybrid sales worldwide than the rest of the world combined.

The driving force behind all of our hybrid vehicles is our second-generation hybrid system, Hybrid Synergy Drive (HSD). This system features a high-voltage power circuit combined with a more powerful and efficient electric motor, offering superior power, performance and fuel efficiency. HSD is currently used in Prius, Highlander Hybrid and Camry Hybrid.

## THE 2008 LEXUS LS 600h L

The 2008 Lexus LS 600h L will be launched in 2007 as the world's first vehicle of any class or category to feature a full hybrid V-8 powertrain. The LS 600h L will combine an all-new five-liter V-8 gasoline engine with combined massive, high output electric motors and a newly designed large-capacity battery pack. It will deliver a peak, combined output of more than 430 horsepower. As a SULEV-rated (Super Ultra Low Emissions) vehicle, LS 600h



L is estimated to produce just 20% of the smog-forming emissions of a conventional five-liter V-8. It also has the first light-emitting diode (LED) front headlights for daytime and nighttime use of any production vehicle.

Lexus has introduced the Lexus Hybrid Drive as the global nameplate for all Lexus hybrid systems. The Lexus Hybrid Drive provides exceptional power together with lower emissions and improved fuel efficiency. Lexus Hybrid Drive is currently used in the RX 400h and the GS 450h, and will be used in the LS 600h L. More information on Lexus hybrids is available at [www.lexus.com/hybridrive](http://www.lexus.com/hybridrive).



The Toyota Technical Center participated in Ann Arbor's Green Fair as part of Toyota's global celebration of Earth Month. During the fair, Michigan's Lieutenant Governor John Cherry stopped by the Toyota display to see the new Toyota Camry Hybrid sedan.

- Target Achieved: Demonstrate Fuel-Cell Technology by Evaluating Prototype Beginning in 2001
- Target Achieved: Apply Real World Knowledge From Current FCHV Fleet to Second Generation FCHV

In the past five years, Toyota's fuel-cell vehicle development program has made excellent progress. Through a series of development vehicles, we have improved product refinement, durability and reliability to a level that allowed leasing of FCHVs (Fuel-Cell Hybrid Vehicle) to universities and corporate customers in late 2002. Since 2001, a fleet of 25 vehicles has accumulated over 100,000 real world driving miles and allowed thousands to experience the thrill of driving a vehicle that only emits water.

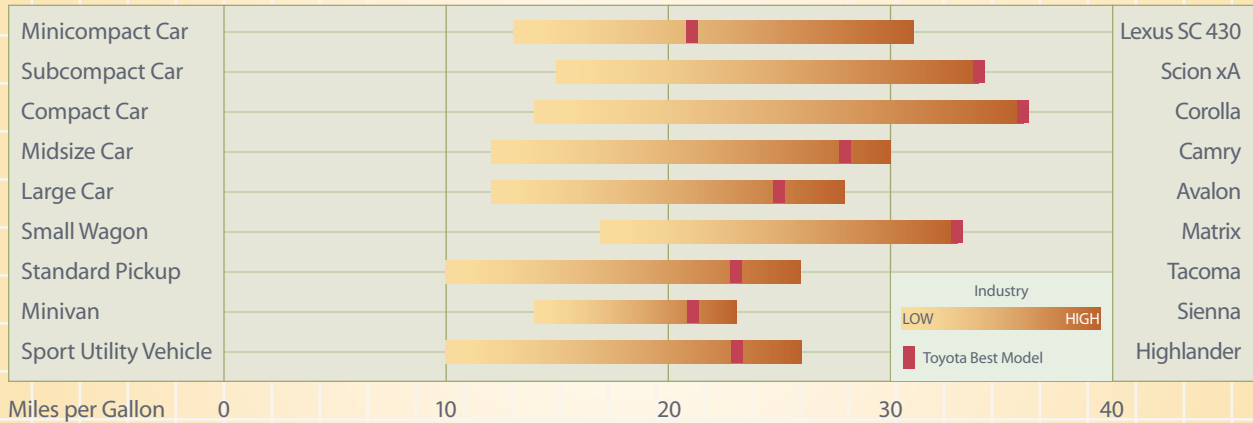
At this time, our primary FCHV is based on the Toyota Highlander sport utility vehicle platform. It features four 5,000-psi hydrogen fuel tanks. Hydrogen gas feeds into the Toyota fuel-cell stack where it is combined with oxygen, generating a peak of 90 kw of electricity. The electricity from the fuel cell is used to power the 121-hp (194 lbs-ft of torque) electric motor and to charge the vehicle's nickel-metal hydride batteries. The battery pack harnesses energy during the braking process, and feeds power on-demand to the electric motor.

In late 2005, Toyota introduced the latest generation FCHV. The vehicle, still based on the popular Highlander Hybrid, features many design improvements which make it more reliable, durable and easier to maintain. To address lessee concerns about vehicle range, Toyota improved FCHV efficiency, extending its range to over 200 miles on a fill up of hydrogen. Drivers in the U.S. have logged over 5,000 miles on this latest version of the FCHV.

Hydrogen storage is one of the greatest challenges for the commercial introduction of fuel-cell vehicles. The current range of fuel-cell vehicles does not meet customer expectations. Toyota is addressing this by developing 10,000-psi hydrogen storage tanks, improving fuel cell and vehicle efficiency, and researching advanced hydrogen storage materials.

Though not yet ready for commercial introduction, Toyota believes fuel-cell technology is needed to reduce the automobile's impact on the environment. Therefore, it plays a key role in our technology strategy toward the ultimate eco-friendly car.


**Figure G Toyota Gasoline Vehicles Are Among the Most Fuel Efficient in Their Class**



Note: United States only. Data and classes are based on EPA adjusted combined fuel economy ratings from the Model Year 2006 Fuel Economy Guide available at [www.fueleconomy.gov](http://www.fueleconomy.gov). Diesel and hybrid electric vehicles are excluded. The chart shows only those classes where Toyota offers products. This chart includes Lexus and Scion models.

**GOAL: ACHIEVE TOP LEVELS OF FUEL EFFICIENCY IN ALL VEHICLE CLASSES**

Toyota has a strong track record of offering fuel-efficient vehicles in a broad range of vehicle classes throughout North America. As shown in Figure G above, Toyota offers conventional gasoline-powered vehicles that are among the most fuel efficient in their class.

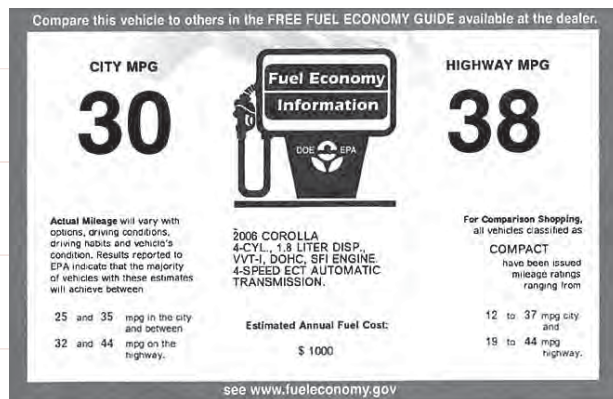
**FUEL ECONOMY/ FUEL CONSUMPTION LABELING**

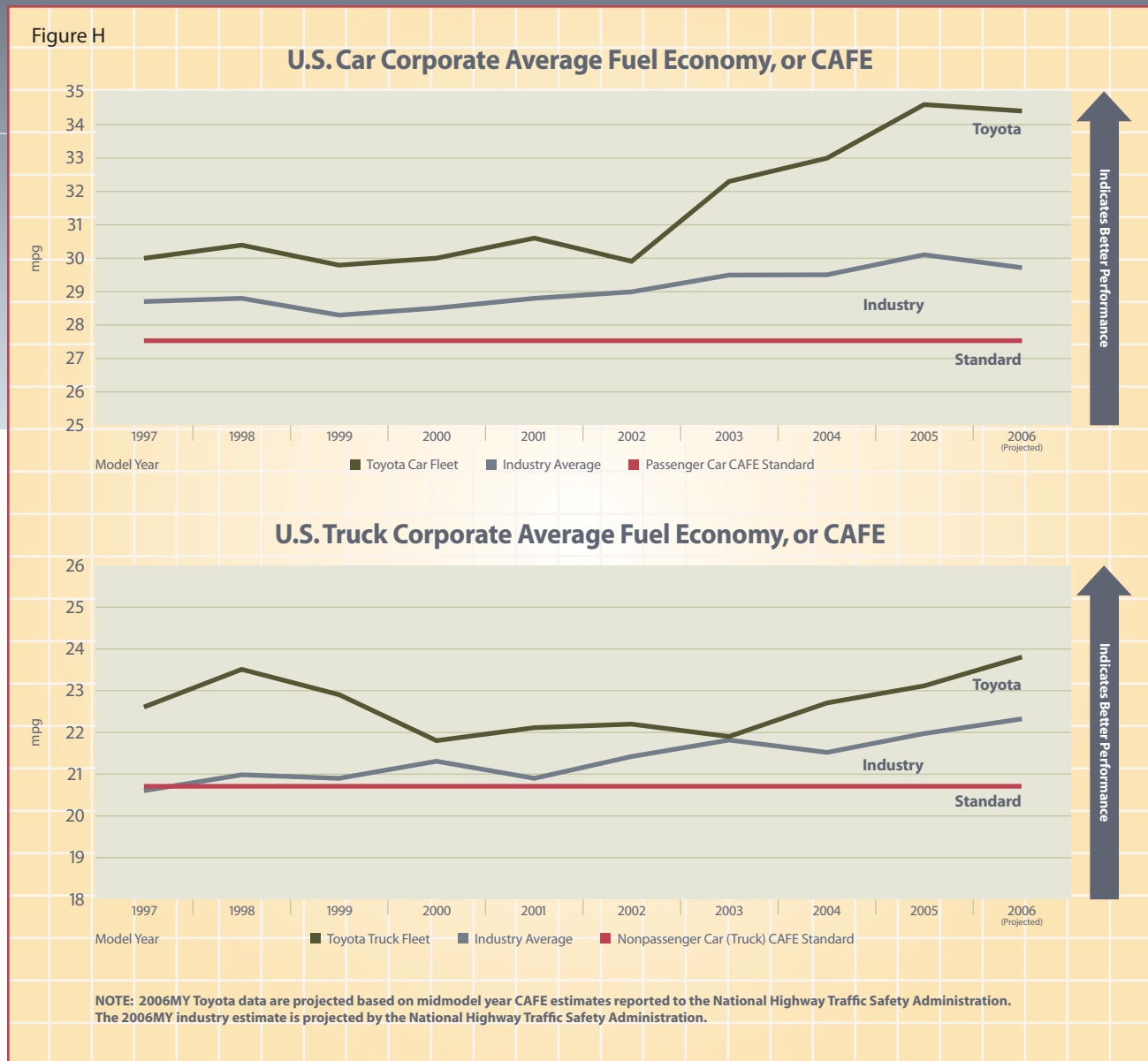
When new vehicle customers contemplate which Toyota model best fits their needs, they are likely to evaluate several factors, including fuel efficiency. Manufacturers display the Monroney Label in the side window of all

new vehicles sold in the U.S.; the label provides the EPA estimated fuel economy of the vehicle. This estimate is currently based on federal test procedure results.

While the statutory requirements currently call for EPA to provide miles per gallon fuel economy estimates, Toyota is working with EPA to expand and improve the information available to consumers. Specifically, Toyota advocated for a more real world estimate to appear on the label. Additionally, Toyota supports the label display of fuel consumption data, which portrays real world information to the consumer on annual fuel costs and fuel usage per distance traveled.

Vehicles sold in Canada display similar information, which enables consumers to evaluate fuel demands per kilometer traveled.





• Target Achieved: Exceed CAFE/CAFC Requirements for Passenger Cars and Light-Duty Trucks

In the United States, automobile manufacturers are required to comply with Corporate Average Fuel Economy (CAFE) standards for passenger cars and light-duty trucks. CAFE standards are expressed in miles per U.S. gallon (mpg); the higher the number the better the fuel economy (please see Figure H). The CAFE standard for light-duty trucks has been increased for the 2005-2007 model years. Toyota's 2004MY light-duty trucks were already meeting this stricter CAFE standard.

In Canada, Toyota has joined with other manufacturers in agreeing to meet voluntary Corporate Average Fuel Consumption (CAFC) limits. CAFC limits are expressed in liters of fuel burned per 100 kilometers traveled; in this case, the lower the number the better the fuel consumption (please see Figure J).

For the 2006 model year, we will meet our target to exceed CAFE standards and CAFC voluntary limits for both passenger cars and light-duty trucks. Figures H and J illustrate our fleet CAFE and CAFC averages, against the industry averages.

Figure I ACEEE Greener Choices 2006

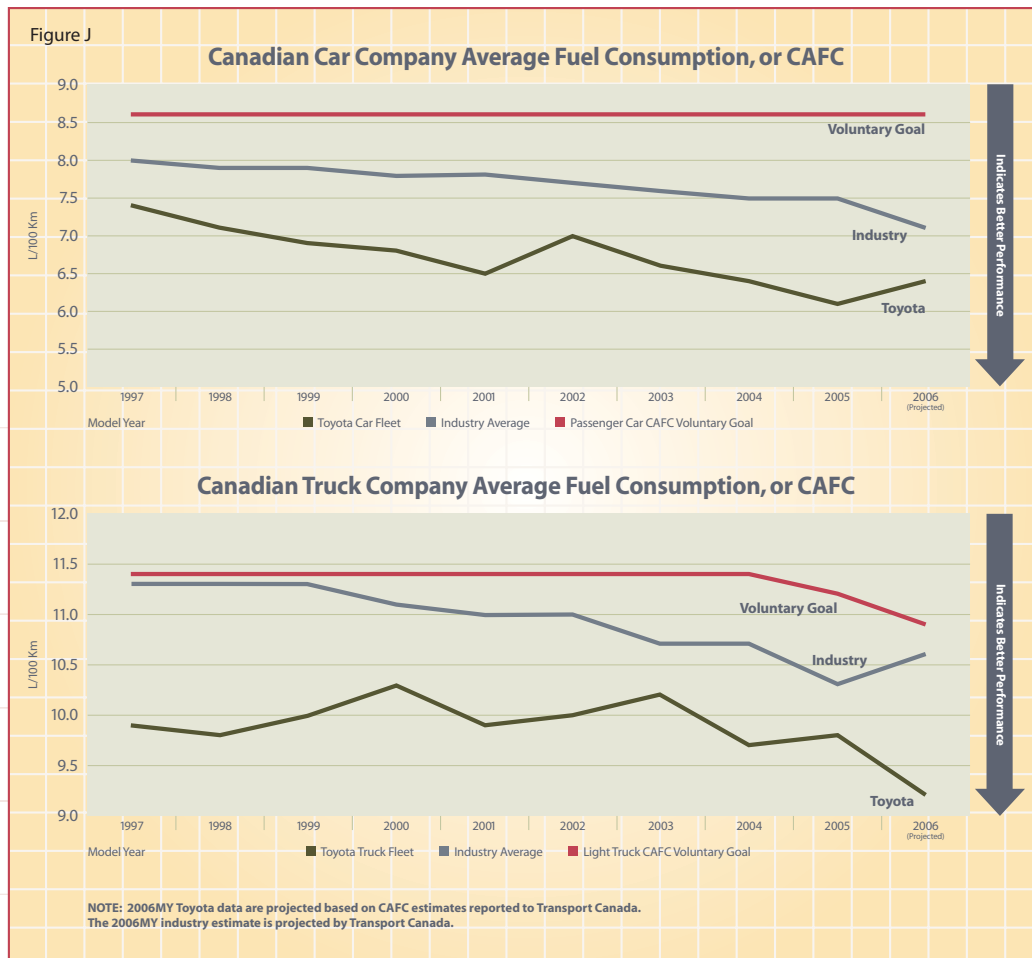


### RECOGNITION BY ACEEE

For the sixth consecutive year, model configurations of Toyota, Lexus and Scion cars, trucks and SUVs appear in more vehicle categories than any other brand in “The Best of” list published by the American Council for an Energy-Efficient Economy (ACEEE). In “The Best of 2006” list, Toyota, Lexus and Scion model configurations are included in 11 of 14 categories, including compact

and midsize cars, compact and standard pickups, and midsize and large SUVs. Plus, five of the 12 vehicles on ACEEE’s “Greener Choices of 2006” list are Toyota or Scion models, as shown in Figure I.

ACEEE rates vehicles using published EPA and California Air Resources Board data, plus calculations of emissions in multiple categories, including greenhouse gases. Visit [www.greencars.com](http://www.greencars.com) for more information.



**UNDERSTANDING EMISSION CERTIFICATION LEVELS**

When Toyota refers to an emission certification level like “Tier 2, Bin 3” or “LEV II, ULEV” it means that the vehicle is certified to meet a certain set of emissions requirements. The federal government uses the Tier 2 program to ensure manufacturers produce environmentally advanced vehicles; similarly California and states adopting the California program employ the LEV II program to accomplish this same goal.

Each “Bin” within the Tier 2 program sets standards for five different emission components, including NO<sub>x</sub> and NMOG. When a manufacturer’s sales-weighted Tier 2 fleet emissions are averaged, the NO<sub>x</sub> average may not exceed the Tier 2, Bin 5 standard of 0.07 g/mile. Likewise, the LEV II classifications LEV, ULEV and SULEV are each comprised of standards for the same five emission components. Unlike the Tier 2 NO<sub>x</sub> average, the LEV II program employs an NMOG average. A manufacturer’s LEV II NMOG average may not exceed the level set by the state of California. The following table provides additional information about full useful-life Tier 2 NO<sub>x</sub> and LEV II NMOG standards.

Tier 2 (U.S. Federal)		LEV II (California)	
Bin Number	NO <sub>x</sub> (g/mi)	Emissions Category	NMOG (g/mi)
Bin 9*	0.3	LEV	0.090
Bin 8	0.2	ULEV	0.055
Bin 7	0.15	SULEV**	0.010
Bin 6	0.1	ZEV	0
Bin 5	0.07		
Bin 4	0.04		
Bin 3	0.03		
Bin 2	0.02		
Bin 1	0.0		

\*\*An AT-PZEV (advanced technology partial zero emissions vehicle) has SULEV-level tailpipe emissions and better-than-SULEV (zero) evaporative emissions.

\*Tier 2, Bin 9 NO<sub>x</sub> standard expires at the end of the 2006 model year.

**GOAL: PROMOTE EMISSIONS REDUCTIONS**

- Target: Meet Tier 2 and LEV II Emissions Requirements for New Vehicles

The Tier 2 Emissions Certification Programs are implemented by EPA and Environment Canada to improve air quality through emissions reductions from vehicles. The Tier 2 regulations represent an overall 77% to 95% emissions reduction from previous standards, depending on the class of vehicle. An important component of the Tier 2 program is the reduced sulfur levels in gasoline that will be necessary to achieve further reductions in vehicle emissions over time.

California requires vehicles sold within its state to comply with the Low Emission Vehicle (LEV) II Program. Vehicles certified to the federal Tier 2 or state LEV II programs must meet Non-Methane Organic Gas (NMOG), Carbon Monoxide (CO), Nitrous Oxides (NO<sub>x</sub>), Particulate Matter (PM10), and Formaldehyde (HCHO) emissions standards.

While LEV II is primarily focused on NMOG reductions, the federal Tier 2 standard is more focused on NO<sub>x</sub> reductions.

Toyota is ahead of the required compliance schedule for certification of its vehicles to the federal and California emissions standards. We have consistently certified more vehicles than the respective programs require. Our performance in Canada follows a similar track, as Environment Canada has implemented a Tier 2 program (similar to EPA’s program), and the vehicles we sell there have the same emission control technologies. For the 2006 model year, 90% of all Toyota, Lexus and Scion cars are certified to ULEV or better.











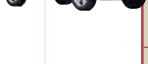






**IN-USE COMPLIANCE**

Toyota has a proven track record of continuous in-use compliance. Toyota cars comply with emission requirements for up to 120,000 miles.

Both EPA and the California Air Resources Board staff have reviewed and approved the conduct of Toyota’s government mandated in-use testing programs and have assessed them with very favorable comments. With over 1,000 vehicles tested in these government programs over the last several years, Toyota’s emission compliance rate continues to lead most major industry manufacturers.

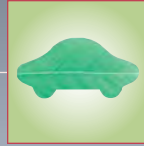


## 2006 MODEL YEAR PRODUCT DATA FOR SELECTED MODELS<sup>1</sup>

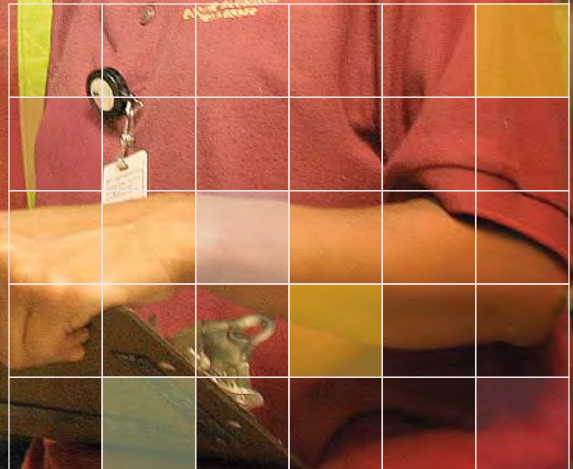
North American Model	Engine	Transmission	Fuel Economy/ Fuel Consumption Ratings <sup>2</sup>		Emissions Standard		Notes	
			City mpg (L/100 km)	Hwy mpg (L/100 km)	U.S. and Canada Federal	California		
 <b>Toyota Prius</b> (U.S. & Canada only)	1.5 L	See Note 3	60 (4.0)	51 (4.2)	Tier 2, Bin 3	AT-PZEV	2006 Model Year EPA/DOT Fuel Economy Guide leader among midsize cars and 2006 NRCan EnerGuide Most Fuel Efficient Midsize Vehicle	
 <b>Toyota Matrix</b> (2WD)	1.8 L	5 M/T	30 (7.9)	36 (5.9)	Tier 2, Bin 5	ULEV II	2006 Model Year EPA/DOT Fuel Economy Guide leader among station wagons and 2006 NRCan EnerGuide Most Fuel Efficient Station Wagon	
 <b>Toyota Scion xB</b> (U.S. Only)	1.5 L	4 A/T	30	34	Tier 2, Bin 9	LEV	2006 Model Year EPA/DOT Fuel Economy Guide leader among small station wagons	
 <b>Toyota Tacoma</b> (2WD)	2.7 L	4 A/T	21 (11.4)	26 (8.1)	Tier 2, Bin 7	LEV II	2006 Model Year EPA/DOT Fuel Economy Guide leader among A/T pickup trucks	
 <b>Toyota Rav4</b> (2WD) (U.S. Only)	2.4 L	4 A/T	24	30	Tier 2, Bin 5	ULEV II	Completely redesigned for 2006MY	
	3.5 L	5 A/T	22	29	Tier 2, Bin 5	ULEV II		
 <b>Toyota Rav4</b> (4WD)	2.4 L	4 A/T	23 (10.1)	28 (7.8)	Tier 2, Bin 5	ULEV II		
	3.5 L	5 A/T	21 (11.1)	28 (7.7)	Tier 2, Bin 5	ULEV II		
 <b>Toyota Highlander Hybrid</b> (2WD) (U.S. only)	3.3 L	See Note 3	33	28	Tier 2, Bin 3	SULEV	Toyota Hybrid System offered for 2006MY	
			 <b>Toyota Highlander Hybrid</b> (4WD)	31 (7.5)				27 (8.1)
 <b>Yaris Liftback</b> (Canada only)	1.5 L	5 M/T	(6.9)	(5.5)	Tier 2, Bin 5	N/A		New Model for 2006MY 2006 NRCan EnerGuide Most Fuel Efficient Subcompact Vehicle
 <b>Lexus RX 400h</b> (2WD) (U.S. only)	3.3 L	See Note 3	33	28	Tier 2, Bin 3	SULEV		Lexus Hybrid System offered for 2006MY
			 <b>Lexus RX 400h</b> (4WD)	31 (7.5)			27 (8.1)	
 <b>Lexus IS 250</b> (2WD)	2.5L	6 M/T	20 (11.6)	29 (7.6)	Tier 2, Bin 5	ULEV II	Completely redesigned for 2006MY	
		6 A/T	24 (9.8)	32 (6.7)				
		 <b>Lexus IS 250</b> (AWD)	6 A/T	22 (10.5)				28 (7.6)
 <b>Lexus IS 350</b> (2WD)	3.5 L	6 A/T	21 (10.8)	28 (7.7)	Tier 2, Bin 5	ULEV II		Completely redesigned for 2006MY
 <b>Lexus GS 300</b> (2WD)	3.0 L	6 A/T	21 (10.7)	29 (7.2)	Tier 2, Bin 9	ULEV	Completely redesigned for 2006MY	
		6 A/T	21 (11.1)	27 (7.8)	Tier 2, Bin 9			
		 <b>Lexus GS 300</b> (AWD)	6 A/T	21 (11.1)	27 (7.8)	Tier 2, Bin 9		ULEV
 <b>Lexus GS 430</b>	4.3 L	6 A/T	18 (12.7)	25 (8.5)	Tier 2, Bin 9	ULEV		Completely redesigned for 2006MY

**Notes:**

- This chart shows 2006 models that are new, redesigned, or have new powertrain options; and models that were identified in the U.S. EPA/DOT 2006 *Model Year Fuel Economy Guide* or the Natural Resources Canada *EnerGuide* as class fuel consumption leaders.
- Fuel economy and fuel consumption estimates are determined by averaging numbers gathered through tests conducted by the U.S. EPA and Environment Canada. Vehicles are tested in a controlled setting, and the results are adjusted to better reflect real world driving conditions. The fuel economy ratings for the United States and the fuel consumption ratings for Canada may not be equal when converted to the same units. The test cycles and correction factors used in generating these ratings take into account the aerodynamic efficiency, weight, rolling resistance and drive mode of different vehicles. Other adjustments are made to reflect the average fuel consumption of vehicle models that offer different configurations/options, based on their sales mix in each country. These averaging steps may lead to slightly different ratings in Canada and the United States based on differences in vehicle sales by class and configuration. In addition, U.S. ratings will also differ from Canadian ratings data, because the U.S. gallon is smaller than the imperial gallon used in Canada.
- These hybrid vehicles do not have a traditional automatic or manual transmission. They have a continuously variable transmission.



# MANUFACTURING



“We are proud of our accomplishments, but more importantly we accept the challenge to become the best environmental company in the world.”

— Kevin Butt,  
General Manager, Production Engineering –  
Environmental/Safety Engineering,  
Toyota Operations Center,  
Toyota Motor Engineering & Manufacturing North America, Inc.

ECO-PLANT PLANS AND ENVIRONMENTAL ACTION PLANS help our facilities reduce their environmental footprint, and are key to our progress in environmental performance. We attribute the success of our eco-plant plans and our second five-year environmental action plan to team members using the Toyota Way concepts of *Challenge*, *Kaizen*, *Genchi Genbutsu*, *Respect* and *Teamwork*. We challenge ourselves by setting aggressive targets. In many cases we have exceeded these targets: Our reductions in VOC (volatile organic compound) emissions and landfill waste are only two examples.

We use *kaizen*, Japanese for continuous improvement, to describe both improvement projects and the method by which we continuously improve our processes. *Yokoten*, sharing ideas, is how we spread *kaizens* within our plants and across our facilities. We implemented thousands of environmental *kaizens* over the last five years. Our corporate facilities group hosts a database of energy and water *kaizens* that the plants evaluate for implementation.

We practice *Genchi Genbutsu*, Japanese for go and see in person, by investigating situations and gathering facts at the site. As part of our zero waste target, team members went to see waste programs as part of our annual waste conference. By going in person, they can gather and understand information that will help them implement waste programs at their facilities.

*Respect* for stakeholders and gaining the respect of our communities is important. All new facility eco-plant plans focus on environmental risk reduction and eliminating complaints. Our assembly plant in Baja, Mexico, was constructed with aboveground chemical tanks and piping, and above-grade sumps, further reducing risks to groundwater and soil.

We have maximized our performance through *Teamwork*. The strength of our five-year action plan comes from all team members doing their part. Team members in our offices recycle paper; plant environmental managers oversee action plans; and our suppliers help us eliminate toxics from materials. Through coordination and collaboration, we are able to accomplish more as a team than as individuals. Through teamwork, we have achieved our five-year targets for energy, water, VOC and toxic air emissions, and waste.

#### HOW TOYOTA PLANS FOR NEW PLANTS

An eco-plant plan is a planning process that helps us construct plants with features that use resources efficiently and minimize our environmental footprint. Planning ahead allows us to set performance targets that may address energy, waste and water, and consider best practices and local conditions. We audit facilities during and after construction to check that the elements of the plan are implemented. During recent audits of our plants in San Antonio, Texas, and Jackson, Tennessee, we confirmed that these plants are meeting the requirements of their eco-plant plans. We are currently developing an eco-plant plan for our new plant in Woodstock, Ontario.

Left: At the Bodine Aluminum foundry in Jackson, Tennessee, Vince Austin, Maintenance Team Member, and Soprina Dickerson, Production Team Leader, work with new-generation aluminum die casting machines that were installed according to specifications in the facility's eco-plant plan. To reduce risks from fluid leaks, these casting machines were installed without pits below the machines, and the equipment is checked routinely for leaks.

# We achieved our FY2006 target of reducing energy use 15% two years ahead of schedule.

## ENERGY USE AND CO<sub>2</sub> EMISSIONS

Energy use at our manufacturing facilities is directly related to our CO<sub>2</sub> emissions. Our facilities consume more than \$100 million worth of energy annually, resulting in 1.3 million metric tons of CO<sub>2</sub> emissions per year. It is sound business practice to seek ways to reduce the financial and environmental costs of our energy use.

### GOAL: IMPLEMENT AGGRESSIVE PLANS TO REDUCE ENERGY CONSUMPTION

- Target Achieved: Reduce Energy Usage per Unit of Production by 15%, Resulting in a 15% Decrease in CO<sub>2</sub> Emissions

We achieved our FY2006 action plan target of reducing energy use 15% two years ahead of schedule (please see Figure K). The achievement of this energy reduction resulted in a corresponding reduction in emissions of carbon dioxide.

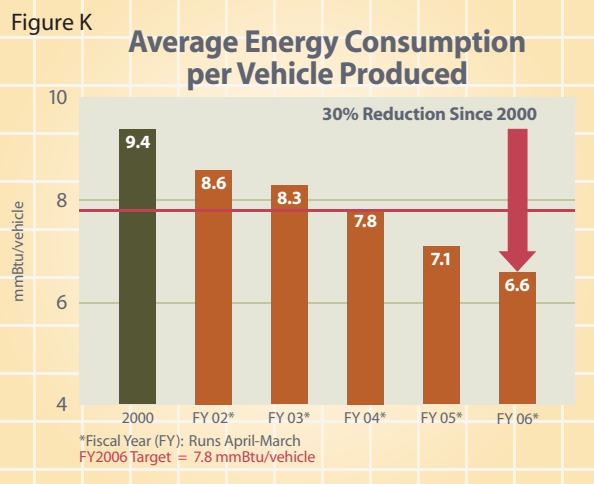
Our success is the result of energy reduction *kaizens* from our *kaizen* database, implemented at the manufacturing plants, including:

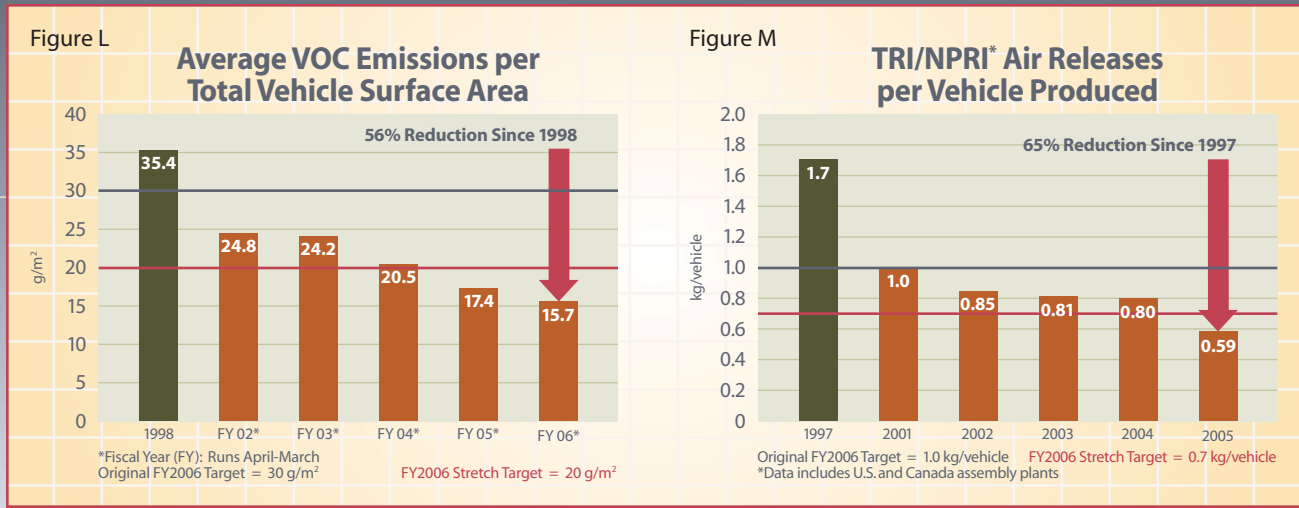
- Installation of energy efficient lighting.
- Installation of heat recovery systems for the paint shops. Heat recovery systems take waste heat from incinerators to create steam for paint booths, and use waste heat from paint booths to reheat the booth's air supply.
- Coordination of energy-saving treasure hunts at each of our plants. Treasure hunts are three-day plant assessment activities performed by project teams to identify reduction projects.

Now that the plants have made significant progress reducing energy consumption in manufacturing processes, we are beginning to turn our focus to, and set targets for, nonproduction energy usage. This includes energy used during weekends and shift changes.

### LEADING IN ENERGY MANAGEMENT

Toyota Motor Manufacturing North America was selected as a winner of the 2006 Energy Star Award for Sustained Excellence. This award comes on the heels of the "Partner of the Year — 2005 Leadership in Energy Management" Energy Star Award. These awards recognize efforts by our U.S. manufacturing operations to reduce energy consumption in both the plants and administrative offices. Even though vehicle production increased by 4%, we still reduced energy consumption per vehicle by 7%.





## SUBSTANCES OF CONCERN

Activities associated with automobile manufacturing result in VOC and other toxic emissions released to the atmosphere. VOCs from painting operations are the most significant emissions from our manufacturing facilities. Toyota works to implement and improve management practices and techniques to minimize emissions of VOCs and other regulated toxic chemicals during automobile manufacturing.

## GOAL: DEVELOP EXTENSIVE REDUCTION STRATEGIES TO MINIMIZE EMISSIONS OF CONCERN

- New Target Achieved: Reduce Body-painting Emissions of VOCs to 20 g/m<sup>2</sup> for All Paint Shops
- New Target Achieved: Reduce Toxic Chemicals Emitted to Air by Vehicle Assembly Plants to 0.7 kg/vehicle
- Target Achieved: Continue R&D Activities Aimed at Eliminating all VOCs and Toxic Chemicals from Coolants and Cutting Oils Used in Unit Plants

Our plants have made significant progress minimizing VOC and toxic air emissions. Our unit plants worked with our suppliers to develop and introduce newer, longer-life coolants that emit reduced amounts of VOCs. A number of our plants, such as the one in West Virginia, are using these coolants.

### VOC Emissions

In 2000, we set a target to reduce VOC emissions to 30 g/m<sup>2</sup> as an average for all paint shops in North America. After successfully reaching that target, we set a new FY2006 target of 20 g/m<sup>2</sup> as an average for all auto body paint shops in North America (please see Figure L). We achieved this target one year early, and have continued to reduce emissions.

Our plant in Indiana has achieved a 66% reduction in VOCs since 2001. Over 60% of its VOC emissions were directly attributable to the use of purge solvent used to clean the paint robot lines when switching from color to color. Team members modified the purge hopper designs to better capture the purge, and reconfigured the order of vehicles entering the paint booth to minimize the number of color changes. Also, the diameter of the paint line was reduced from 6.35 mm to 2.5 mm, reducing the paint and solvent volume purged from the line. By making these adjustments, the plant was able to reduce its VOC emissions by over 20%.

In addition, the plant has reduced the amount of solvent used for cleaning. A solvent reclaim system utilizes a ceramic membrane to filter solids from the waste solvent, which is then used for cleaning noncritical equipment.

### Toxic Air Emissions

In 2000, we achieved our initial FY2006 action plan target of reducing toxic air emissions to 1.0 kg/vehicle. We set a new target of 0.7 kg/vehicle, and exceeded this target in 2005 (please see Figure M). Toxic air emissions are those reported to the Toxic Release Inventory (TRI) in the U.S., and the National Pollutant Release Inventory (NPRI).

Our assembly plant in Cambridge, Ontario, created a task force in 2005 from teams in environmental engineering and the plant's paint shops to address NPRI emissions. The teams developed training to teach other team members how to spot air pollution reduction opportunities. This in turn generated ideas from the trainees. The result was a reduction in reportable air emissions by hundreds of tons, substantially surpassing the plant's individual five-year goal. The process of using a task force to achieve an environmental goal was so successful that it will be used to champion other issues.



A geodesic dome at Toyota Motor Manufacturing, Kentucky serves as the new greenhouse. The greenhouse completes the waste segregation cycle at the plant. Compost from cafeteria waste and other biodegradable material is used as a growing medium in the greenhouse, where landscaping and vegetable plants are grown.

**WASTE DISPOSAL**

The elimination of waste is one of the philosophies of the Toyota Production System. The Toyota 5Rs program has been the key to our waste reduction efforts over the last five years. The 5R steps include refine, reduce, reuse, recycle, and recover energy.

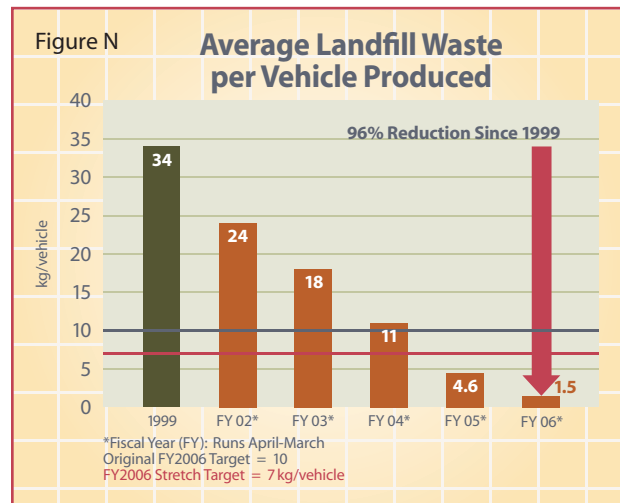
**GOAL: REDUCE WASTE AND PROMOTE RESOURCE CONSERVATION ACTIVITIES**

- Target Achieved: Reduce Hazardous Waste Disposal to Landfills by 95%
- New Target Achieved: Reduce Landfill of All Production Waste to 7.0 kg/vehicle

During the course of this five-year action plan, we have eliminated landfill disposal of hazardous wastes at all of our manufacturing plants in North America. Our land disposal of nonhazardous waste has declined by 96%, resulting in the achievement of zero landfill (defined as a 95% or greater reduction from 1999 levels) in North America as a whole (please see Figure N).

New plants are built with zero landfill in mind, but it was especially challenging for existing plants to meet this objective. The first plant already in operation to achieve zero landfill is Toyota Motor Manufacturing, West Virginia. A zero landfill program was put in place as part of setting the plant’s 2003 EMS objectives and targets. The plant began eliminating nonhazardous waste going to a landfill. After evaluating waste streams and alternative disposal options, landfill of waste was eliminated. In all, approximately 1,500 tons per year of nonhazardous waste are no longer landfilled.

The West Virginia plant’s success is largely due to isolating recyclables. Plastics are donated to a local development authority, where special-needs people sort the plastics and sell them as a product to another vendor. Thousands of tons of swarf (a fine metal powder mixed with coolants that makes a spongy paste) are also recycled each year: The swarf is pressed to remove coolant, then the metal is recycled.



# We have eliminated landfill disposal of hazardous wastes at all of our manufacturing plants in North America.

## WATER USE

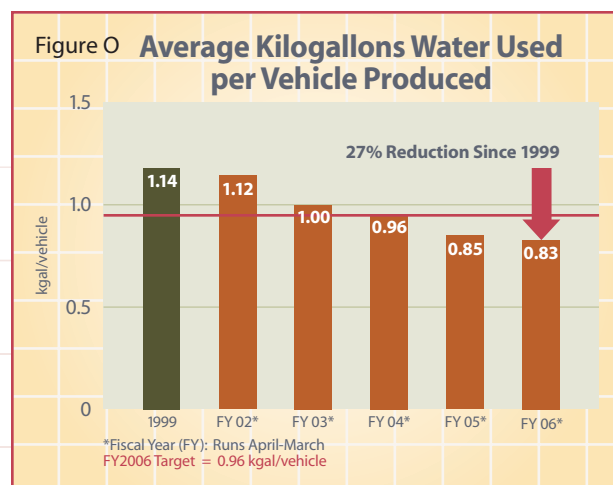
Painting operations account for the largest water usage at a vehicle manufacturing plant. However, water is used throughout most areas of the vehicle manufacturing process. Water reduction is one of our more challenging goals; but we continue to make good progress.

### GOAL: IMPLEMENT AGGRESSIVE PLANS TO REDUCE WATER CONSUMPTION

- Target Achieved: Reduce Total Water Usage per Unit of Production by 15%

Our Consolidated North American Environmental Action Plan required a 15% reduction in water usage by the end of FY2006 from a baseline year of FY2001. Figure O shows that we achieved our 15% reduction target in just the third year of our Five-Year Action Plan.

Our success is due to individual *kaizens* implemented at our plants. Many of our plants are reducing water usage by improving the efficiency of the cooling tower systems.



Our wheel manufacturing facility in Delta, British Columbia, set a target to reduce water consumption by 5%, but ended up with an 18% reduction after making process improvements and maintenance repairs. For example, optimizing the wheel wash process (shown above) reduces water usage.

# We achieved our target for suppliers on ensuring compliance with Toyota's Chemical Ban List.

## ENVIRONMENTAL MANAGEMENT SYSTEMS

Toyota has been working with its suppliers for a number of years to promote activities that help protect the environment. As part of our Five-Year Action Plan, we set targets to help our suppliers implement our Green Supplier Guidelines (please see box at right).

### GOAL: IMPLEMENT GREEN SUPPLIER GUIDELINES

- Target: Certify/Register Key Suppliers to ISO 14001 by December 2003
- Target Achieved: Comply With Chemical Ban List/ Environmental Data Sheet
- Target Achieved: Develop Procedures That Ensure Compliance With Hazardous Materials/Dangerous Goods Transportation Guidelines

We achieved our targets on ensuring compliance with Toyota's Chemical Ban List and on developing procedures to ensure suppliers' compliance with HAZMAT guidelines. Our Chemical Ban List has expanded over the last five years to include more chemicals, and we are doing a better job of communicating the contents of this list to our engineering department. One example: Rather than providing them with a list of refrigerants that are not acceptable to use because of their ozone depleting potential, we are providing them with a list of acceptable refrigerants. This helps the engineers make the right choice.

We missed our target to register/certify key suppliers to ISO 14001 by December 2003. This is partly because our suppliers change and new suppliers are added

regularly, making it impossible to have 100% of our suppliers certified/registered to ISO 14001 at any one time. However, we continue to work with our suppliers on EMSs. For example, we conduct quarterly one-day seminars on how to implement an ISO 14001 system, free of charge at our corporate headquarters.

We plan to increase the scope of our Green Supplier Guidelines, and will require ISO 14001 certification for new supplier categories, such as transportation suppliers and cleaning contractors.

GREEN SUPPLIER GUIDELINES	
In 2000, we issued Green Supplier Guidelines that require suppliers who provide parts, materials and components directly or indirectly to Toyota to complete one or more of the following initiatives:	
<ul style="list-style-type: none"> <li>• <b>Obtain ISO 14001 Certification</b> Toyota requires Tier I suppliers who provide raw materials and/or parts and components to develop and implement an EMS that conforms to ISO 14001.</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Comply with Chemical Ban List</b> Toyota has identified approximately 450 chemicals and substances that suppliers of raw materials must phase out from new and/or reformulated materials.</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Hazardous Materials Transportation Management System</b> Toyota requires all of its suppliers in North America to develop appropriate policies and procedures to ensure compliance with all applicable state, federal and international hazardous materials transportation requirements.</li> </ul>	





**New United Motor Manufacturing, Inc., in Fremont, California, hosted a transportation fair in August 2006. Representatives from eight Bay Area transportation organizations participated, educating team members about the environmental and other benefits of carpooling, public transit and private shuttles. Alameda County's Guaranteed Ride Home Program offers a unique benefit to transit users and carpoolers who are registered for the program: The program reimburses participants for cab rides home if they miss their carpool, bus or train.**

## PLANT ACTIVITIES

### BODINE ALUMINUM, INC.

Bodine, our foundry facilities, recycle over 95% of foundry sand, either on-site or by shipping it to become cement. At the plant in Troy, new home construction has resulted in neighbors very close to the plant. The plant modified its exhaust systems to improve capture efficiency and rebalanced its odor scrubbers to reduce odors and avoid complaints. The facility has not had a complaint in over five years.

For the past four years in a row, Bodine's St. Louis division earned an award from the Missouri Water Environmental Association. They were nominated by the local sewer company for compliance with wastewater discharge requirements.

### CAPTIN

Canadian Autoparts Toyota participates in the Tilbury Eco-Industrial Partnership (TEIP), which allows businesses to share resources for maximum financial, environmental and social benefit. The plant's partnership with Pacific Metals was a catalyst for TEIP. CAPTIN built a roof to protect aluminum chips from excess rain water, and worked with Pacific Metals to seal the bins properly so that the lubricant does not leak onto the ground. A valve was installed on the bin to drain fluids that can then be treated by CAPTIN. This eliminates the need for sending wastewater off-site for treatment.

This facility is expanding by 20% to increase production capability. The expansion incorporates a number of pro-active features, such as:

- A heat treatment furnace will be installed with low NO<sub>x</sub> burners.
- Wet coolant cutting processes have been eliminated from casting and replaced with a punch and saw that requires minimal coolant.
- No open trenches will be used, reducing the potential for soil and groundwater contamination.

### NUMMI

In 2005, New United Motor Manufacturing, Inc. became one of the few plants in North America to use water-based paint in its bumper coating operations, reducing VOC emissions at the source. NUMMI also saved more than seven million gallons of water per year by eliminating wet sanding operations in the truck paint shop. Since the vehicles no longer go through the wet sand oven, energy use and CO<sub>2</sub> emissions are reduced.

Many NUMMI team members commuted to work on their bicycles for California's annual Bike to Work Day last May. Despite cold and rainy weather, team members rode more than 200 miles to and from work, saving gasoline, getting exercise and benefiting the environment. NUMMI sponsored a raffle for participants, giving away REI gift certificates to winners.

### TABC

TABC received the 2005 California Water Environment Association's Pretreatment, Pollution Prevention, and Stormwater Southern California Facility of the Year Award in the large industry category. The award recognized Toyota's efforts to reduce waste and increase recycling, and the plant's consistent record of compliance with sewer discharge requirements.

**TOYOTA SUPPORTS LAND TRUST IN ALABAMA**

In 2006, Toyota Motor Manufacturing, Alabama donated \$50,000 to the Land Trust of Huntsville and North Alabama, a nonprofit organization that preserves land for public use. Team members attended a cleanup day at Wade Mountain, a Land Trust project adjacent to TMMAL. Forty team members (including the plant's president, Kunihiko Ogura, pictured) created a new hiking trail by clearing brush and debris.



**TMMAL**

For the second consecutive year, Toyota Motor Manufacturing, Alabama received the Industrial Air Pollution Control Achievement Award from the Air Pollution Control Board of Huntsville, Alabama. TMMAL also won the Manufacturers Make a Difference Community Leadership Award during the 2006 Alabama Manufacturer of the Year Award ceremony in Montgomery.



**TMMAL implemented a successful energy kaizen to reduce weekend energy use. On weekends, the plant's demand for compressed air was far less than the lowest setting of the compressor. As a countermeasure a small compressor was installed that could efficiently meet the minimum demand of the plant on weekends. TMMAL saved over \$20,000 during the first four months of operation. Here, team members confirm the compressor output.**

**TMMBC**

Toyota Motor Manufacturing, Baja California started production of Tacoma truck beds in August 2004 and trucks in December 2004. The plant's EMS was implemented by a cross-functional team that achieved ISO 14001 certification in February 2006, just over one year after beginning full production. TMMBC's environmental policy is communicated to team members with cards like the one shown below.



**TMMC**

Toyota Motor Manufacturing Canada achieved zero landfill by increasing line-side recycling and alternative recycling such as composting. The plant also reduced energy use by installing heat recovery units on their paint booths and boiler, and reduced water consumption through the use of recycling systems.

TMMC also goes beyond the requirements of its environmental action plan. The plant optimized routes for trucks that travel between the plant and suppliers, reducing CO<sub>2</sub> emissions by 600 kg/day. In addition, electronic "sniffer" devices were installed on equipment used to fill vehicles with air conditioning fluid (the fluid is a GHG). The sniffer sounds an alarm if a leak occurs, minimizing the potential for release.



**Toyota Motor Manufacturing, Indiana participated in World Water Monitoring Day for the third year in a row. The plant's participation made Indiana the number one state, reporting 130 sites tested. Using water test kits provided by TMMI, over 500 Gibson County school students sampled 41 sites. In addition, Toyota team members tested 68 sites in Indiana, three in Illinois and two in Kentucky.**

### TMMI

Toyota Motor Manufacturing, Indiana joined EPA's National Partnership for Environmental Priorities Program in April 2004. Since then, TMMI has reduced its solvent waste by more than half, an annual reduction of over 1.3 million pounds of hazardous waste; and eliminated its fuel tank primer process, an annual reduction of 400,000 pounds of barium waste. The plant has maintained zero waste-to-landfill since June 2005.

TMMI received Governor's Awards in 2002 and 2003 for Pollution Prevention, in 2004 for Community Outreach, and in 2005 for Environmental Excellence — Five Years' Continuous Improvement. These awards recognize many environmental initiatives, including:

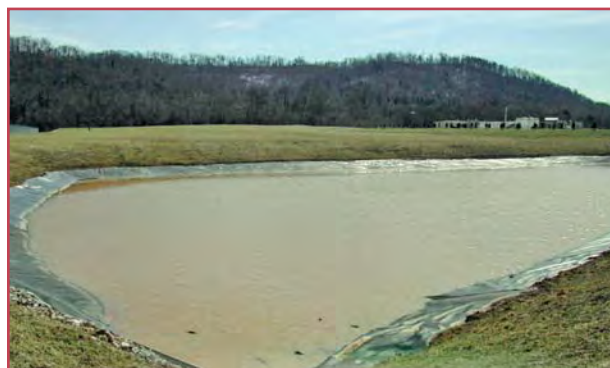
- 64% reduction in VOC emissions per vehicle;
- Material substitution that resulted in the elimination of over 22,000 pounds per year of lead-containing hazardous waste;
- Sponsorship of Earth Aware Camp, a half-day camp for third grade students.

### TMMK

Toyota Motor Manufacturing, Kentucky participated in several Earth Day events, including a hybrid ride-and-drive in honor of the new Prius purchased by the Commonwealth of Kentucky. At the Louisville Zoo, TMMK had a booth and gave away approximately 3,000 tree seedlings. In Frankfort, Kentucky, at the Salato Wildlife Center, TMMK also hosted a booth with information on composting and recycling.

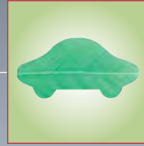
### TMMWV

Toyota Motor Manufacturing, West Virginia won the 2005 West Virginia Environmental Excellence Award for industrial companies with more than 100 employees, for its commitment to environmental stewardship. The plant implemented a water use reduction project that saves 500,000 gallons of water per year. Stormwater is collected in a pond...



then pumped to the lawn irrigation system. One inch of rainfall provides enough water for three weeks.





# SALES AND DISTRIBUTION



**“By late October 2006, we estimate that U.S. Toyota hybrid drivers had saved over 178 million gallons of gasoline, thereby avoiding 1.6 million metric tons of CO<sub>2</sub> emissions to the atmosphere.”**

**— Dian Ogilvie, Senior Vice President,  
General Counsel, and Chief Environmental Officer,  
Toyota Motor Sales, U.S.A., Inc.**

AS RECENTLY AS FIVE YEARS AGO, hybrid technology was considered “far out.” Consumers were hesitant to buy a “green” car if it was too small, cost more or had less power. As hybrid technology advanced and became available in more models, consumers’ demand for such technology has grown. In 2006, North American Prius sales accounted for over 50% of worldwide Prius sales. The Toyota brand has become synonymous with leadership in hybrid technology. In North America, hybrid technology has become a mainstream vehicle choice, and Toyota is moving to make it an option in our most popular vehicles. At the same time as we launched our “green” technology and products, we committed to systematically reducing the environmental footprint of selling and distributing our whole product line. In this chapter we are pleased to report substantial progress toward this dual objective.

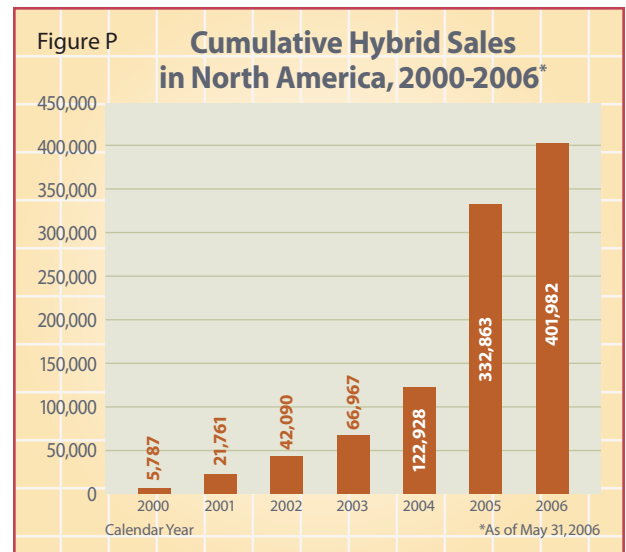
By working internally and with our business partners we have reduced our impact on the environment. In the photograph and caption on the facing page, we proudly showcase just one example of success: the building of a new, “green” dealership in Texas.

### PROMOTING GREENER VEHICLES

Through our active promotion of environmentally sensitive vehicles, we have achieved industry-leading hybrid sales in North America (please see Figure P). Since our first hybrid — the first-generation Prius — was introduced into the North American market in 2000, we have sold over 400,000 hybrids, including Prius, Highlander Hybrid, Lexus RX 400h, Lexus GS 450h and Camry Hybrid.

Between 2003 and 2005, we doubled the volume of total hybrids sold in North America. From 2005 to 2007, this volume will double again. Hybrids have truly become mainstream vehicles.

In FY2006, Toyota launched a national campaign aimed at building awareness and understanding of our gasoline/electric Hybrid Synergy Drive system. The Web site and billboards associated with this campaign were significant investments in communicating the estimated 1.6 million metric tons of CO<sub>2</sub> and the 178 million gallons of gasoline saved by driving Toyota and Lexus hybrids as of late October 2006. Additional information on hybrids and the latest figures can be found at [www.toyota.com/HSD](http://www.toyota.com/HSD).



**Left:** The Pat Lobb Toyota Dealership in McKinney, Texas, is the first auto dealership in the nation to apply for LEED® certification. The owner, Pat Lobb, is holding a proclamation from the City of McKinney declaring August 29, 2006 “Pat Lobb Toyota of McKinney Day” in recognition of their contribution to the greening of McKinney, Texas. For information on some of the dealership’s sustainable features, please see page 39.

# Our vehicle distribution centers recycled over 5.5 million pounds, or 88% of our waste.

## RED CARPET, GREENER CARS

For the fourth year, Toyota provided chauffeured hybrid vehicles to celebrities and movie industry professionals who attended the annual Academy Awards®, Independent Spirit Awards and Golden Globe ceremonies. Chauffeured celebrities received ecoSWAGG (Sustainable, Wellness and Green Gifts) bags supporting green lifestyle choices.

For the past five years, Toyota has served as the Presenting Sponsor of the Environmental Media Awards. In 2005, the event celebrated its 15th anniversary with a keynote by former Vice President Al Gore, and Toyota helped recognize those in the entertainment industry that incorporate positive environmental messages into their work.

## GOAL: ESTABLISH AN ENVIRONMENTAL MANAGEMENT SYSTEM

- Target Achieved: Achieve ISO 14001 Certification/Registration at All Parts and Vehicle Distribution Centers

All of our Toyota-owned operational sites in the U.S. and Canada met the target to achieve ISO 14001 certification/registration early. In Canada, we went one step further by registering our main sales campus as well as our regional offices in Vancouver and Quebec. The Halifax office is scheduled for registration in 2006, followed by the Calgary office in 2007. This will result in every facility in Canada being registered.

Our EMS has come a long way in five years. It began as a tool to help us achieve regulatory compliance. Now, all parts and vehicle distribution sites are using the EMS to reduce their environmental footprint in notable and creative ways. Some sites are even integrating their EMS with a health and safety management system in order to streamline the whole process while enhancing the involvement of all associates.

Our new vehicle logistics facility in San Antonio, Texas, began developing its EMS even before the site was constructed. The facility set water usage, electricity, natural gas and recycling targets as part of its planning process, and hopes to have its EMS certified under ISO 14001 in 2007.

Beyond our own operations, we actively encourage our business partners to implement an environmental management system. So far, 80% of our direct accessory and after-sales parts suppliers in the U.S. have achieved ISO 14001 certification of their EMS.

## GOAL: REDUCE WASTE AND CONSERVE RESOURCES

- Target Achieved: Implement a Nationwide Waste Tracking Program (U.S.)
- Target Achieved: Reduce Waste From Sales and Distribution Operations
- Target Achieved: Implement a Returnable-Packaging Program at Parts Distribution Centers
- Target Achieved: Increase Returnable-Packaging and Direct Shipment Programs to Vehicle Distribution Centers

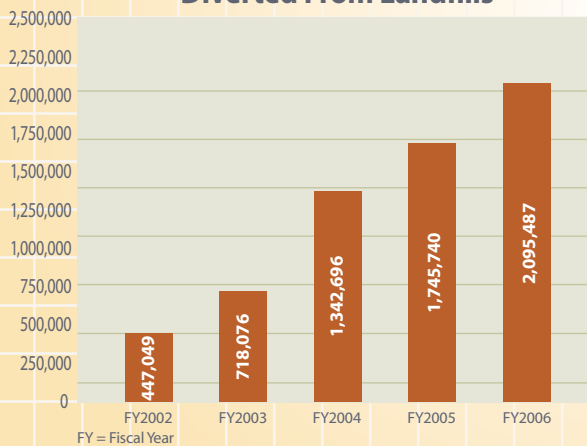
Much of the progress in achieving our waste reduction targets was made in the last three years. Since we implemented a waste tracking program in 2003, it has become easier to analyze data and pinpoint areas for improvement. Our offices, parts centers and vehicle distribution sites use the data to set metric-based annual waste reduction targets:

- Our vehicle distribution centers set a recycling rate target of 87% for 2005. We surpassed this target last year by recycling over 5.5 million pounds, or 88% of our waste, including more than two million pounds of paper and cardboard and one million pounds of metal.

## RECYCLING ELECTRONIC EQUIPMENT

On average, company personal computers are replaced every 3.7 years. This means that 200,000 pounds of such equipment must be disposed of annually. We launched the *Keep IT Green* program in 2000 to help us dispose of these computers in an environmentally responsible way. Computers are either resold or broken down for recycling by vendors that have been carefully screened. We insist that our vendors do not send scrap electronics overseas and that they are in compliance with federal and state environmental requirements. In 2006, we launched

**Cumulative Pounds of Equipment Diverted From Landfills**



*Keep IT Green 06*, a program that over the next five years will increase the energy efficiency of, and decrease the harmful substances contained in, future IT electronic equipment.

For Earth Day 2006, we handed out 1,000 energy-efficient compact fluorescent light bulbs, saving their owners over 504,750 kWh of electricity over the bulbs' estimated lifetime. We also sponsored the third annual e-Waste Round-Up at our sales and distribution headquarters in Torrance, California. Over a two-day period, we collected 50 tons of discarded computers and other electronic equipment from employees and the surrounding community. The e-waste was recycled locally by our vendor, keeping lead, mercury, cadmium and other hazardous metals out of landfills.

- Our national parts operation set a target to reduce landfill waste 63% from a FY2003 baseline of 54.8 pounds per 1,000 parts shipped. The parts and distribution centers accomplished a 77% reduction, finishing FY2006 at 12.5 pounds of waste to landfill per 1,000 parts shipped.
- Our Canadian headquarters office has a target to reduce paper use to 3.9 million sheets in 2006. Their paper use has decreased significantly since 2001, from 8.6 million sheets per year to 4.5 million sheets per year. A recently implemented program, The Smart Print Solution, is contributing to a 25% reduction in paper and print consumables: Print jobs wait in a queue until the owner calls for them while at the printer. This results in no lost print jobs, no cover pages, no reprints and total security.

The biggest impact on waste reduction has been the use of returnable shipping modules. We use 18,000 recyclable, metal shipping containers in place of cardboard and pallets at all 14 parts distribution centers in the U.S. In FY2006, the returnable container program saved nearly \$5.8 million in packaging costs, and eliminated nearly seven million pounds of wood and 2.7 million pounds of cardboard.

In the U.S., the culmination of our five-year effort was to turn these division-specific initiatives into a corporate program. We launched the Toyota Waste Avoidance and Recycling Program (WARP) in FY2006. WARP is our national waste management program that provides centralized support for vehicle and parts distribution centers, regional offices and our U.S. sales and distribution headquarters. Through WARP, environmental coordinators can find recycling vendors, share best practices and coordinate cross-division waste reduction efforts. The program is also a resource for training, technical knowledge and project assistance.

In recognition of our efforts to reduce waste and increase recycling, six Toyota locations won awards in 2005 from the



California Integrated Waste Management Board through their Waste Reduction Awards Program (WRAP). Those honored included vehicle distribution centers in Long Beach and Fremont; parts distribution centers in Ontario, Los Angeles and San Ramon; and our U.S. sales and distribution headquarters in Torrance.

# The commitment of our facilities department to environmental sustainability has resulted in two Gold LEED building certifications.

## GOAL: PROMOTE EXCELLENCE IN HANDLING AND TRANSPORTING HAZARDOUS MATERIALS

- Target Achieved: Maintain 100% Compliance With All Applicable HAZMAT/Dangerous Goods Regulations

As part of our normal day-to-day operations, we receive, store and ship a variety of automotive parts that are considered hazardous materials (HAZMAT) in the U.S. and dangerous goods in Canada. HAZMAT/dangerous goods are articles that pose a risk to the public's health, safety, property or the environment, and as such are regulated for transportation. Such articles typically received or shipped from our facilities include air bag modules, seat belt pretensioners and batteries.

Since 2001, we have set an annual target to maintain 100% compliance with all applicable HAZMAT/dangerous goods regulations. In 2006, we achieved this target for the eighth consecutive year at all of our sites in Canada and the United States. Over 1,000 Toyota associates have been trained and tested in HAZMAT/ dangerous goods security, general awareness and related subjects.

## GOAL: PROMOTE ENVIRONMENTAL RESPONSIBILITY AMONG DEALERS

- Target Achieved: Launch the Environmental Assistance Network Online
- Target Achieved: Enhance Features of the Environmental Assistance Network (U.S. Only)
- Target Achieved: Introduce Toyota Environmental Guidelines to the Canadian Dealer Network by 2004

There are approximately 1,700 Toyota and Lexus dealerships in the United States, Canada and Mexico. As key business partners, we provide them with resources to help manage service-related waste streams and comply with applicable environmental and safety regulatory requirements.

One of the key resources we developed for our dealers is the Environmental Assistance Network (EAN), launched in 1993. In 2001, we established a partnership with the Coordinating Committee for Automotive Repair (CCAR)-Greenlink®, and moved EAN to the Web. EAN provides U.S. dealers with up-to-date compliance and waste stream management information and self-audit tools. We have continually added new content to EAN, such as Spanish language documents and links to more state and local environmental agencies, to improve and develop this resource.

Since the EAN is focused on U.S. federal, state and local regulatory requirements, Toyota also produces informational materials for dealers in Canada. Toyota dealers with body shops also received material specifically addressing environmental concerns and compliance issues in automobile paint and body repair operations.





Three of Toyota's sales and logistics sites used a number of sustainable practices during construction or renovation: the Port of Portland Vehicle Distribution Center, the South Campus of Toyota Motor Sales, U.S.A. headquarters in Torrance, California, and the Toronto Vehicle Processing Center.

## GOAL: PROMOTE GREENER BUILDING CONSTRUCTION AND MAINTENANCE OPERATIONS

- Target Achieved: Develop Sustainable Operations Standards for U.S. Facilities
- Target Achieved: Achieve LEED® Certification for the U.S. Sales Headquarters South Campus Buildings by the End of 2003

We achieved both targets, thanks to a strong commitment to environmental sustainability from our Real Estate and Facilities Department. We developed "Process Green" to encourage sales offices and logistics sites to use practices and products that are sustainable, address end-use cost and meet business needs in a socially responsible manner. The process addresses building systems and materials, as well as products used by the custodial staff.

Through Process Green, Toyota received Gold LEED certification for the South Campus headquarters buildings in Torrance, California; and Gold LEED for the relocation and expansion of Toyota Logistics Services' Port of Portland Vehicle Distribution Center (VDC). Our new vehicle processing center in Toronto, Ontario, was also constructed with numerous sustainable features.

Our most recent initiative has been helping our dealers think about green building opportunities. We worked with dealer principal Pat Lobb in McKinney, Texas, on constructing a dealership with LEED standards in mind. The dealership is the first in the country to be registered with the U.S. Green Building Council, and to apply for LEED certification (please see the photo on page 34). The site includes the following "green" components:

- A highly reflective energy saving roof system;
- Carpets made from starch-based agricultural products such as corn, rice and sugar beets;
- A roof designed to collect rain water to be used for landscaping and car washing;
- Electronic monitoring systems to provide continuous energy performance data for analysis.

### GREENING THE PORT AT LONG BEACH, CALIFORNIA

The Port at Long Beach, California, held the first Green Port Open House in October 2005, attended by more than 2,000 members of the public. The Port, its customers and local agencies highlighted how Green Port projects are addressing the Port's environmental goals. Our Long Beach vehicle distribution center participated in this event, highlighting our efforts to reduce waste and improve recycling.

Examples of our recycling efforts include collecting metal tow hooks, wheel lug nuts and exhaust mufflers for recycling as scrap metal, and recycling protection film (Rapgard™), which is collected and baled by vehicle dealerships and sent to our facility for proper recycling.



# We exceeded our energy use reduction target at our U.S. sales and distribution operations.

## GOAL: REDUCE ENERGY USE (U.S.)

- Target Achieved: Establish Energy Usage Database
- Target Achieved: Reduce Total Energy Consumption 15% by FY2006

Toyota is strongly committed to reducing energy use throughout our sales and distribution network, as demonstrated by our efforts over the past five years. We successfully implemented an integrated energy management program across all U.S. facilities. This program includes an advanced utilities metering system that offers real time data on electricity and natural gas usage and a means to evaluate efficiency.

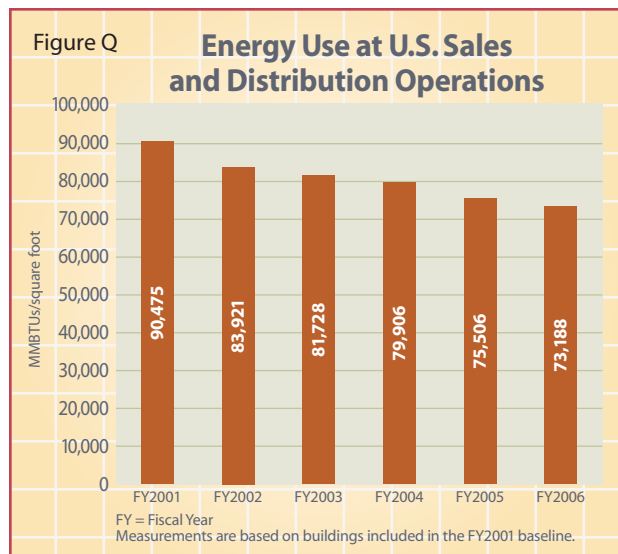
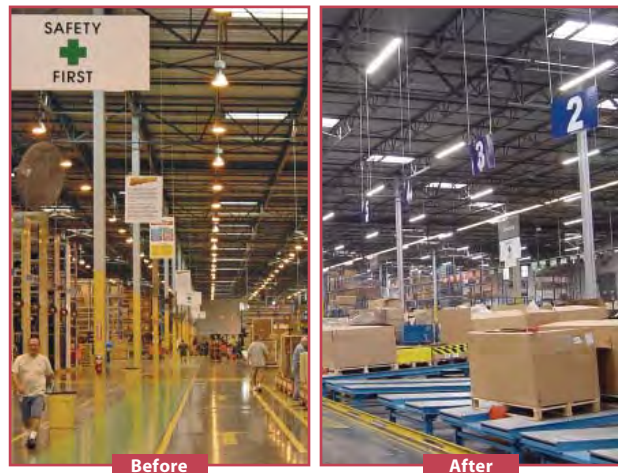
We met our five-year goal for reducing total energy consumption early in FY2005, achieving a 15% reduction at all U.S. sales and distribution operations from a FY2001 baseline. Cumulatively, we saved over 17 million kilowatt-hours of electricity and 1.2 million therms of natural gas. In FY2006 we surpassed this goal, with a 19.1% reduction in energy consumption (please see Figure Q). Highlights of our efforts include:

- We developed and implemented an HVAC control strategy that reduced energy consumption at our parts center in Kentucky by 40%. A lighting upgrade at our parts center in Ontario, California, reduced the facility’s electricity consumption by 38% (see the Energy-Efficient Lighting Upgrade – Before and After photos to the right).
- A new railcar lighting system that uses 65% less energy than the previous system was implemented at our vehicle distribution centers in Georgetown, Kentucky; Portland, Oregon; and San Antonio, Texas.

In FY2006, we identified over 100 *kaizens* and potential reductions in electricity use in excess of 1.5 million kilowatt hours. Major photovoltaic projects piloted in California have also reduced our energy footprint.

We continue to pursue new energy reduction opportunities. Our new environmental action plan includes commitments to set a target for renewable energy use in the U.S. and a new target in Canada to reduce energy consumption over the next five years.

### Energy-Efficient Lighting Upgrade





Associates of our vehicle distribution center (VDC) in Indiana visited a local high school in Princeton to talk about the environmental impacts of automobiles and the challenges of reducing air pollution. More than 500 students participated in an educational exercise to calculate the total greenhouse gas emissions they generated by riding buses to school over a 10-day period. They also added up emissions produced by the weekly commute of the VDC's 160 associates. Students planted 36 dogwood, pear and redbud trees donated by Toyota to offset those emissions.

### GOAL: REDUCE GREENHOUSE GASES (U.S.)

- Target Achieved: Compile an Inventory of GHG Emissions by FY2004

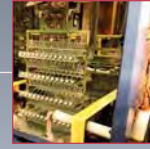
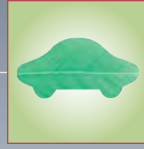
Toyota's U.S. sales and distribution operation has been tracking GHG emissions since 2000. The *GHG Protocol*, developed by the World Resources Institute and the World Business Council for Sustainable Development, has been used to develop annual inventories.

The GHG inventory developed by Toyota's U.S. sales and distribution division measures total metric tons of CO<sub>2</sub> emissions from electricity use, natural gas use, business travel, employee commuting, fleet vehicles and logistics activities. We track and report on emissions in Scopes 1, 2 and 3, as defined in the *GHG Protocol*. Scopes 1 and 2 include direct and indirect emissions from stationary and mobile sources that are within our control (such as Toyota-owned logistics vehicles, purchased energy and fleet vehicles). Scope 3 emissions include those from mobile sources that are owned by other entities, but are a consequence of our activities. Our Scope 3 emissions include employee business travel, employee commuting and business partner logistics activities. Our decision to include Scope 3 emissions reflects our commitment to a complete and transparent inventory.

We have made a number of improvements to the inventory over the years, including advancements in methodology, use of more accurate emissions factors and refinements to the organizational boundary. Some of the major changes include:

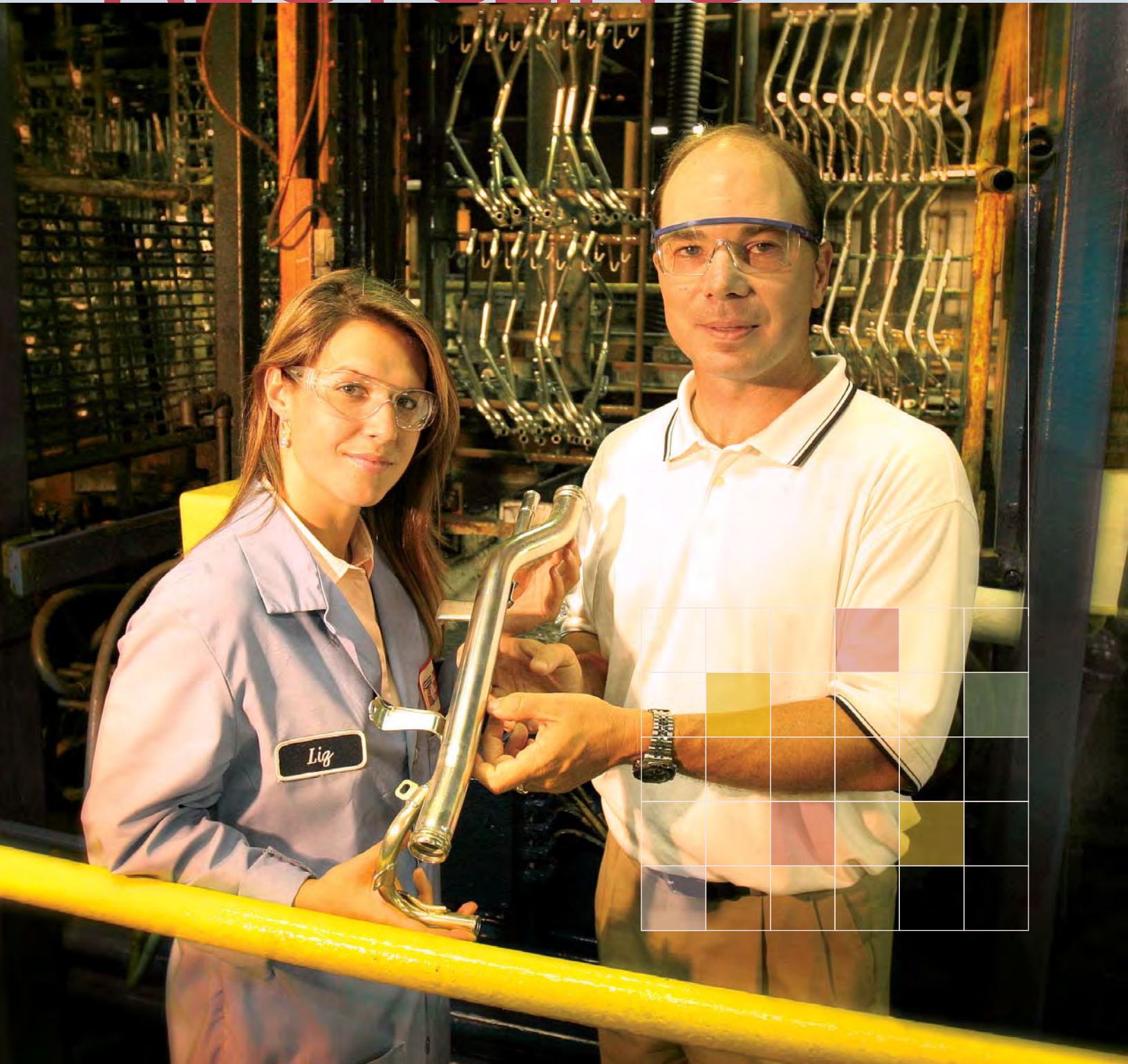
- Shifting the inventory from calendar year to fiscal year in 2005 to be in line with our environmental action plan.
- Using emission factors specific to our rail carriers (instead of industry averages) to calculate emissions from transporting vehicles and parts via railroad, beginning with the calendar year 2003 inventory. This has resulted in more accurate emissions estimates.
- Refining the organizational boundary to account for the transfer of our manufacturing parts logistics operation to our manufacturing affiliate in FY2005. Beginning with the FY2005 inventory, we no longer report these emissions in our total, as they are no longer within our organizational boundary.

We intend to expand into the area of target setting in the future.



# RECYCLING

END-OF-LIFE VEHICLES



# “It is vital for Toyota to take a more proactive approach toward the creation of a sustainable, recycling-oriented society.”

— Toyota Recycle Vision

**TOYOTA'S RECYCLE VISION PRESENTS** our worldwide commitment to recycling end-of-life vehicles. We recognize that automobiles have a long useful life, so our Vision lays out long-term goals for designing vehicles with a 95% recovery rate. In North America, we are working toward achieving this recovery rate. We will continue to work toward this goal through commitments made in our new Five-Year Environmental Action Plan.

## **GOAL: MANAGE SUBSTANCES OF CONCERN**

- Target Achieved: Gather North American Baseline Data for Selected SOCs
- Target Achieved: Develop North American Substances of Concern Strategy

Toyota made a voluntary commitment in 2004 to minimize substances of concern (SOCs), defined as mercury, cadmium, lead and hexavalent chrome, in all North American vehicles, service parts and accessories. We surveyed parts for SOCs and performed content analyses on the 2002 Camry and the 2004 Solara Coupe. We then developed a strategy to eliminate, replace or reduce SOCs in all North American vehicles and parts.

We have been working with our suppliers — domestic and foreign — to identify components that contain SOCs and to develop a timetable to phase out these substances. Here are a few examples of our accomplishments:

- Beginning with the 2005MY, we phased out mercury in gauges in Lexus vehicles, and we began using mercury-free HID headlamps.
- We use a lead-free body electro-coat on all vehicles produced in North America.

- In the Solara, we greatly reduced the use of lead by using a lead-free radiator and heater core.
- Beginning with the 2005MY, the Avalon has a lead-free crank shaft, connecting rod and crank bearing.

## **GOAL: DEVELOP RECYCLING DESIGNS AND PROMOTE EXPANDED USE OF RECYCLED MATERIALS**

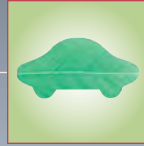
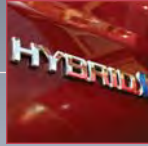
- Target Achieved: Incorporate Material and Design Strategies for Increased Vehicle Recyclability

Toyota has made progress over the last five years in designing vehicles that are easier to recycle at end-of-life. We have done this by using more recyclable components, using renewable resources, and using remanufactured parts in vehicle service applications.

The redesign of a number of Toyota vehicles, including the Avalon, Solara coupe and Sienna minivan, incorporated a number of environmentally sensitive features. Polyvinyl chloride (PVC) instrument panel covers were replaced with durable thermoplastic urethane. We also use kenaf-reinforced plastic on a number of components. We continue to evaluate renewable and recyclable options on future model redesigns.

Despite a decline in sales of remanufactured parts over the last five years, Toyota continues to support customer needs by expanding our lineup of remanufactured service parts. Each year, we set a target to launch 100 new applications. Recently, we have been trying to launch these parts closer to the introduction of new vehicles. We are now looking into remanufactured hybrid components.

**Left:** Toyota Technical Center Engineer Elizabeth Finkel and Marsh Plating Corp. President Matt Marsh discuss a water outlet pipe assembly for the cooling system that contains no substances of concern (SOCs). Marsh Plating Corp. is one of several North American suppliers working with Toyota toward our goal of replacing or eliminating components containing SOCs.



# STAKEHOLDERS



# “We were honored that Toyota globally was rated one of the top three Most Sustainable Companies at the 2006 World Economic Forum conference.”

— Stephen Beatty, Managing Director,  
Toyota Canada Inc.

**TOYOTA'S BUSINESS PRINCIPLES** put society and the environment at the heart of our customer relations, our operations and employee relations, our collaborative work with suppliers and dealers, and our volunteer activities. This starts with our global Earth Charter (please see page 6), runs through our business principles and policies, and is implemented in a range of activities at all levels within and outside the company. In terms of our action plan goals to engage stakeholders, we are committed to enhancing environmental communication activities in North America. Our targets were to enhance environmental communication activities and to promote environmental communication with community and key organizations. Over the past five years, Toyota has engaged and reported on our work, with a range of stakeholders who are illustrated in Figure R. This chapter outlines some of this activity; other activities are mentioned in other chapters. Further details can be obtained from [www.toyota.com/community](http://www.toyota.com/community) and [www.toyota.ca](http://www.toyota.ca) (“Environment”).

## CUSTOMERS

Since our founding, Toyota has placed the customer at the center of our activities. Each year, we conduct focus groups and surveys in the U.S., Canada and Mexico, to learn about what consumers want in a vehicle. Over the past five years, the message from our customers has been that environment will be part of a purchasing decision after price and performance considerations have been met. The challenge for Toyota was to make a commitment to environmental technology ahead of a clear message from consumers. However, the response in North America, initially to the Prius and now to our expanded line of

hybrid vehicles, has given us clear market signals. Customers are responding positively to our innovative environmental product choices. The terrific success of hybrid sales in 2006 speaks to the interest among consumers in North America in this technology.

Figure R



## SUPPLIERS

At Toyota, we have a long-term commitment to protecting the environment, and we ask our suppliers to adopt the same priority as part of our partnership. All of our affiliates work closely with suppliers to improve environmental management and performance. Toyota also works hard to build enduring relationships with local and minority-owned suppliers, both in our manufacturing operations and in sales. Examples of these partnerships can be found throughout this report. Further information on how we work with suppliers to achieve strong social and environmental results can be found at: [www.toyotasupplier.com](http://www.toyotasupplier.com).

Left: Toyota Canada provided nine 2006 Toyota Highlander Hybrids to the Toronto Fire Services to be used as emergency response vehicles for its Chief Officers. Toronto Fire Services, the largest fire service in Canada and fifth largest in North America, has become the first known in North America to deploy hybrid vehicles.



Shown above is one of the four Prius donated to Yellowstone National Park. Rangers in the park drive these vehicles and use them to talk to visitors about sustainability practices in the park.

**SHAREHOLDERS — RECOGNITION FROM ENVIRONMENTAL AND SUSTAINABILITY RATING AGENCIES**

Toyota globally has received recognition from several environmental and sustainability rating agencies. The environmental performance of Toyota’s North American affiliates contributes significantly to Toyota’s overall ratings. In 2006, *Fortune* magazine rated Toyota Motor Corporation the second most admired company in the world, and the ninth most admired company in the U.S.; in both groups, Toyota led the auto sector. This ranking asks business leaders to evaluate firms in terms of their performance in innovation, quality of management, employee talent, financial soundness, use of corporate assets, long-term investment, social responsibility and product/services quality. Toyota Motor Corporation also led the auto sector in the global Dow Jones Sustainability Index (DJSI) for the third consecutive year (2005 results). The DJSI World Index selects some 300 companies in 60 industry sectors that represent the top 10% of leading sustainability companies. This ranking is due to the successful alignment of our global Vision 2010 “Innovation into the Future” with our long-term environmental strategy worldwide.

The Carbon Disclosure Project, a project that tracks the carbon emissions of global companies valued at \$21 trillion, placed Toyota Motor Corporation among global automobile leaders in 2005, the first time we have been placed in this group. This was in recognition of our goal to achieve the highest production-environment efficiency in each country/region.

**LOCAL COMMUNITIES/GLOBAL SOCIETIES**

Toyota works with organizations nationwide that encourage people to connect with nature, protect natural resources and improve environmental conditions in their communities. Our partnerships with nongovernmental organizations, governments and communities often take the form of vehicle donations, funding for educational programs, lending technical expertise, or volunteering time. Our previous reports provided a number of examples of these partnerships; here, we highlight several projects that we have been involved with over the last several years.

**DONATING VEHICLES**

**Sustainable Transportation in Our National Parks**

Toyota recently donated four Prius to the Great Smoky Mountains National Park in Tennessee and North Carolina. Donations of hybrid vehicles support efforts by the National Park Service to promote sustainable transportation practices within the parks. Toyota has also partnered with the Santa Monica National Recreation Area, Yellowstone National Park, Grand Tetons National Park, Point Reyes National Seashore, Wilson’s Creek National Battlefield and Hagerman Fossil Beds National Monument to support the “Greening of the National Parks” program.



# With Toyota's help, 265,000 students have participated in greening projects at 715 schools across Canada.

## SUPPORTING ENVIRONMENTAL EDUCATION

Toyota partners with leading organizations to support programs that educate children and their families about creating a cleaner, greener and healthier world. Through these partnerships, Toyota is committed to enhancing environmental literacy and responsibility, and developing conservation leaders of tomorrow. Some of these major national programs are discussed below. In addition, local donations are made frequently through individual facilities. For example, our joint-venture assembly plant in Fremont, California, donated \$25,000 to a city-sponsored educational program that teaches students about ecology.

### TAPESTRY

The Toyota TAPESTRY program, in partnership with the National Science Teachers Association, recently awarded nearly \$550,000 in grants to 76 U.S. K-12 teachers who submitted creative science project proposals. Fifty applicants received up to \$10,000 each and 26 received minigrants of up to \$2,500 each. More than \$7 million has been awarded to 826 teams of teachers throughout the program's 16-year history.

Toyota awards grants to innovative kindergarten through twelfth-grade teachers yearly. Judges, accomplished in various areas of science, select projects that stand out in creativity, risk-taking and originality in three areas: environmental science, physical science and science applications that promote literacy. This year's projects explore topics ranging from the science of weather forecasting to the alternative energy technologies needed to convert a gasoline-powered car into a functional electric vehicle.

### Toyota Evergreen Learning Grounds Program

Toyota's affiliate in Canada partnered with Evergreen in 2000 to create the Toyota Evergreen Learning Grounds Program. This program is designed to transform Canadian school grounds into natural learning environments. Since then, Toyota and its dealerships contributed over \$4 million to help Evergreen provide the tools and support that students, teachers and communities need to turn often barren school properties into inviting play spaces and natural learning environments. The funds provide access to an online native plant database and project registry; funding grants ranging from \$500 to \$2,000 to assist schools in the purchase of native plants, heritage vegetables and berries; and expert assistance through Evergreen and its Learning Ground Associates. With Toyota's help, 265,000 students have participated in greening projects at 715 schools across Canada.

### Toyota Earth Day Scholarship Program

Toyota's Canadian affiliate and Earth Day Canada established the Toyota Earth Day Scholarship Program in 2003 to help cultivate and nurture environmental leadership among students. The program encourages and rewards graduating high school students and Quebec junior college students who have distinguished themselves through environmental community service, extracurricular and volunteer activities, and academic excellence. Each year, the program has awarded 15 scholarships of CAN\$5,000 each.

# Across North America, Toyota employees volunteer their time to a number of organizations and events that help protect the environment.

## TOYOTA IN THE GALAPAGOS ISLANDS

The Galapagos Islands, 960 kilometers from Ecuador, are one of the most pristine and biologically diverse ecosystems in the world. Almost 100,000 tourists travel there each year. This tourism has caused a population boom over the past decade, and the resulting demand for goods and services is negatively impacting the natural environment. Pollution from energy generation and waste practices is contaminating coastal marine water, groundwater and soil.

For the past four years, Toyota has partnered with the World Wildlife Fund to address negative environmental impacts from tourism, electricity generation and waste management practices. Toyota has provided funding, expertise, and employee time to several projects that have had a positive impact on the environment.



Giant tortoises and other wildlife of the Galapagos Islands have benefitted from Toyota's partnership with the World Wildlife Fund.



The Baltra fuel handling facility, once an environmental and safety hazard, is now a technologically-advanced facility.

The largest and most critical of the projects that Toyota has supported is the renovation of the main fuel handling facility for the islands. What was once an environmental and safety hazard is now a technologically-advanced facility, and operates under the International Standard for EMSs, ISO 14001.

Toyota has also supported an oil recycling program on Santa Cruz Island. Prior to this program, used oil from boats and cars was dumped directly into the ecosystem. To date, 150,000 gallons of oil have been collected and recycled. 2006 also marks the completion of a three-year education campaign that teaches middle school and high school children about renewable energy.




Employees from our manufacturing plant in Georgetown, Kentucky, our vehicle distribution center in Long Beach, California, and our design and development facility in Ann Arbor, Michigan, are just some of the many Toyota volunteers that participated in NPLD.

### EMPLOYEES — VOLUNTEERING TIME

Across North America, Toyota employees volunteer their time to a number of organizations and events that help protect the environment. Our volunteer efforts range from large nationwide events such as Earth Day, to smaller local efforts. In all cases, our employees donate their knowledge, their time and their hard work to educate others about our world and to protect our parks and open spaces.

### NATIONAL PUBLIC LANDS DAY SEPTEMBER 24, 2005

We sponsored National Public Lands Day (NPLD) for the seventh consecutive year in partnership with the National Environmental and Education Training Foundation in September 2005. More than 90,000 volunteers, including thousands of Toyota employees, improved trails, removed invasive plants, built bridges, planted trees and removed trash in natural areas and parks across the country. We have also committed to sponsoring NPLD for the next three years.

### EARTH DAY APRIL 22, 2006

Toyota employees in North America participated in Earth Day events within Toyota and with surrounding communities.

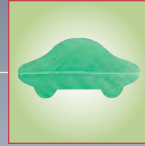
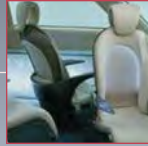


In Cambridge, Ontario, 375 TMMC team members and their families attended the Earth Day Family Event at Shade's Mill Conservation Area.

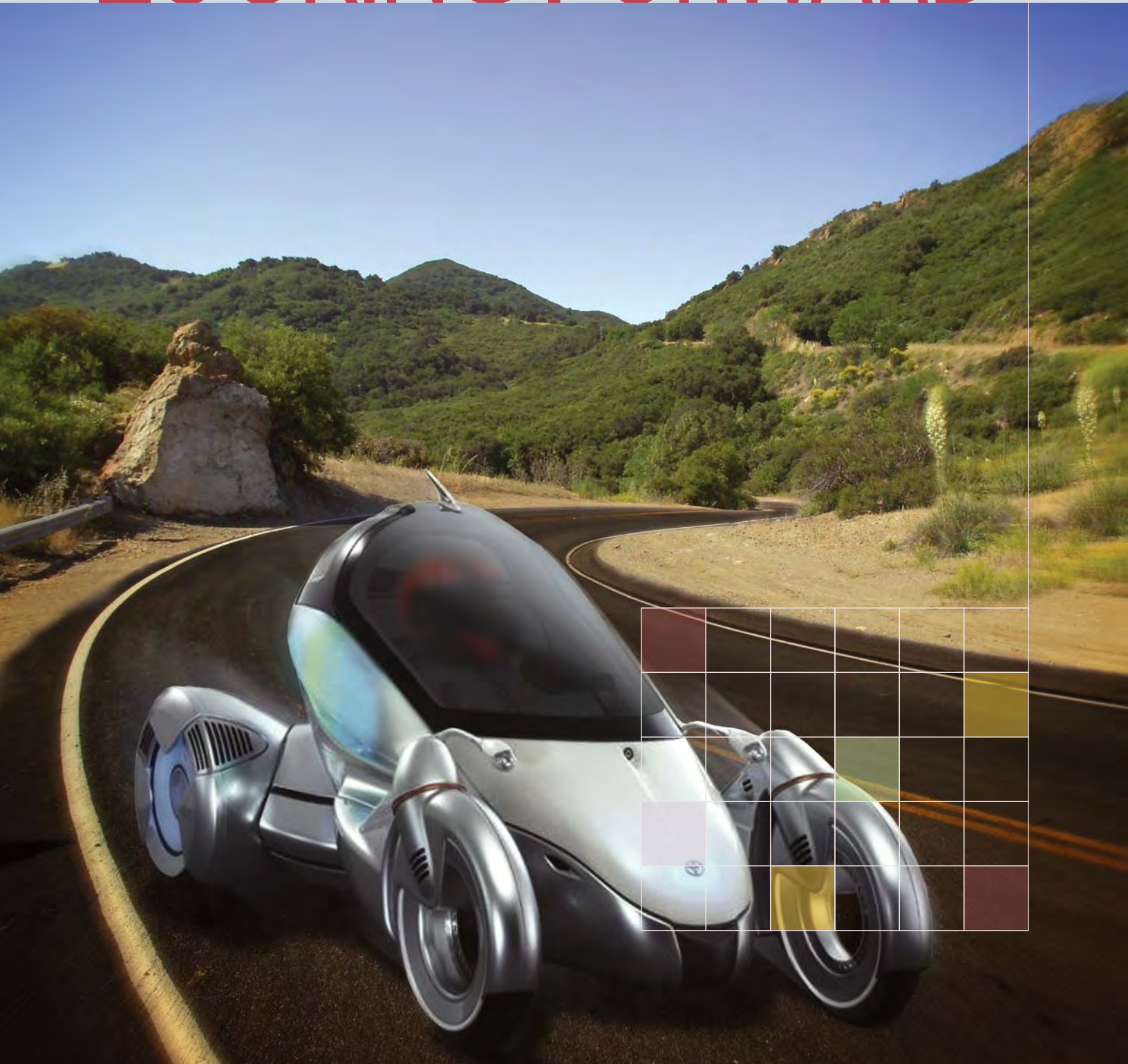


### FRIENDS OF THE ROUGE WATERSHED

For the past seven years, Toyota has sponsored the Friends of the Rouge Watershed, a community-based conservation group in Scarborough, Ontario. Over 200 employees donate their time each year to help the group rehabilitate the Beare Road Landfill, a former dumpsite located beside the environmentally sensitive Rouge Valley.



# LOOKING FORWARD



# “Hybrids are a core technology for the 21st century because they improve performance and emissions as well as mileage. That’s why Toyota aims to sell one million hybrids in the U.S. by early next decade.”

**Jim Lentz, Executive Vice President,  
Toyota Motor Sales, U.S.A., Inc.**

**TOYOTA AIMS TO SELL** one million hybrid vehicles in the U.S. by early next decade. This was unimaginable a few short years ago, but now seems to be in our reach. This will be achieved because Toyota will concentrate, as we have always done, on making our plans for environmental improvement and working steadily toward their achievement. This chapter publishes a summary of our Second Consolidated Five-Year North American Environmental Action Plan (NAEAP) for the first time, covering fiscal years 2007 - 2011. It will also be placed on our Web site, and can be viewed at [www.toyota.com/environment](http://www.toyota.com/environment).

## **FIVE-YEAR ENVIRONMENTAL ACTION PLAN**

The Five-Year NAEAP builds on plans created at each affiliate, and is consistent with the policies and corporate goals and targets set by our Japanese parent, Toyota Motor Corporation. In the past, we presented our plan in terms of the life cycle of our operations. This plan is presented thematically, in terms of what we consider to be our most material environmental footprint. The new Five-Year Plan presented on the following pages is a summary of a longer document. Each year over the next five years, we will report against goals and targets that were worked on in that reporting year.


## **FIVE-YEAR ENVIRONMENTAL GOALS**

The themes we address in the Second NAEAP are energy and climate change, recycling and reduced use of resources, substances of concern, atmospheric quality and environmental management. On energy and climate change, our goals include continuing to promote clean technology and reducing energy use at all of our facilities. Our recycling goals extend our achievements in manufacturing of zero waste-to-landfill to our vehicle design facilities. On substances of concern, we will continue to reduce the levels of SOCs used in parts and accessories, and will continue working with suppliers to support the development of alternatives. Our goals for atmospheric quality include developing ultra-low emissions technologies for vehicles, and reducing VOC emissions in manufacturing. Our goals for environmental management include improving our environmental management systems at our operational sites, and promoting and enhancing EMSs for our business partners. We also recognize that Toyota cannot do this on its own. We therefore renew and expand our commitments to strengthen our work with external stakeholders and partners.

**Left:** Globally, Toyota develops technologies to meet society’s future mobility needs. Issues of the future include sustainable mobility, fuel efficiency, and providing options for different travel needs and different physical abilities. One concept vehicle delivers 435 miles on a 13.7-gallon tank, and 0-60 acceleration in a mere four seconds. Toyota’s other “concept cars” can be viewed at: [www.toyota.com/vehicles/future/index.html](http://www.toyota.com/vehicles/future/index.html). Shown here is the Personal Mobility PM Concept Vehicle. It seats a single passenger in a cockpit on wheels. It has no engine; rather it is powered by a brushless electric motor. A joystick controls direction and speed. The PM facilitates mobile networking – multiple PMs can communicate and/or team up, with one leading and the others following on autopilot.

# Consolidated Summary of Second Toyota North American Environmental Action Plan (FY2007-FY2011)

## ENERGY/CLIMATE CHANGE

### GOAL 1: Achieve best-in-class fuel efficiency performance

#### Targets:

- Meet or exceed CAFE and CAFV standards in U.S. and Canada, respectively
- Continue development and deployment of fuel-efficient technologies through the proactive engagement of stakeholders

### GOAL 2: Promote the development of clean-energy vehicles and ensure wider market acceptance

#### Target:

- Demonstrate feasibility, support necessary infrastructure development, and advocate policies that promote progress toward full-scale commercialization of advanced vehicle technologies

### GOAL 3: Introduce vehicle technologies, which support the diversification of energy and fuel sources

#### Targets:

- Promote awareness of the CO<sub>2</sub> reductions and energy security benefits of bio and synthetic fuels
- Partner with industry and government to identify and solve challenges toward full-scale commercialization of alternatively fueled vehicles

### GOAL 4: Promote initiatives to reduce traffic congestion through a variety of networking technologies

#### Target:

- Provide advanced transportation solutions by integrating on-vehicle Intelligent Traffic System (ITS) technologies that allow drivers to communicate with public information systems

### GOAL 5: Reduce CO<sub>2</sub> emitted from North American operations and grasp CO<sub>2</sub> emissions volumes and reduction approaches

#### Targets:

##### MANUFACTURING

- Using FY2002 as a base year, reduce total energy usage of manufacturing facilities/operations in North America by 27% per vehicle produced to 6.3MMBTU/vehicle produced
- Meet or exceed AAM Climate VISION target of a 10% reduction in CO<sub>2</sub> emissions per vehicle from U.S. assembly operations by CY2012 (CY2002 base year)

##### SALES AND LOGISTICS

- By fiscal year 2011, reduce energy consumption of U.S. facilities by 18% compared to FY2001 baseline
- Achieve 10% reduction in energy consumption from all Toyota Canada facilities by 2010
- Track greenhouse gas emissions resulting from U.S. vehicle and parts logistics and continue to evaluate logistics-related emissions reduction methods (e.g., modal shifts, new technologies)

## RECYCLING AND REDUCED USE OF RESOURCES

### GOAL 6: Reduce waste and the need to recycle material throughout all operations and processes

#### Targets:

##### MANUFACTURING FACILITIES

- Reduce compensated waste (nonhazardous waste plus materials Toyota pays to be recycled) to 30 kg/vehicle
- Maintain zero landfill

##### NONPRODUCTION FACILITIES

- *Vehicle Design Facilities:* Achieve zero hazardous landfill and reduce nonhazardous waste toward zero landfill
- *Manufacturing Headquarters:* Reduce compensated waste by 10%

##### SALES AND LOGISTICS FACILITIES

- Achieve a 90% recycling rate at U.S. Toyota Logistics Services by FY2011
- Reduce nonhazardous waste to landfill from U.S. North American Parts Operations by 33% from FY2006 baseline by FY2011
- Recycle 60% of Toyota Motor Sales Headquarters waste in FY2007
- Divert 95% waste from Toyota Canada facilities from landfill by FY2010
- Reduce Toyota Canada facility paper consumption per person by 25% by FY2010

### GOAL 7: Reduce water consumption

#### Targets:

**MANUFACTURING:** Reduce water usage to 0.98 Kgal/vehicle

**SALES AND LOGISTICS:** For U.S. facilities, evaluate baseline in FY2008 and set targets for reduction in FY2009, focusing on areas of the U.S. where water is most scarce; Achieve 10% water consumption reduction from Toyota Canada facilities by 2010

### GOAL 8: Further promote and apply the Design for Recycling (DfR) concept

#### Target:

- Evaluate new materials from renewable resources (Toyota Eco-Plastic, natural fiber, recycled plastics, etc.) toward further introduction of eco-friendly parts

## SUBSTANCES OF CONCERN

### GOAL 9: Promote management and further reduce the use of substances of concern (SOC)

#### Targets:

- Reduce the use of mercury, lead, cadmium and hexavalent chrome in OEM and service parts and accessories to the *de minimis* levels in the EU Directives
- Identify and solve challenges toward effective management of additional vehicle SOCs
- Facilitate suppliers' SOC tracking and verification via the International Material Data System (IMDS) and support the development of SOC alternatives
- Develop and implement alternative materials to reduce vehicle cabin VOC levels

## ATMOSPHERIC QUALITY

### GOAL 10: Reduce emissions to improve air quality in urban areas

#### Targets:

- Meet all applicable emissions standards, including Tier 2 and LEV II new vehicle certification standards
- Maintain leading level in-use vehicle emissions compliance performance
- Promote the development of ultra-low emissions technologies and introduce the lowest emitting vehicles

### GOAL 11: Implement initiatives to reduce and track VOC usage and emissions

#### Targets:

*Vehicle Painting:* Reduce body painting VOCs to a corporate average of 14.0 g/m<sup>2</sup>

*Vehicle Plastics:* Determine a VOCs baseline in FY2006 and set a target that begins in FY2007

## ENVIRONMENTAL MANAGEMENT

### GOAL 12: Strengthen consolidated environmental management by incorporating environmental measures at the planning stages of a product or process

#### Targets:

##### NA OPERATIONS – ALL

- Minimize environmental risks and achieve leading levels of environmental performance
- Zero notices of violation and complaints
- Consider LEED (Leadership in Energy and Environmental Design) certification for new buildings/remodeling

##### MANUFACTURING

- Develop eco-plant plans for all new production facilities (designing plants to minimize environmental impacts)

##### SALES AND LOGISTICS

- Maintain ISO 14001 certification at U.S. vehicle and parts logistics facilities
- Achieve ISO 14001 registration at two remaining (of nine total) Toyota Canada facilities by the end of 2007

### GOAL 13: Enhance and further promote environmental management systems for business partners

#### Targets:

**SUPPLIERS:** Update Toyota environmental requirements (Green Supplier Guidelines) for U.S. manufacturing suppliers

**DEALERS:** Implement U.S. Dealer Environmental Training Program (HAZMAT, environmental, pollution prevention)

### GOAL 14: Steadily reduce the environmental impact of Toyota vehicles over their product life cycle

#### Target:

- Introduce implementation of Eco-Vehicle Assessment System (VAS) on all new or redesigned vehicle models beginning in CY2007

### GOAL 15: Contribute to the development of a recycling-based society

#### Targets:

- Launch at least 100 additional remanufactured parts applications per year
- Expand the availability of environmentally preferable paper in U.S. sales and marketing operations
- Encourage the safe and environmentally appropriate disposal of tires by dealers through the TMS Tire Program

### GOAL 16: Enrich stakeholder communications

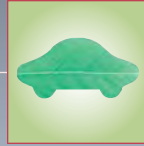
#### Target:

- Increase the transparency of Toyota's environmental plans, activities and performance by strengthening environmental communication with government agencies, ENGOs, business partners and local communities

### GOAL 17: Actively contribute to sustainable development efforts

#### Targets:

- Promote basic environmental research aimed at CO<sub>2</sub> emissions reductions
- Strengthen Toyota's North American philanthropy efforts toward environmental/sustainable development projects and partnerships that contribute to development of new technologies, education and the preservation of biodiversity
- Toyota Canada to maintain 25% of total philanthropic contributions directed toward environmentally focused programs



# TOYOTA IN NORTH AMERICA



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**“In less than 50 years, and measured by traditional indicators such as investments, production, employment and sales, Toyota has become a North American brand.”**

**— Josephine Cooper, Group Vice President, Government and Industry Affairs, Toyota Motor North America, Inc.**

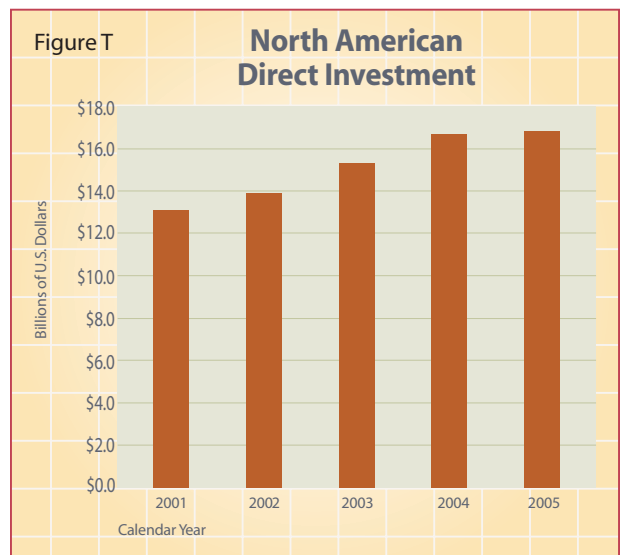
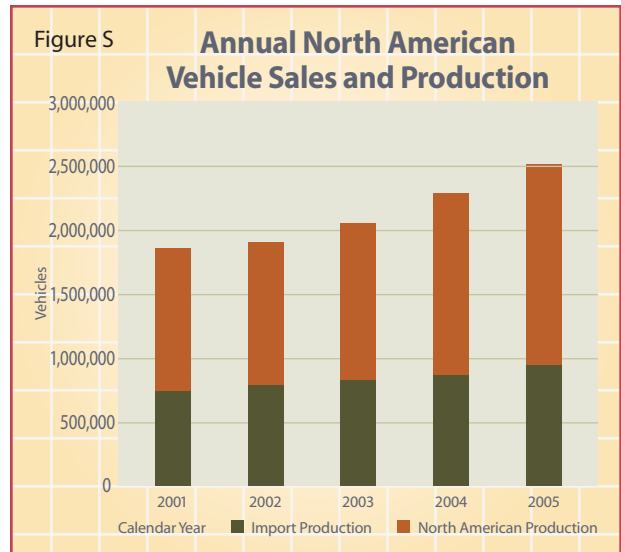
**IN 2006, TOYOTA BECAME THE SECOND LARGEST** automotive manufacturer by sales and was the eighth largest company in the world by revenue. Toyota vehicles (not including Lexus) are the third best-selling brand in our U.S. and Canada markets. The Toyota Prius remains the top-selling hybrid vehicle in North America and the world.

As we further expand our business, we also continually seek to increase our positive contribution to the North American economic and social fabric. This section provides an overview of our company’s investments in North America.

Toyota in North America consists of a number of affiliates. For more information on our affiliate companies, please visit [www.toyota.com/about/operations](http://www.toyota.com/about/operations).

**TOYOTA IN NORTH AMERICA**

- Toyota currently has over 180 operating locations in the U.S., Canada and Mexico.
- Toyota currently operates 13 plants in North America.
- Toyota began its North American operations in 1957. Since then, our current investment has grown to \$17.6 billion (as of mid-2006).
- Since 1986, nearly 19 million Toyota vehicles have rolled off the line in North America – more than 1.5 million in 2005 alone.
- There are over 1,700 Toyota, Lexus and Scion dealers located in North America.



**Left:** We are committed to increasing our investment in North American parts and materials purchasing, and to having a supplier base that more closely reflects the diversity of our customers and employees. Having a diverse supplier base enables us to contribute to the economic well-being of all segments of the population. Last year, Toyota spent more than \$28 billion for parts, materials, goods and services from hundreds of North American suppliers and business partners, directly creating more than 45,000 local jobs. At our new plant in San Antonio, Texas, we have 21 suppliers located on-site. Shown here are Kirk Kohler, General Manager of on-site suppliers for TMMTX, and Berto Guerra, Chief Executive Officer of Avanzar, a Minority Business Enterprise certified by the Central and South Texas Minority Business Council that supplies seat and interior parts.



During startup trials at Toyota Motor Manufacturing, Texas, a team member checks a Tundra for leaks after it exits a shower test that uses recycled water.

**TOYOTA MOTOR NORTH AMERICA, INC.,**

is a holding company for Toyota’s U.S. sales and manufacturing operating units, with major locations in Washington, D.C., and New York City. In addition, it coordinates the business activities for all of Toyota’s North American companies.

**TOYOTA MOTOR ENGINEERING & MANUFACTURING NORTH AMERICA, INC.,**

was established in 2006 and is headquartered in Erlanger, Kentucky. Toyota Motor Engineering & Manufacturing North America is the consolidation of Toyota Technical Center and Toyota Motor Manufacturing North America. The company is responsible for Toyota’s North American engineering design and development, R & D, and growing manufacturing activities in the U.S., Canada and Mexico. Our facilities include:

- Bodine Aluminum, Inc.  
Jackson, Tennessee, and St. Louis and Troy, Missouri
- Canadian Autoparts Toyota, Inc. (CAPTIN)  
Delta, British Columbia
- New United Motor Manufacturing, Inc. (NUMMI)  
Fremont, California
- TABC, Inc. (TABC)  
Long Beach, California
- Toyota Motor Manufacturing, Alabama, Inc. (TMMAL)  
Huntsville, Alabama
- Toyota Motor Manufacturing de Baja California (TMMBC)  
Tijuana, Baja California, Mexico
- Toyota Motor Manufacturing Canada, Inc. (TMMC)  
Cambridge and Woodstock (2008), Ontario
- Toyota Motor Manufacturing, Indiana, Inc. (TMMI)  
Princeton, Indiana
- Toyota Motor Manufacturing, Kentucky, Inc. (TMMK)  
Georgetown, Kentucky
- Toyota Motor Manufacturing, West Virginia, Inc. (TMMWV)  
Buffalo, West Virginia
- Toyota Motor Manufacturing, Texas, Inc. (TMMTX)  
San Antonio, Texas

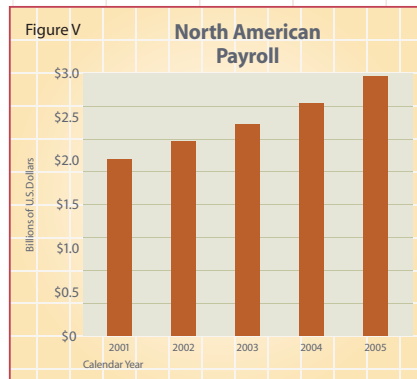
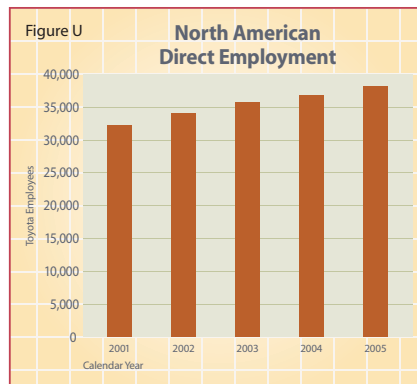
- TTC Research and Development Centers  
Ann Arbor\* and Plymouth, Michigan; Wittman, Arizona;  
Gardena and Berkeley, California; Boston, Massachusetts  
*\*Also location of Design Center*

**TOYOTA MOTOR SALES, U.S.A., INC.,**

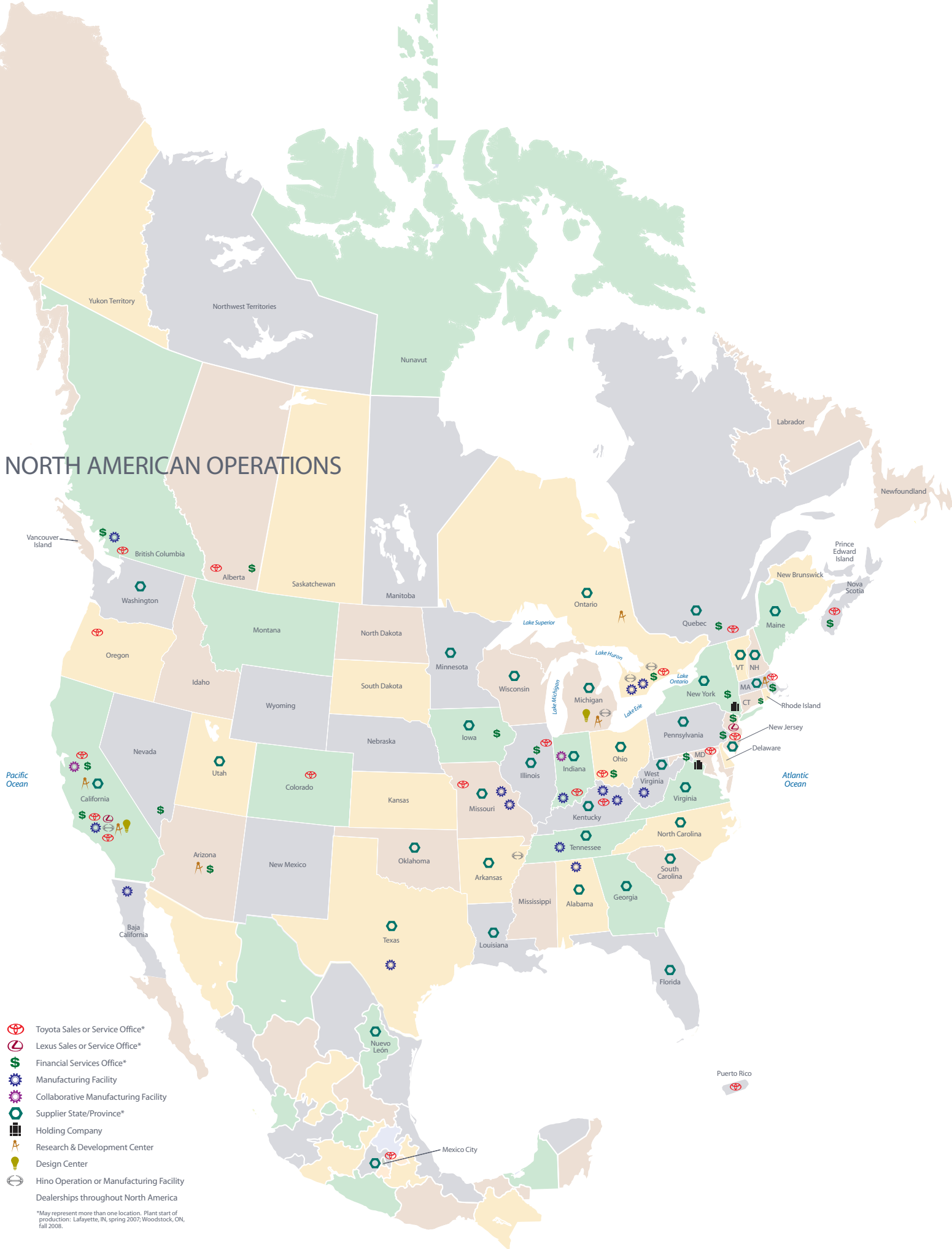
headquartered in Torrance, California, is responsible for sales, marketing, distribution, service and parts support for Toyota, Scion and Lexus products in the continental United States.

**TOYOTA CANADA INC.,**

headquartered in Toronto, Ontario, is the head office for all divisions of Toyota’s sales, marketing, parts, service, Lexus and industrial equipment operations in Canada.



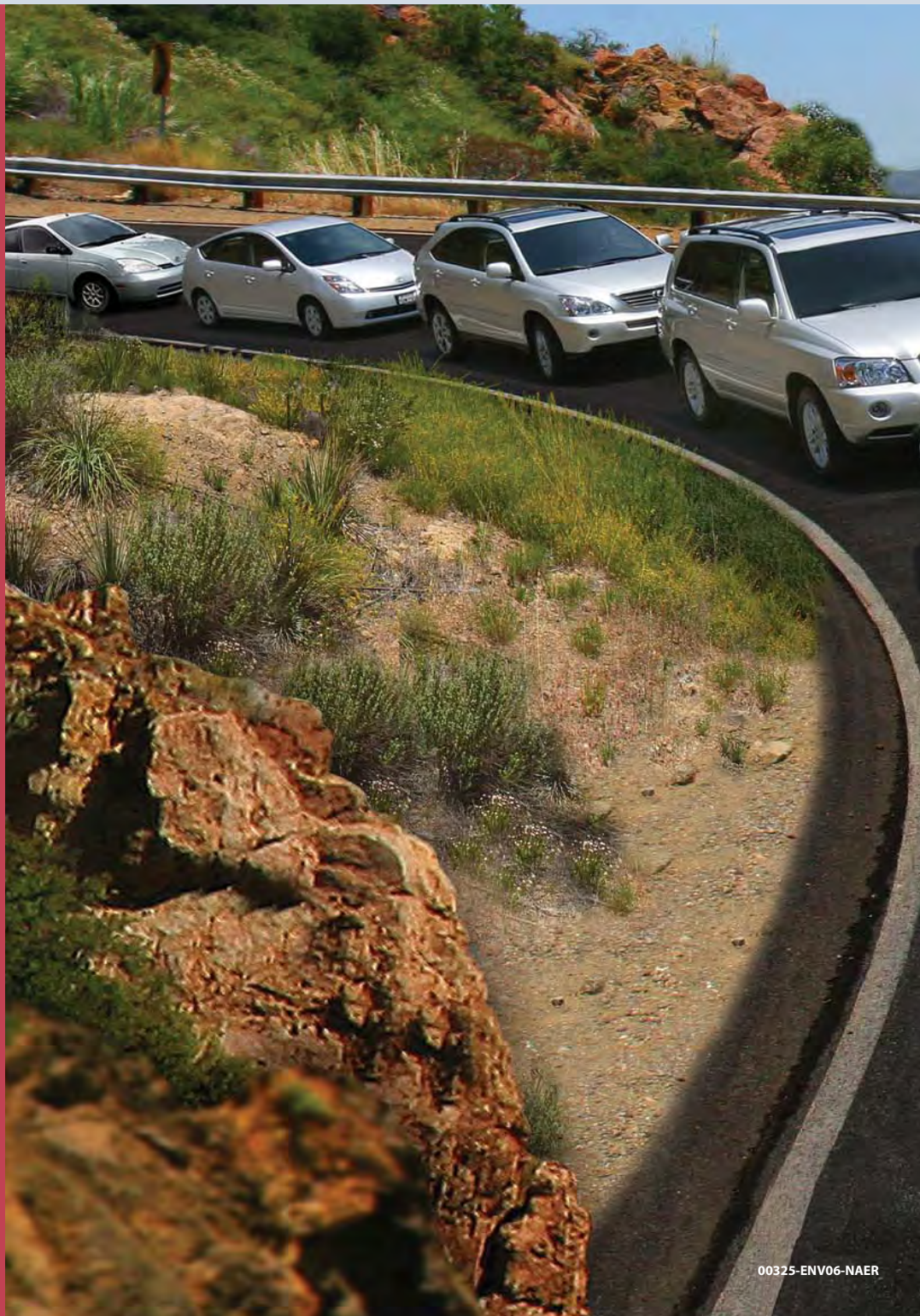
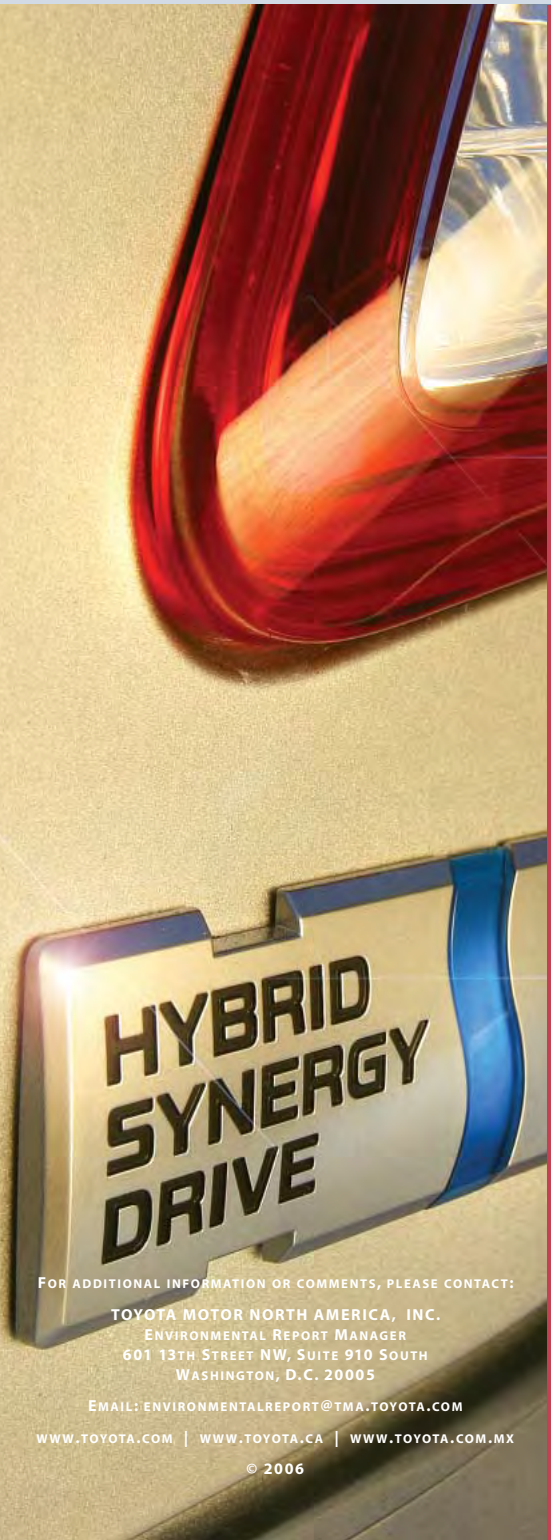
# NORTH AMERICAN OPERATIONS



\*May represent more than one location. Plant start of production: Lafayette, IN, spring 2007; Woodstock, ON, fall 2008.

# 2006 TOYOTA NORTH AMERICA ENVIRONMENTAL REPORT

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