

Respect for the Planet
—Toyota's Environmental Initiatives—



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World Business Council for Sustainable Development

Toyota is a supporter of Education for Sustainable Development (ESD). ESD activities are aimed at creating a sustainable society.



+ Education for Sustainable Development

Respect for the Planet—Toyota's Environmental Initiatives—2013

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Respect for the Global Environment—Toyota's Environmental Initiatives—2013

Editorial Policy

The goal of this report is to convey Toyota's efforts to realize harmony with people, societies, and the global environment, as well as realize a sustainable society through manufacturing. The Toyota Global Vision announced in March 2011 is an explicit statement of the type of company Toyota wants to be and should be. Toyota will make always better cars and enrich the lives of communities, leading to a stable base of business. Toyota's approach to business is to repeat this cycle and achieve sustainable growth. Based on the Toyota Global Vision and national environmental policies, Toyota seeks, on a global scale, to carry out activities under three priority themes of "contribute to a low carbon society," "contribute to a recycling-based society," and "environmental protection and contribution to a harmony with nature society." To achieve this, Toyota is practicing environmental management by working to reduce environmental impact at all stages of the vehicle lifecycle spanning from development, design and manufacturing to logistics, sale, disposal, and recycling.

The name of this report has been changed from "Sustainability Report 2012 Separate Volume: Facts and Figures" last year to "Respect for the Planet—Toyota's Environmental Initiatives—." Environmental information that Toyota particularly wants to convey is included in the print edition, and environmental data is scheduled to be posted on the Toyota website in October.



Period Covered The period covered in the report's data is from April 2012 to March 2013. For major ongoing initiatives, the most recent status update in 2013 has been included.

Scope of Reporting Environmental initiatives and examples of action taken by Toyota Motor Corporation, consolidated subsidiaries in Japan and overseas, and so on.

Websites for overseas affiliates' reports

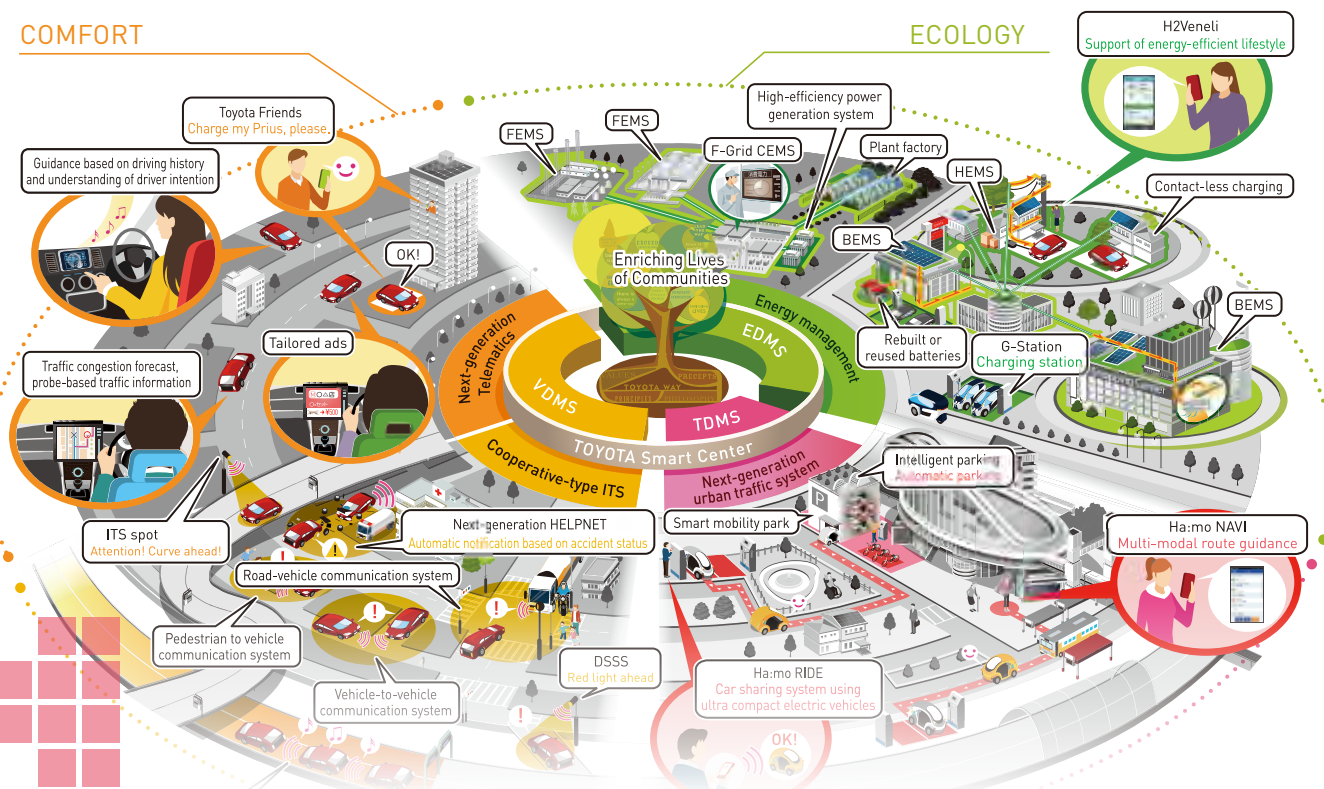
Toyota overseas affiliates and other related companies in a total 16 countries and regions (including Japan) publish separate environmental reports. The information disclosed globally by these reports covers about 87% of Toyota vehicles sold worldwide.



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Toyota's Environmental Contribution Increasing with Hybrid Vehicles at Its Core

COMFORT



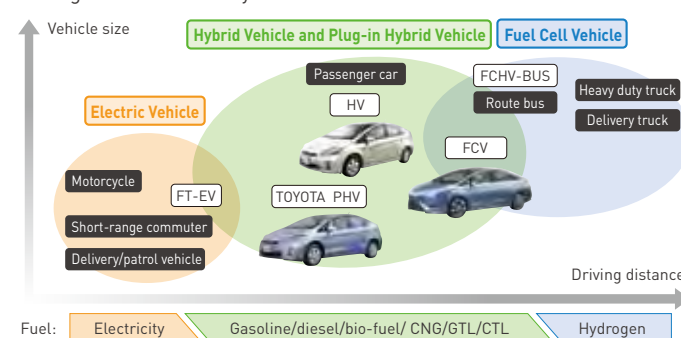
ECOLOGY

Toyota is aiming to help accelerate the realization of a future smart mobility society, i.e., a society where everyone feels secure and happy in all aspects of their lives from car transport to everyday life. In order for cars, which will form the core of such a next-generation society, to continue to exist as a sustainable mobility means, it is crucial to expand the use of energy sources other than fossil fuels and reduce CO₂ emissions. Toward this goal, Toyota is taking a comprehensive approach to creating the ultimate eco-car by working on next-generation green vehicles such as plug-in hybrid vehicles (PHVs), electric vehicles (EVs), and fuel cell vehicles (FCVs) using hybrid technologies as the core.

Using Various Types of Next-generation Eco-cars Depending on Benefits, Customer Needs, and Usage Mode

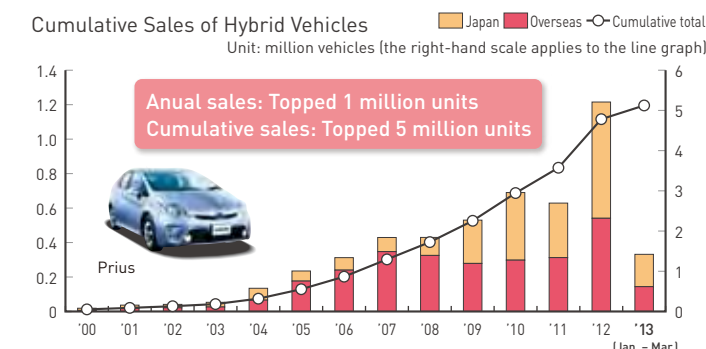
As alternatives to petroleum, gas, electricity, and hydrogen will be produced from primary energy sources including petroleum and sunlight to drive PHVs, EVs and FCVs. Toyota believes that these next-generation eco-cars will be increasingly utilized in the future for specific applications depending on customer needs and usage mode. Therefore, Toyota is taking a comprehensive approach to developing PHVs, EVs and FCVs using hybrid technologies as the core.

Next-generation Mobility Zones



Worldwide Sales of Hybrid Vehicles Top Five Million Units

As of end of April 2013, Toyota was marketing 20 hybrid passenger car models (including one plug-in hybrid model) in approximately 80 countries and regions around the world. In 2012, Toyota reached annual global sales of more than one million hybrid vehicles for the first time, and had sold a cumulative total of five million vehicles as of the end of March 2013.



Environment-friendly Vehicles Can Only Truly Have a Positive Impact if They Are Used Widely

No matter how good next-generation eco-cars become, they will not do any good if they are not widely adopted in society. Toyota believes that environment-friendly vehicles can only truly have a positive impact if they are used widely. Therefore, Toyota is taking a comprehensive approach to developing PHVs, EVs and FCVs, using hybrid technologies as the core, in addition to HVs, which will continue to be the most popular type for the near future. In this way, Toyota is working to create ideal eco-cars that will contribute to the realization of a sustainable mobility society, so that customers can choose the type best suited to their applications.

Toyota's Message for Promoting Widespread Use of Eco-cars

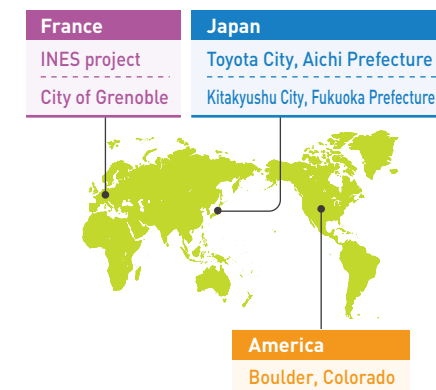
As of May 2013, Toyota was marketing 20 hybrid vehicle series and **plans call for the launch of 19 new and fully redesigned models** in the three years between 2013 and 2015.

Participating in Verification Tests in Various Countries and Regions

Toyota participates in verification tests in several locations worldwide to help popularize next-generation environmentally considerate vehicles and realize the smart mobility society the company envisions. Through these tests, Toyota is developing new technologies and evaluating the usability of cars, peripheral devices, and so on from the customer's perspective.



A townscape from the Toyota City pilot project—a Smart Community with the aim of zero CO₂ emissions from houses and cars



Focus

New Verification Test Launched on Ultra-compact Urban EV Car-sharing Project in City of Grenoble, France

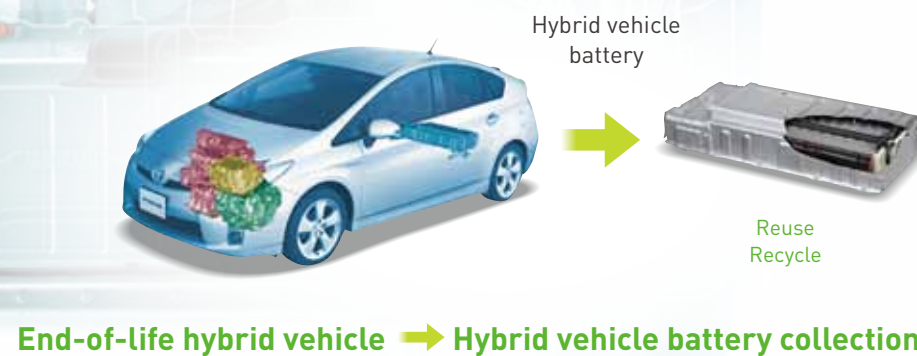
In April 2013, Toyota concluded PHV verification testing, conducted jointly with the City of Strasbourg, France, over a three-year period. Using approximately 70 Prius PHVs and 145 dedicated charging stations provided throughout the city by French energy provider Électricité de France (EDF), verification data was accumulated while utilizing vehicle identification and information exchange systems. The Prius PHVs were driven over a total cumulative distance of four million kilometers during the three-year test and demonstrated their ability, with 1.1 charges per day, to reduce gasoline consumption by 46 percent on the average compared to gasoline-engine vehicles of the same size.

In March 2013, Toyota signed a Memorandum of Understanding to begin verification tests on an ultra-compact urban EV car-sharing project towards the end of 2014 in the city of Grenoble, where strict environmental regulations apply. The project will use the Toyota i-ROAD concept car that was exhibited at the Geneva International Motor Show, with the goal of reducing emissions of greenhouse gases and air pollutants.



TOYOTA i-ROAD

Promoting Reuse and Recycling to Make Effective Use of the Earth's Limited Resources for the Future



Since Toyota debuted the Prius 16 years ago, it has built its own recovery network to collect end-of-life hybrid vehicle (HV) batteries to be recycled. To date, Toyota has collected 30,000 end-of-life HV batteries and recycled all of them.

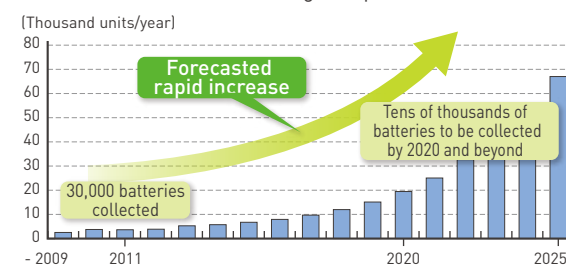
HV batteries contain precious resources such as nickel, cobalt, and rare earth elements. Toyota has developed and adopted the world's first technologies to enable these precious resources to be reused in new batteries. It is expected that tens of thousands of end-of-life HV batteries will be generated by the middle of the 2020s. Toyota has also developed the world's first technologies for reusing or recycling HV batteries. The batteries are reused as replacement batteries or as stationary batteries in photovoltaic power generation systems. Toyota further plans to promote the skillful reuse of batteries from end-of-life vehicles as part of measures to utilize renewable energy in an environmentally considerate manner.

When even these reused batteries finally reach the end of their use cycle, their metal parts are recycled into new batteries again.

Toyota is always thinking about the importance of effectively using limited resources and is expanding its initiatives to Europe, the U.S. and other countries.

Since 1997
30,000 End-of-life HV Batteries Collected in Japan, All of Which Were Recycled

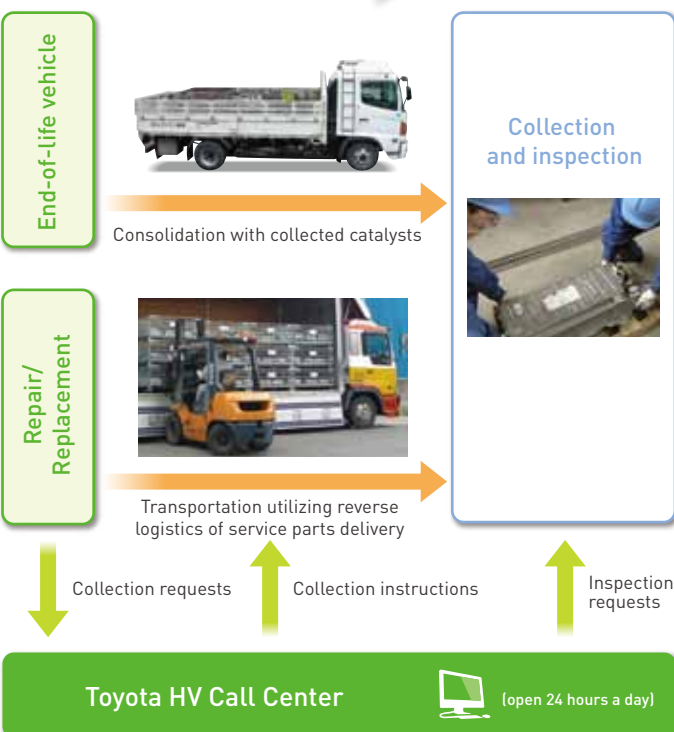
Number of End-of-life HV Batteries Expected to be Generated at Dismantling Companies



Collection and Recycling in Other Countries Where Hybrid Vehicles are Sold



Building Toyota's Unique Collection Network



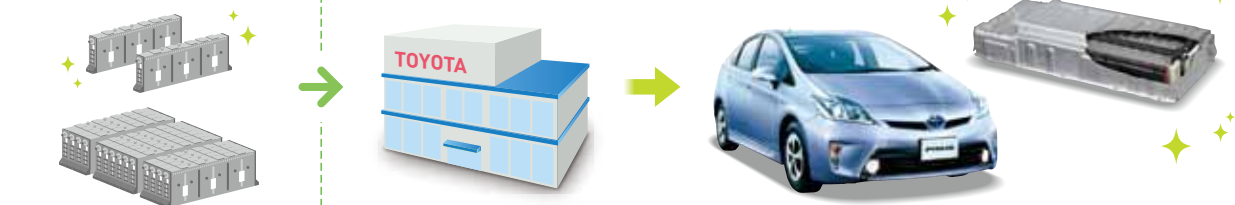
STEP 1 Reusing HV batteries as replacement Prius batteries

World's first

- Original charging/discharging device developed
- Replacing end-of-life cells and reusing batteries as replacement batteries

Remanufacturing by installing reusable cells

Supplied as low-cost replacement batteries



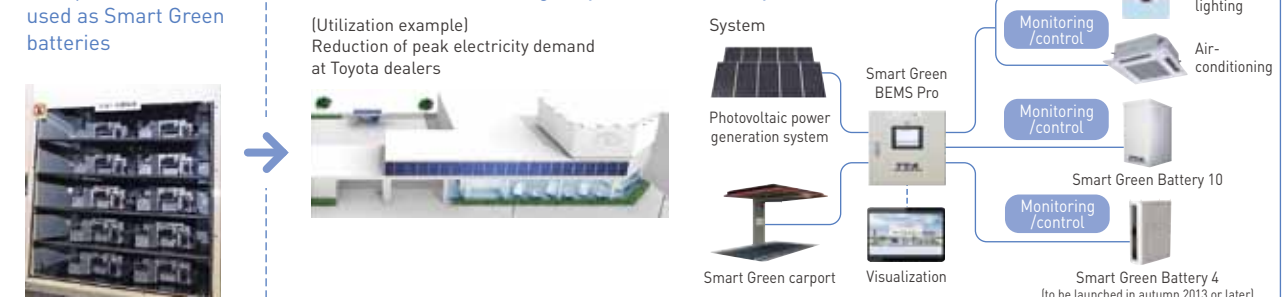
STEP 2 Reusing HV batteries in storage battery systems used to reduce peak electricity demand

World's first

- Batteries are tested using an original measuring instrument. Only those passing the test are built into a storage battery system that is then connected to an energy management system and used to reduce peak electricity demand at Toyota dealers.
- During an emergency, electricity can be supplied from the storage battery system to an electrical outlet or to specific devices.

Incorporated as is and used as Smart Green batteries

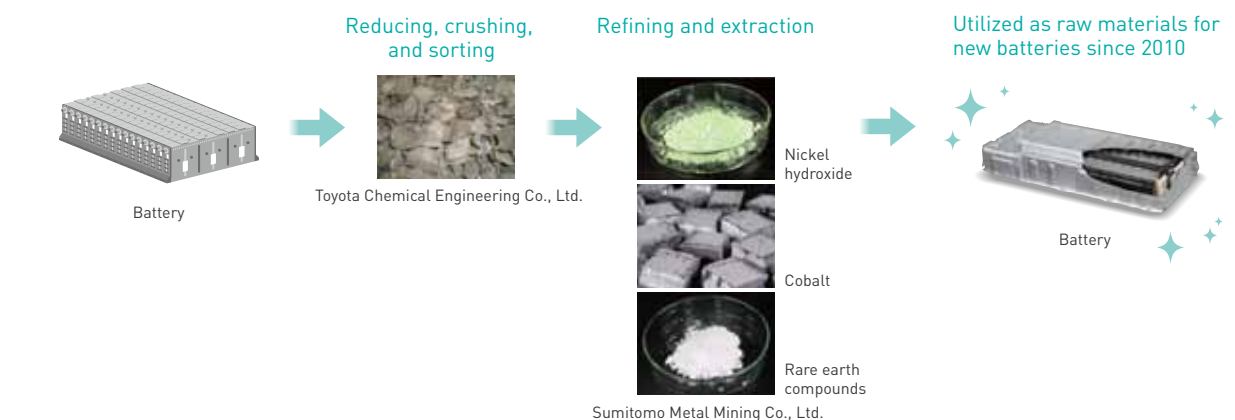
Sales commenced through Toyota Turbine and Systems Inc. in FY2013



STEP 3 Recycling of rare metals and rare earth elements

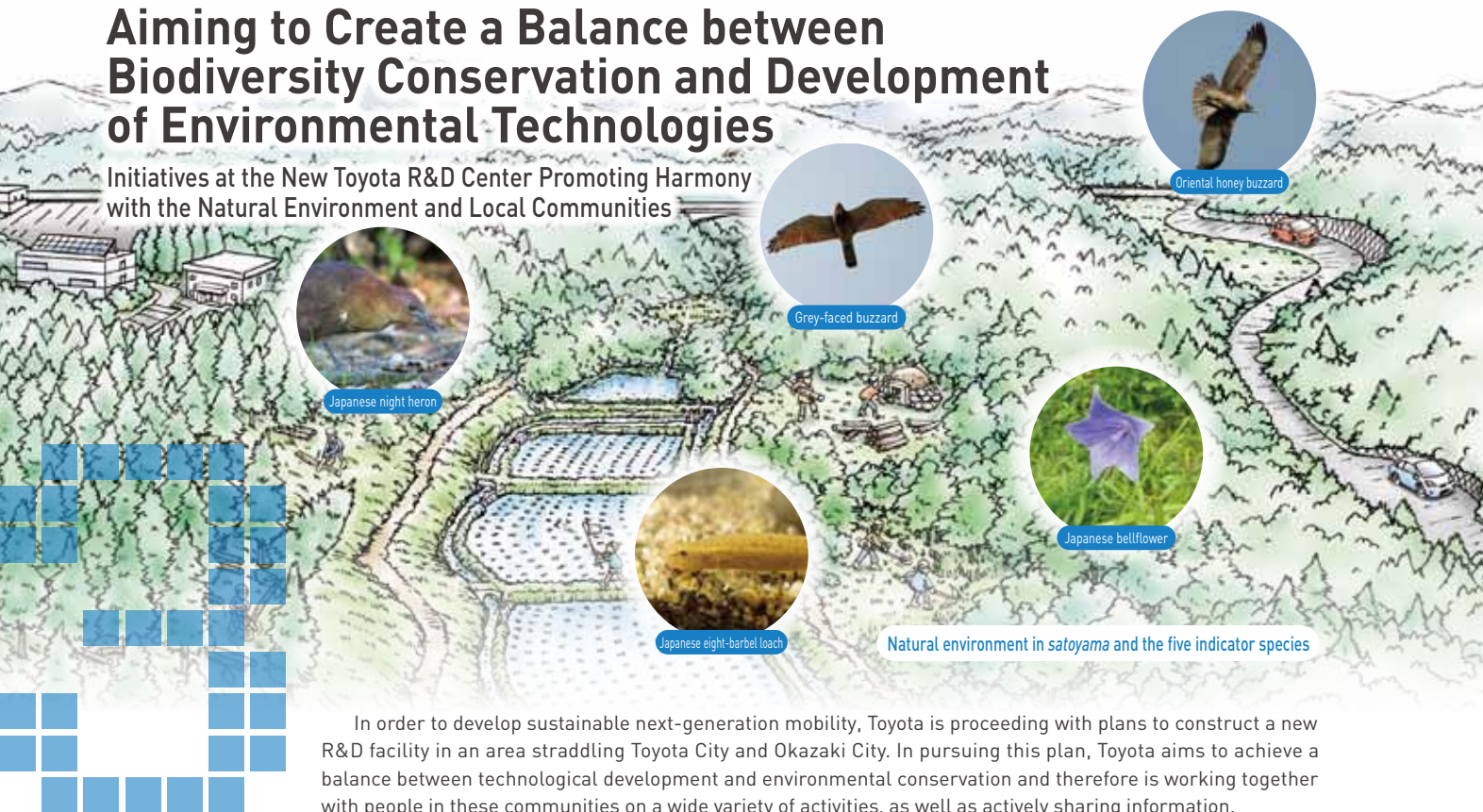
World's first

- Through an original recycling method, batteries that cannot be reused and end-of-life batteries that have already been reused are reduced to metals, which are then recycled as resources for producing new batteries.



Aiming to Create a Balance between Biodiversity Conservation and Development of Environmental Technologies

Initiatives at the New Toyota R&D Center Promoting Harmony with the Natural Environment and Local Communities



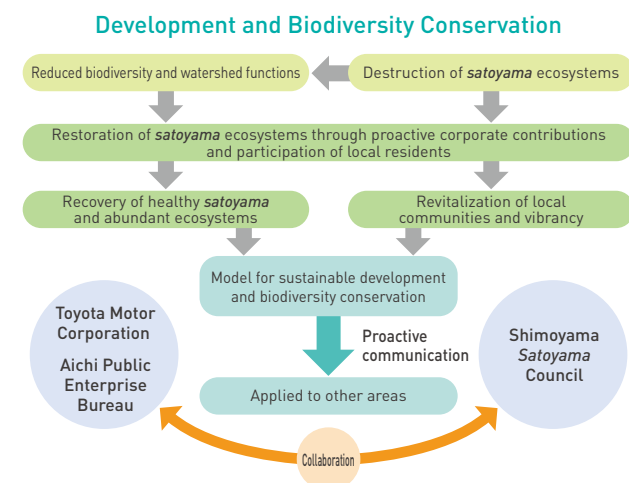
In order to develop sustainable next-generation mobility, Toyota is proceeding with plans to construct a new R&D facility in an area straddling Toyota City and Okazaki City. In pursuing this plan, Toyota aims to achieve a balance between technological development and environmental conservation and therefore is working together with people in these communities on a wide variety of activities, as well as actively sharing information.

Development and Biodiversity Conservation

Satoyama is a Japanese term describing an area where people use natural resources and create diverse ecosystems where a variety of animals and plants can thrive. However, energy conversion from fire wood to fossil fuels, depopulation resulting from changes in the industrial structure, and the aging of population are leading to a diminished connection between people and nature. If this trend continues, it is feared that *satoyama* environments, which had been maintained until recently, may start to degrade.

Against this backdrop, Toyota has used the construction of its new R&D facility as an opportunity to begin taking steps to demonstrate restoration of a *satoyama* ecosystem to its natural state with the cooperation of the people in the local communities.

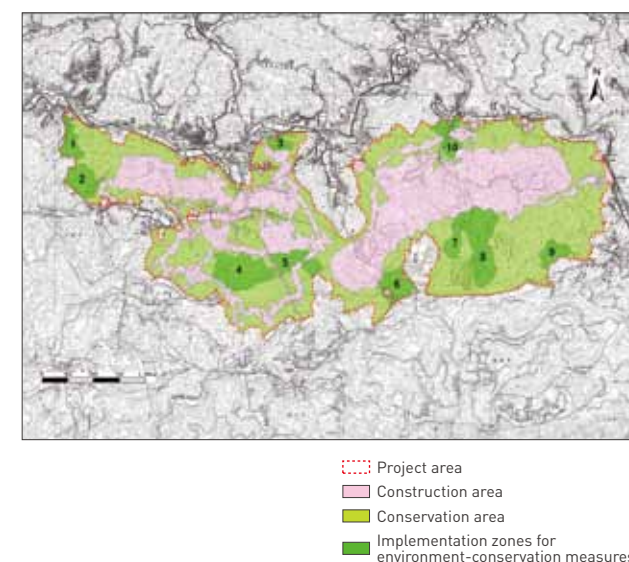
Goals of the Business Plan



A Technical Center that Operates in Harmony with both the Natural Environment and Local Communities

In constructing the new R&D Center, Toyota set out to build a technical center that operates in harmony with both the natural environment and local communities. Thus, about 60 percent of the total project area will be preserved as areas for regeneration of forest and restoration of *yatsuda* rice paddies, and their management. Toyota has also established 10 zones inside the conservation area where environment conservation measures will be implemented and specific steps will be taken to preserve the rare species that inhabit these areas.

Ten Environment-conservation Zones



Restoring Rich Satoyama Ecosystems

Forests

In order to assess the current status of the forest, Toyota thoroughly surveyed the situation inside the project area and established transition goals towards the ideal conditions for sound *satoyama* ecosystems based on the survey results.

For example, Toyota is systematically carrying out appropriate thinning of abandoned planted forests to transform them into healthy habitats for living creatures.

Transition Goals for Sound *Satoyama* Ecosystems

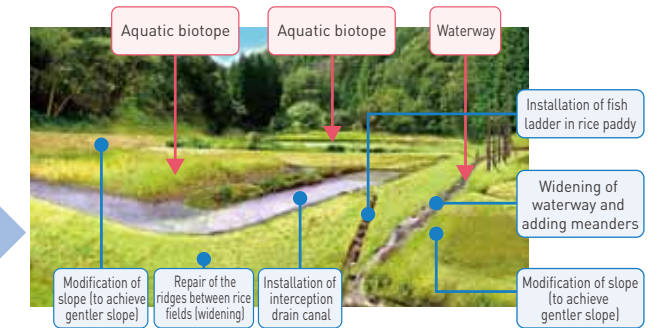


Yatsuda Rice Paddies* * Marshes and rice paddies planted in valleys

Yatsuda is a representative riparian environment that occurs within *satoyama* areas. Toyota is establishing a *yatsuda* environment suitable to the many species inhabiting this *satoyama* area by, for example, restoring abandoned rice paddies, restoring waterways that had been fragmented by modern concrete structures (building a waterway network by installing fish ladders), and repairing the ridges between rice fields to provide hunting grounds for birds of prey, such as the grey-faced buzzard.



Abandoned rice paddies



Working with and Deepening Relationships with Local Communities

Organizations in the Shimoyama District of Toyota City and the Nukata District of Okazaki City that are active in regional revitalization and environmental conservation got together to establish the Shimoyama *Satoyama* Council, which has begun taking various initiatives in cooperation with local governments.

Believing that these local efforts will become the driving force behind *satoyama* restoration, Toyota is actively communicating and collaborating with the Council in relation to conservation activities both inside and outside the Toyota operation site.



Planting saplings as part of the Acorn project



Parent-child woodworking class

Environmental Survey and Information Dissemination

At the project area and in the surrounding areas, Toyota conducted environmental surveys ahead of the start of operations and continues to monitor the environmental impact that the operations may have on sensitive species. Since the ecological knowledge gained from these surveys can be expected to contribute to conservation of those species outside of sites, Toyota publishes its findings—especially on the fauna and flora representative of *satoyama* environments—in booklets for children and academic journals.



Booklets for children

Focus

Environment Monitoring Committee consisting of Third Party Members

Together with Aichi Prefecture (which is responsible for site preparation), Toyota regularly holds biannual meetings of the Environment Monitoring Committee Related to the Construction of the New Toyota R&D Center, made up of such third party members as experts and representatives from local environmental protection organizations. From a professional perspective, the Committee provides guidance and advice on survey methods, evaluates survey results, and determines whether environmental conservation measures are being properly implemented.



Site survey by the Environment Monitoring Committee

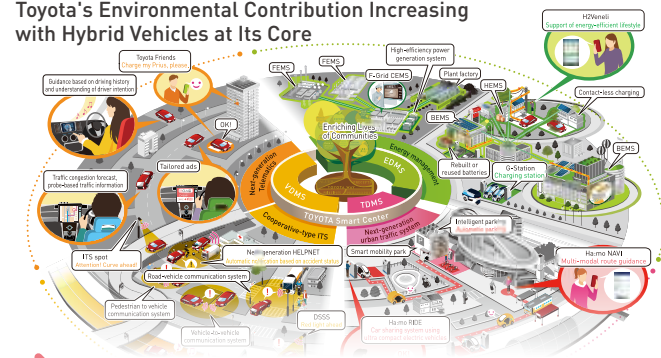
Contribution To a Low Carbon Society

Significantly reduce GHG emissions

Towards contributing to a low carbon society, Toyota is conducting activities aimed at saving energy and reducing greenhouse gas emissions in all stages of its business activities, beginning with the development of next-generation environmentally considerate vehicles.

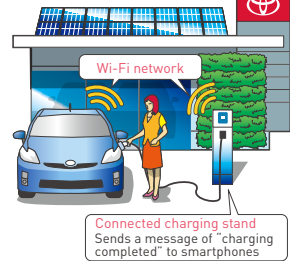
Special Feature 1

Toyota's Environmental Contribution Increasing with Hybrid Vehicles at Its Core

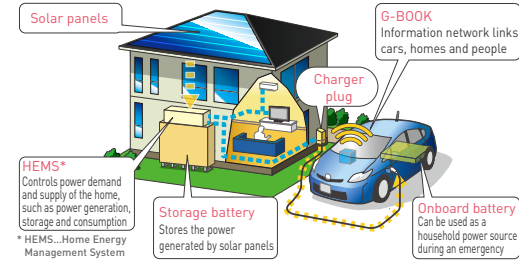


→ P02-03

Smart Distributor



Smart Home



→ P13 Towards a Next-generation Mobility Society

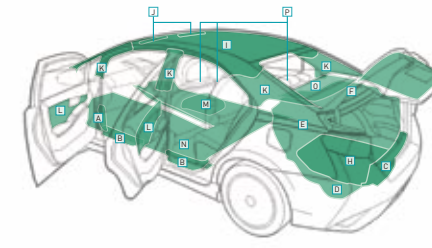


→ P13
Operation start of Ha-mo

Contribution To a Recycling-based Society

Enhancing recycling of resources through 3R

Toyota is working to raise resource productivity and promote the 3R (Reduce, Reuse and Recycling) concept, based on the premise that all resources are finite.



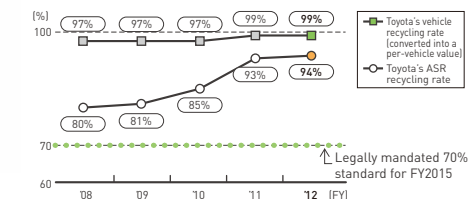
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Special Feature 2

Promoting Reuse and Recycling to Make Effective Use of the Earth's Limited Resources for the Future



→ P04-05 End-of-life hybrid vehicle → Hybrid vehicle battery collection



→ P17 Toyota's Vehicle Recycling Rate



→ P18 Developing greenification businesses that contribute to environmental improvement

Environmental Contribution to a Harmony
Receiving and continuing

Protection and with Nature Society
the blessings of nature

Toyota is contributing to a harmony with nature society, including

Special Feature 3

Aiming to Create a Balance between Biodiversity Conservation and Development of Environmental Technologies



→ P06-07

Natural environment in satoyama and the five indicator species



→ P19
Global implementation of systems to manage substances of concern



→ P20
Personnel from the Toyota Shirakawa-Go Eco-Institute providing information at the Junior Eco-clubs' All-Japan Festival



→ P21
Forest of Toyota providing opportunities to learn about the environment through satoyama restoration

Environmental

Management

Toyota is implementing environmental management involving consolidated companies, business partners, employees and other



→ P22
Toyota held the 2nd Global Environmental Meeting attended by environmental secretariats from each region



→ P23
Ongoing tree-planting activities being conducted at plants



→ P23
Promoting Third-party Certification of Dealer Environmental Management Systems



→ P25
The Myochi Plant's "green curtains" won the prize for excellence in the Aichi Green Curtain Contest

Contribution to a Low Carbon Society

As both global energy consumption and CO₂ emissions, one of the causes of global warming, continue to increase, there is growing concern about climate change and the serious impact on human living environments and on ecosystems. Toyota positions taking action to reduce further global warming as a top priority management issue, and is working to reduce CO₂ emissions by decreasing energy consumption at all stages of the vehicle lifecycle, including development, design, production, logistics, and sales, as well as in all of Toyota's business areas.

Toyota's Basic Stance Regarding Issues Related to Energy, Climate Change and Global Warming

Development and Design

- Development of next-generation vehicles focusing on fuel efficiency improvements, and hybrid and plug-in hybrid vehicles

Production

- Promote activities to reduce CO₂ emissions through development and introduction of innovative low CO₂-emitting production technologies, and daily improvement activities (pursue productivity improvement, promotion of improvement activities including at offices.)
- Utilize renewable energies considering characteristics of each country and/or region
- Management of GHG emissions from sources other than energy sources

Logistics

- Promote CO₂ reduction activities by further improving transport efficiency

Sales

- Conform to the Energy Savings Act and reduce per-unit energy at the annual rate of 1%

Development and Design

Develop Technologies to Achieve the Best Fuel Efficiency Performance and Meet Standards in Each Country and Region

FY2015 Fuel Efficiency Standards Cleared by 14 Out of 15 Vehicle Weight Categories

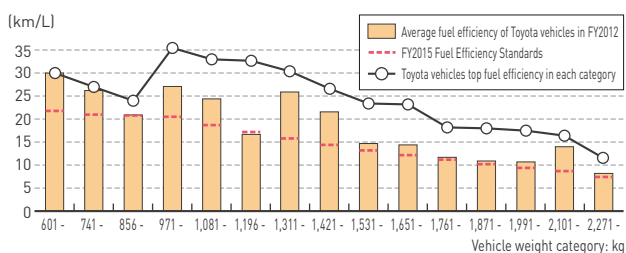
- In FY2012, new vehicles and fully redesigned models of seven vehicle series met the FY2015 fuel efficiency standards
- Of the vehicles manufactured by Toyota in FY2012, 86% achieved the standards for gasoline-powered passenger vehicles

Achievement of FY2015 Fuel Efficiency Standards in FY2012

Weight category (vehicle weight: kg)	Fuel efficiency standards (km/L)	FY2012 average fuel efficiency (km/L)	New vehicles and fully redesigned models that met the standards in FY2012
601 - 740	21.8	30.0	Pixis Epoch
741 - 855	21.0	26.2	Pixis Epoch
856 - 970	20.8	20.9	
971 - 1,080	20.5	27.1	Corolla Axio*
1,081 - 1,195	18.7	24.4	Corolla Axio*, Corolla Fielder*, Spade*, Porte*
1,196 - 1,310	17.2	16.7	Auris*
1,311 - 1,420	15.8	25.9	
1,421 - 1,530	14.4	21.6	
1,531 - 1,650	13.2	14.7	Crown*
1,651 - 1,760	12.2	14.4	Crown*
1,761 - 1,870	11.1	11.7	
1,871 - 1,990	10.2	10.9	
1,991 - 2,100	9.4	10.7	
2,101 - 2,270	8.7	14.0	
2,271 -	7.4	8.2	

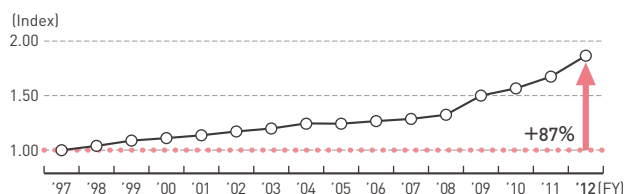
Note 1: *Some vehicles of the qualifying vehicle series may not meet the standards depending on individual models and specifications
 Note 2: [] indicates a category that has achieved the Fuel Efficiency Standards
 Note 3: Vehicles that achieved the efficiency standards before FY2011 are not included
 Note 4: All fuel efficiency values are the average for vehicles that have specification values under the Japanese Ministry of Land, Infrastructure, Transport and Tourism's JC08 test cycle. (Vehicles that do not have specification values under the JC08 test cycle are not included)

Achievement of Fuel Efficiency Standards and Actual Fuel Efficiency of Toyota Vehicles in FY2012



Increase in Average Fuel Efficiency

Average Fuel Efficiency of Toyota Vehicles in Japan



Production and Logistics

Thoroughly Conduct Activities Aimed at Saving Energy and Reduce the Volume of GHG Emissions in Production Activities

FY2012 CO₂ emissions reduction goal in the production area

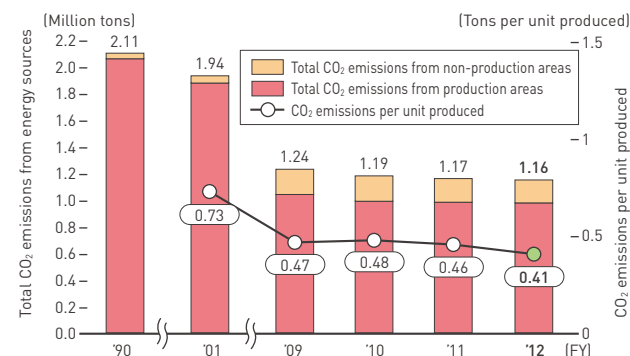
- Reduce total CO₂ emissions to **1.33 million tons** or less

Reduced total CO₂ emissions and emissions per unit produced through enhanced power generation efficiency and other measures

Toyota has set CO₂ emissions reduction goals that include both production bases and non-production bases such as offices.

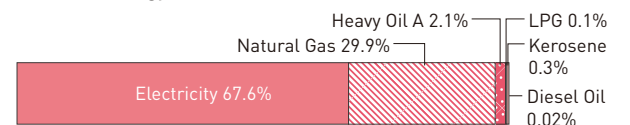
In FY2012, the goal for total CO₂ emissions was achieved through initiatives such as consolidating production lines and increasing the efficiency of power generation systems through cogeneration. Annual CO₂ emissions totaled 1.16 million tons (45% lower than the FY1990 level). CO₂ emissions per unit produced were 0.41 tons.

Trends in Total CO₂ Emissions from Energy Sources and CO₂ Emissions per Unit Produced at TMC*



* Toyota Motor Corporation
 Note 1: For facilities in non-production areas for which FY1990 emissions data is not available, the oldest subsequent data available is used for the graph.
 Note 2: Until FY2011, the total CO₂ emissions volume included emissions from production and non-production divisions (excluding the Toyota Biotechnology & Afforestation Laboratory and employee benefit facilities). Beginning in FY2012, the Laboratory was included as a non-production division.
 Note 3: The CO₂ conversion coefficient was changed to the Nippon Keidanren's FY1990 CO₂ conversion coefficient
 For more information on the conversion coefficient, please visit the webpage below: http://www.toyota-global.com/sustainability/environmental_responsibility/data/index.html (information scheduled to be posted in October)

Calorific Energy Use Ratio at TMC



Promoting the Use of Renewable Energy

In March 2008, the Toyota Tsutsumi Plant installed a photovoltaic system rated at 2,000 kW (sufficient to provide power for some 500 households). During FY2012, the system generated 1,830 MWh of electricity.

Production and Logistics

Pursue Increased Transport Efficiency and Reduce CO₂ Emissions in Logistics Activities

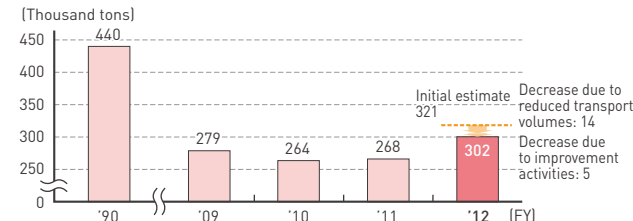
FY2012 CO₂ emissions reduction goal in the logistics area

- Reduce CO₂ emissions to **318,000 tons** or less

CO₂ Emissions Reduction Goal Achieved with Emissions of 302,000 tons

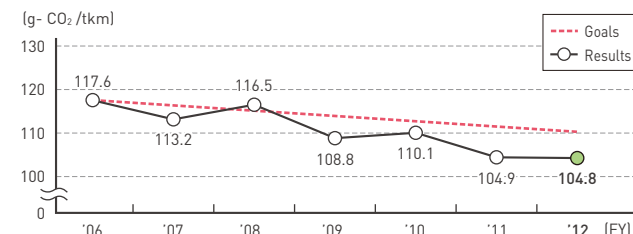
In FY2012, Toyota reduced CO₂ emissions from logistics operations by 5,000 tons through various initiatives, including activities to increase the loading efficiency of trucks, modal shifts, and ongoing fuel-efficiency improvement activities with logistics partners. In addition, a decrease in production volume from the initial plan contributed to a further reduction of CO₂ emissions to 302,000 tons. CO₂ emissions per ton-kilometer (the transport of one ton of goods over a distance of one kilometer) were 104.8g-CO₂/tkm.

Trends in CO₂ Emissions from TMC Logistics Operations (Japan)



Note: The CO₂ conversion coefficient was calculated based on the "Guidelines on Disclosure of CO₂ Emissions from Transportation & Distribution (version 3.0)" issued by the Japanese Ministry of Economy, Trade and Industry and the Ministry of Land, Infrastructure, Transport and Tourism, etc.
 For more information on the conversion coefficient, please visit the webpage below: http://www.toyota-global.com/sustainability/environmental_responsibility/data/index.html (information scheduled to be posted in October)

Trends in CO₂ Emissions per Ton-kilometer from TMC Logistics Operations (Japan)

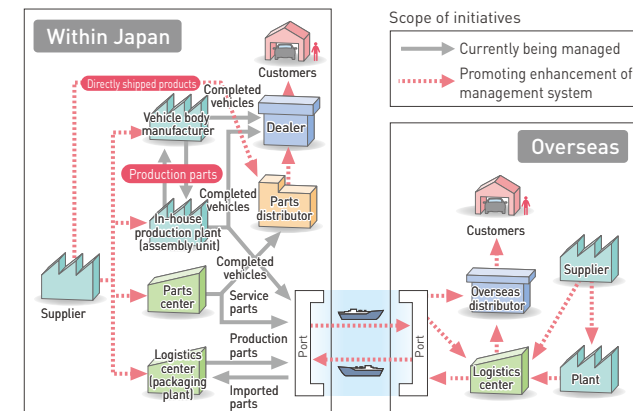


Note: Errors in the figures disclosed last year have been corrected

Results of Activities to Reduce CO₂ Emissions

Improvement item	Product	Details of activity	Reduction volume (thousand tons)
Reduction in total transport distance	Completed vehicles	Increased the number of vehicles loaded, utilized return runs, etc.	2.9
	Production parts	Enhanced the loading efficiency of trucks, increased container filling rate, etc.	1.8
	Service parts	Reviewed allocation of vehicles and delivery routes, increased loading efficiency, etc.	0.3
Total			5.0

Scope of CO₂ Emissions Calculations from TMC Logistics Operations



Assessment of CO₂ Emissions and Implementation of Reduction Activities Worldwide

In FY2007, Toyota began activities to assess CO₂ emissions from worksites worldwide. Reduction targets were set for each country and region based on global guidelines disclosed in FY2013, and activities are being implemented. Toyota is also taking measures to identify CO₂ emissions from international transport.

Focus

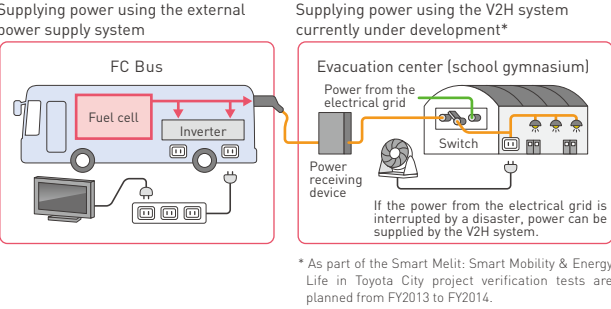
Responses to Scope 3

The Corporate Value Chain (Scope 3) Standard is a new standard established to encourage corporations to account for and disclose greenhouse gas emission volumes not only from their supply chain (manufacturing, transportation, business travel, employee commuting, etc.), but also both direct and indirect emissions from all corporate activities including the value chain. So far, Toyota has assessed emissions from Category 6 (Business Travel) and Category 9 (Downstream Transportation and Distribution).

Development of an External Power Supply System for Toyota's Fuel Cell Bus

Toyota has developed an external power supply system that enables the fuel cell bus (FC Bus) to supply the electricity it generates to power home appliances. Since a fuel cell vehicle converts hydrogen into electrical energy, it can generate electricity without emitting any CO₂. It is possible to install two electrical outlets capable of outputting AC power (100 V and 1.5 kW) inside the bus to supply a maximum of 3 kW of power for 100 hours or more. Toyota is also in the process of developing a system that will supply this electricity through the electrical wiring of buildings, with the goal of continuously supplying a maximum of 9.8 kW for around 50 hours.

The FC Bus External Power Supply System and the Concept of using the V2H (Vehicle to Home) System to Supply Power



Focus

CO₂ Emissions Reduction Initiatives in the Painting Process

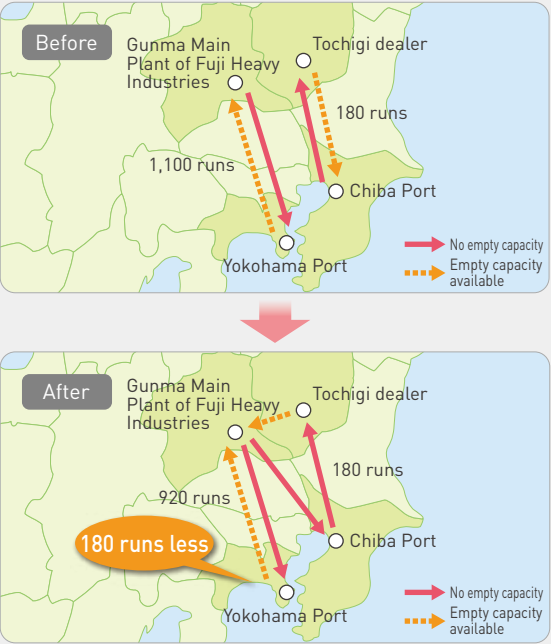
CO₂ emissions from the painting process account for approximately 20 percent of the total CO₂ emissions from Toyota's vehicle production processes. Since the painting process uses a large volume of steam, that causes significant air supply loss, Toyota has been taking steps toward achieving a steam-less line. In 2011, the Painting Shop No. 1 at the Tahara Plant was designated a model steam-less line and systematic measures to switch to the use of steam-less equipment are being implemented there. Specifically, these include changing the steam absorption chiller for booth air-conditioning to a motorized type, stopping steam humidification and instead using water spray to achieve humidification cooling, and switching the steam coil pre-heater to a gas combustion type. The benefits gained have been verified and *yokoten* (lateral development) is now being implemented for these steps. Through these actions the Painting Shop No. 1 at the Tahara Plant has reduced CO₂ emissions by 25 percent from 2009.

Focus

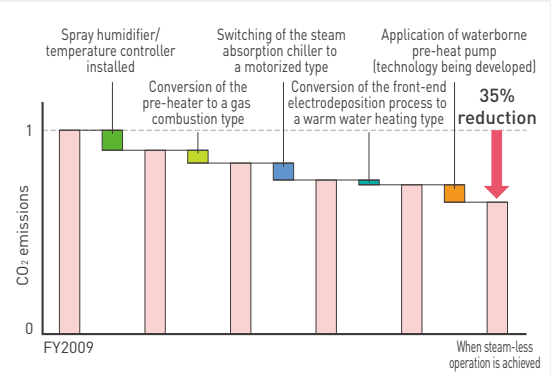
Utilizing Empty Capacity by Switching to Shipment from Gunma

Following commencement of production of the 86 and BRZ at the Gunma Main Plant of Fuji Heavy Industries, 1,100 overland delivery runs were being made every month (round trip distance of approximately 300 km) from Gunma to the Yokohama Port. At the same time, there were 180 delivery runs per month (round trip distance of approximately 250 km) between the Chiba Port and the Tochigi dealer. On their return, the Yokohama-to-Gunma runs were 55 percent empty and the Tochigi-to-Chiba runs were 100 percent empty.

Therefore, in order to utilize the empty capacity in the Tochigi-to-Chiba runs, Toyota changed the 180 monthly Chiba-to-Tochigi-to-Chiba runs into Chiba-to-Tochigi-to-Gunma-to-Chiba runs, thereby reducing the number of Yokohama-to-Gunma-to-Yokohama runs by 180. This improvement reduced annual CO₂ emissions by 92 tons in FY2012.

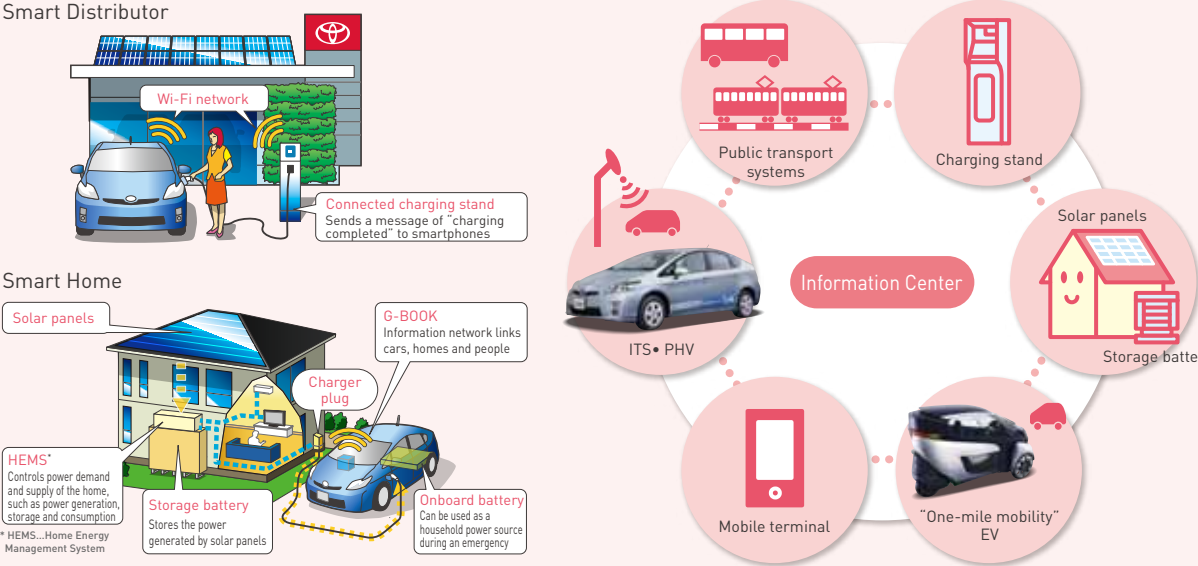


Initiatives to Reduce CO₂ Emissions from the Painting Process



Towards a Next-generation Mobility Society that Will Link Cars, Homes and People
Next-generation mobility society that will lead to greater freedom and happiness for people

The future mobility society, where people will be more connected, will see new transport means and smart centers and networks that provide services anytime, anywhere, enabling people to lead more convenient and efficient lives. Toyota's goal is to help build such a mobility society that will skillfully utilize renewable natural energy, and that will be comfortable for people and environmentally considerate.



Key Advancements in FY2012

- **Demonstration of FEMS, which Optimizes Energy Use in Plants**
As a participant in the Kitakyushu Smart Community, Toyota has been conducting verification tests at the Kitakyushu Plant of Toyoda Gosei Co., Ltd. since March 2012 to demonstrate the effectiveness of the Factory Energy Management System (FEMS). In these tests, FEMS is used to reduce CO₂ emissions by optimally controlling various components, including a stationary battery, an LED with a light-adjustment function for high ceilings (made by Toyoda Gosei), and a fuel cell forklift (made by Toyota Industries Corporation). For the storage battery, a nickel-metal hydride (Ni-MH) battery with a 20-kWh capacity is used that was rebuilt from a battery recovered from a hybrid vehicle.
- **Operation start of Ha:mo, which Encourages Behavioral Changes by Quantitatively Showing the Effects of the Use of Public Transport Systems**
In the Toyota City Low-Carbon Society Verification Project, Toyota began operating Ha:mo (Harmonious Mobility Network), a new urban transport support system, in October 2012. Ha:mo consists of two services: Ha:mo NAVI—an information system that supports low-carbon, seamless mobility and Ha:mo RIDE—a car sharing system that uses compact electric vehicles for urban short-distance transport. By efficiently combining the use of private cars and public transportation, Ha:mo aims to achieve mobility that is friendly to people, the community, and society.
- **F-Grid for Optimizing Energy Use in Local Communities**
In April 2013, full-scale operation of the F-Grid, a new smart community project, commenced at the industrial park in Ohira Village, Miyagi Prefecture. The F-Grid supplies electricity and heat generated using cogeneration and solar power to companies inside the industrial park.
The Community Energy Management System (CEMS) monitors power usage at the individual plants, enabling optimal electricity supply and efficient energy use. Steps such as waste heat utilization and power storage have made it possible to achieve a maximum of 70 percent energy self sufficiency with approximately a 28 percent decrease in CO₂ emissions.
During an emergency, electricity generated in the F-Grid will be purchased from the regional electric power company and provided through the company's distribution network to the center of Ohira Village, which will become the emergency operation center.



FEMS contributes to regional energy management by controlling energy consumption at plants



Initiatives involving students and faculty members at Chukyo University's Toyota Campus as part of the Toyota City Low-Carbon Society Verification Project

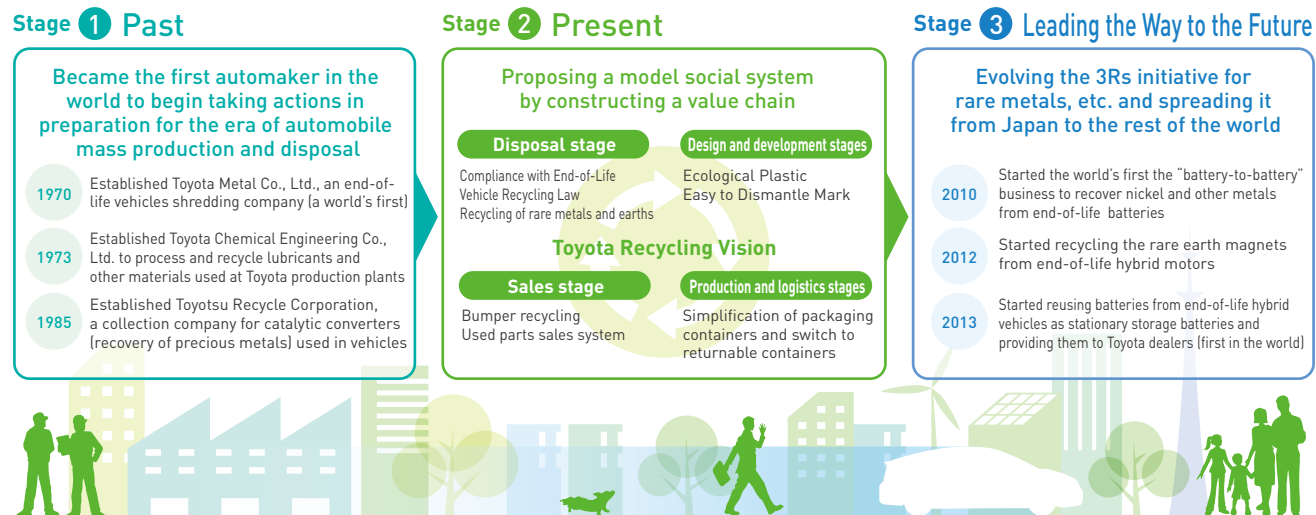
The 'F' in F-Grid stands for 'Factory.'



Contribution to a Recycling-based Society

A car is a product that uses many mineral resources such as iron, aluminum, and copper, as well as petroleum (in plastic parts). Since the 1970s, Toyota has been taking initiatives toward developing methods of effectively recycling the earth's limited resources embedded in end-of-life vehicles, rather than simply discarding them. These initiatives have now expanded to include not only the disposal stage, but also the vehicle design stage and the entire vehicle lifecycle, and have resulted in the building of a vehicle-to-vehicle recycling value chain, a model social system in Japan. Furthermore, in response to the recent expansion in sales of its hybrid vehicles, Toyota has already developed several world-first initiatives, including establishing a battery-to-battery recycling network for end-of-life batteries—which are expected to increase in volume in the future—and a system for recycling/reusing those batteries as storage batteries. In this way, Toyota will continue promoting cutting-edge initiatives in the field of resource recycling as well.

Medium- to Long-term 3Rs (Reduce, Reuse, and Recycle) Initiative Focused on End-of-Life Vehicles



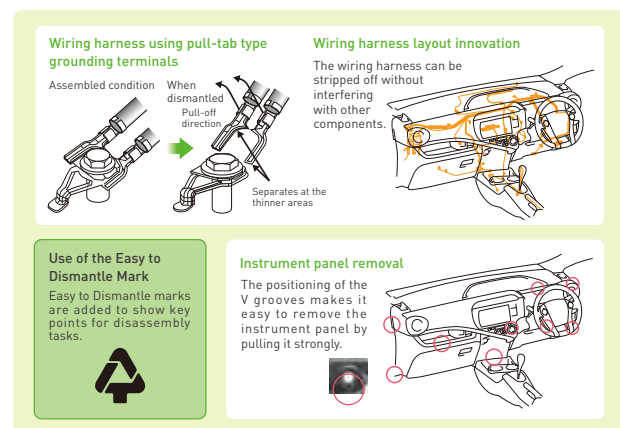
Design and Development

Further Promotion of Design for Recycling to Encourage Effective Use of Resources

Incorporating Initiatives to Improve Vehicle Dismantlability into Designs

To promote resource recycling for end-of-life vehicles, Toyota has developed structural designs that make it easy to dismantle and separate parts, based on surveys of actual conditions at dismantling companies, and is actively adopting these designs for new models.

Examples of Easy to Dismantle Vehicle Parts



Started Taking Steps to Further Improve Dismantlability through the Introduction of Heavy Machinery for Dismantling

Toyota became the first automaker* to introduce heavy machinery for dismantling, which had come into wide use for removing parts such as wiring harnesses, into its development division, and to begin evaluating dismantlability at the new vehicle development stage, feeding the results back to the design stage. Through this initiative, Toyota aims to improve vehicle dismantlability even further.

* TMC survey



Introducing heavy machinery for dismantling to remove parts such as wiring harnesses

Production and Logistics

Reduce the Waste Volume and Use Resources Effectively in Production and Logistics Stages

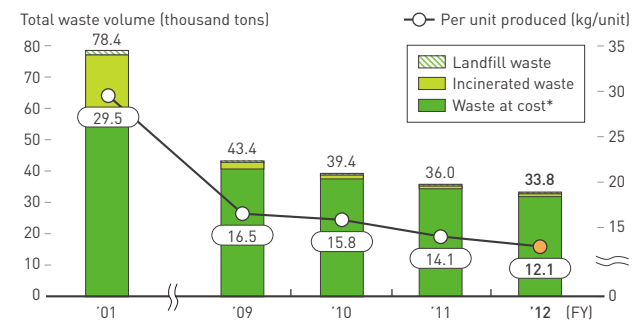
FY2012 goals in the production area

• Reduce the waste volume to **44,300 tons or less**

Efforts Continue to Reduce Waste Volume per Unit Produced, 14.2% Less than FY2011

In FY2012, through waste reduction measures such as sludge volume reduction, the total waste volume was 34,000 tons, for a 6.0% reduction from the previous fiscal year. The waste volume per unit produced 12.1 kg, down by 14.2% compared to FY2011.

Total Waste Volume and Waste Volume Per Unit Produced at TMC



Note 1: The total waste volume includes both production and non-production divisions (excluding employee benefit facilities)

Note 2: The total waste volume in production divisions covers the waste generated as a result of production activities.

* Waste that is recycled for a fee

FY2012 goals in the logistics area

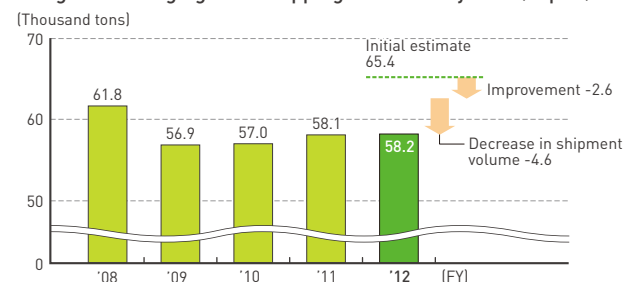
• Reduce usage of packaging and wrapping materials to **63,500 tons or less**

Continued Efforts to Reduce Usage of Packaging and Wrapping Material

In order to reduce the use of packaging and wrapping materials, Toyota implemented measures that included simplifying wrapping specifications and expanding the use of returnable shipping containers. As a result of these measures, usage decreased by 2,600 tons. Together with the impact of a decrease in shipment volume and other factors, total usage was reduced to 58,200 tons. Usage of packaging and wrapping material per shipment unit was 7.47 kg/m³.

In FY2008, Toyota began implementing measures to determine the usage of packaging and wrapping material at affiliates worldwide. Assessments for all regions, excluding North America and Europe, have almost been completed. Because it has been difficult to assess the usage at suppliers in North America and Europe, Toyota is currently reviewing the assessment method.

Usage of Packaging and Wrapping Materials by TMC (Japan)



Usage of Packaging and Wrapping Material per Shipment Unit by TMC (Japan)



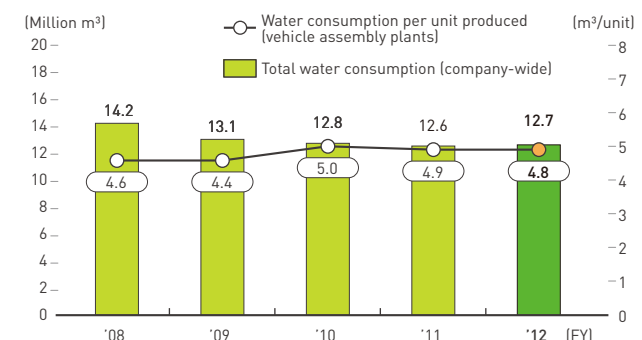
Results of Activities to Reduce Usage of Packaging and Wrapping Material

Improvement item	Products	Main details of activity	Reduction volume (thousand tons)
Simplification of specifications	Service parts	Changing packaging specifications, reuse etc.	1.6
		Increasing lean specifications for wrapping	0.3
	Production parts	Improvement of parts quantity per box, simplification of packaging specifications	0.1
Use of returnable containers	Service parts	Expanding the use of returnable containers (increased number of items)	0.3
	Production parts	Expanding the use of returnable containers (increased number of items)	0.3
Total			2.6

Efforts Continue to Reduce Water Consumption per Unit Produced (2.2% Reduction over FY2011)

Activities to reduce water consumption were continued in FY2012. The total water consumption was 12.7 million m³ (an increase of 1% over the previous fiscal year). Water consumption per unit produced was 4.8 m³, a decrease of 2.2% from FY2011.

Total Water Consumption and Consumption Per Unit Produced at TMC



Note 1: The total water consumption includes both production and non-production divisions (excluding employee benefit facilities).

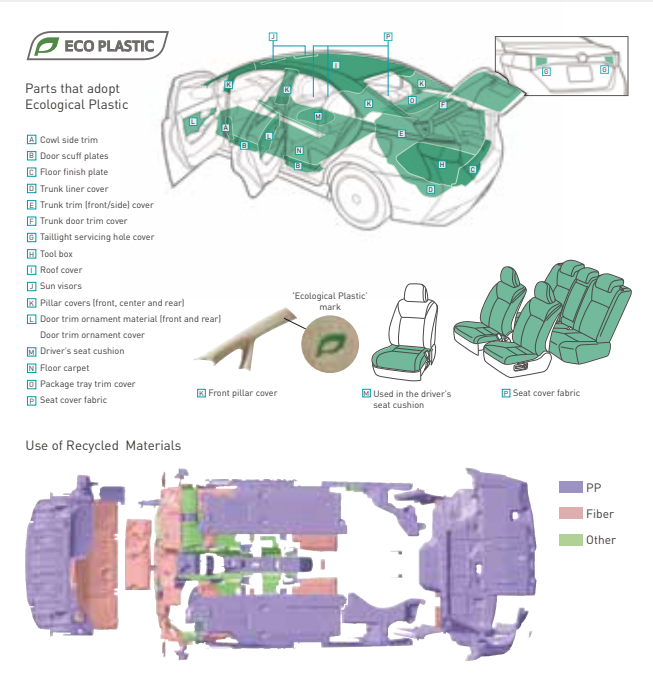
Note 2: Water consumption per unit produced indicates the consumption per unit produced at vehicle assembly plants.

Focus

Toyota Achieves Ecological Plastic and Recycled Materials Usage Rate of 20% for First Time, in the New SAI Further Pioneering Environmental Consideration for Next-generation Vehicles

Toyota has been moving forward with using its plant-derived Ecological Plastic* in its cars. With the SAI launched in 2009, Toyota not only implemented various fuel efficiency improvement measures such as adopting a hybrid system, but also took on the challenge of replacing as many of the interior covering materials as possible with Ecological Plastic, to make the entire vehicle as environmentally considerate as possible. As a result, Toyota successfully used Ecological Plastic to cover 80 percent of the total interior surface area, the highest rate for any Toyota vehicle. With the new SAI, Toyota succeeded in replacing 20 percent of the total weight of plastic parts with Ecological Plastic and recycled materials.

Chief Engineer Toru Kato, responsible for the development of the SAI, says: "Working with Ecological Plastic, we had to develop materials, design parts, and design production processes in parallel. Consequently, the entire process was quite difficult and we came pretty close to giving up adoption in some parts. Nevertheless, in the end we were able to accomplish our goal for the SAI and use the Plastic in all of the parts we had planned. We also faced numerous issues in our attempt to switch to recycled materials while using the existing dies for parts. After unrelenting hard work by many engineers and multiple trials and errors, we were able to triple the usage rate. With the SAI, our mission had been to break through previous barriers. Breakthroughs necessitate facing many difficulties, but this experience taught me that the greater the number of difficulties, the greater the success we can achieve as long as we don't lose our engineering spirit and eagerness."



* This type of plastic is derived from plants that absorb CO₂ while growing. Its usage eliminates the CO₂ emitted during petroleum resource drilling and helps reduce the usage of petroleum resources.

Focus

Water Usage Reduction at TMMC

The majority of the water used in automobile production is used in the painting process, primarily for rinsing. Toyota Motor Manufacturing Canada Inc. (TMMC) has been taking various steps to reduce its water usage. In FY2012, with the goal of further reducing its water usage, team members from all departments worked together to reassess every area where water was used in the electrodeposition painting and pretreatment processes. As a result, 14 *kaizen* items were identified that TMMC could work on.

For example, pH adjustment, sediment settling, and filtering made it possible to reuse some rinse water. These improvements enabled TMMC to secure the required volume of rinse water, thus helping it maintain high quality. Besides this example, TMMC is also continuing other improvement steps, such as optimization of water usage by modifying spray nozzles and optimizing process cleaning frequency. These improvements enabled TMMC to reduce its water usage per vehicle within the painting process by at least 35 percent.



Sales and Recycling

Strengthen Measures to Promote the Effective Use of Resources

Steady Progress in Recycling at Dealers and Parts Distributors

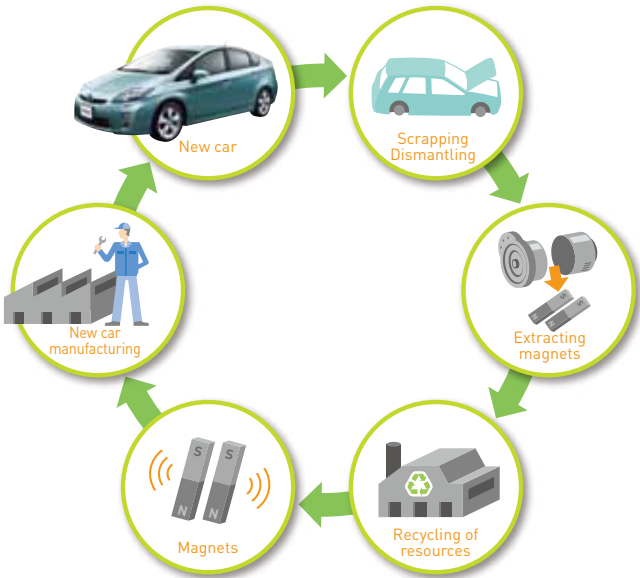
Promoting the collection and recycling of end-of-life parts

Toyota dealers and parts distributors nationwide are promoting recycling as much as possible in their own use of vehicles through initiatives including the collection of end-of-life parts such as bumpers and lead from wheel balance weights, using tanker trucks instead of drums to transport oil and promoting the sales of used parts.

Recovery of Neodymium and Dysprosium from HV Motors

Neodymium and dysprosium, two types of rare-earth metals, are used to make magnets. Toyota is working on the research and development of a motor that uses as little as possible of these rare-earth metals and is also developing vehicle-to-vehicle recycling technologies. Toyota has so far developed a technology to separate magnets from motors and is currently working with related companies on developing a technology to reprocess magnets into rare-earth metals.

Toyota's Goal of Magnets Vehicle-to-Vehicle Recycling



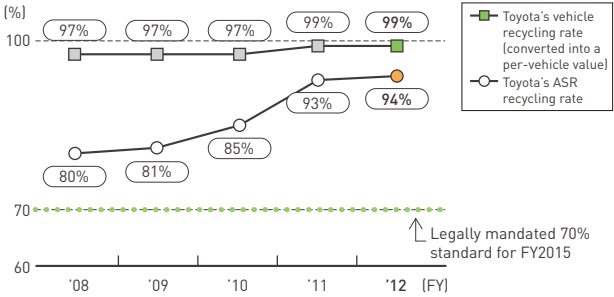
Promote Compliance with End-of-life Vehicle Recycling Laws and Regulations Worldwide

Ensuring Compliance with the End-of-Life Vehicle Recycling Law in Japan

Toyota has been steadily working with dismantling and recycling companies to ensure compliance with the Japanese End-of-life Vehicle (ELV) Recycling Law that went into effect in January 2005. Toyota collects and treats/recycles CFCs/HFCs, airbags and automobile shredder residue (ASR¹) from end-of-life vehicles.

In FY2012, the ASR recycling rate was 94%, and the vehicle recycling rate², converted into a per-vehicle value, reached 99%, exceeding the Toyota Recycling Vision goal of 95%.

Toyota's Vehicle Recycling Rate and ASR Recycling Rate in Japan



1 Residual matter after automobiles are shredded
2 Calculated by adding to the percentage recycled and recovered up to the dismantling and shredding processes (approximately 83%, quoted from the May 2003 policy board of Japan data) the remaining ASR rate of 17% x ASR recycling rate of 94%

Compliance with End-of-life Vehicle Recycling Laws Overseas

All EU member states have established vehicle recycling laws based on the EU ELV Directive enacted in 2000, and in January 2007, automakers commenced the collection of end-of-life vehicles.

In cooperation with Toyota Motor Europe (TME) and distributors in Europe, Toyota completed the construction of an ELV collection network in 27 EU member states.

In China, the Recycling Working Group, under the China Environment Committee, is working closely with local affiliates to promote compliance with local automobile recycling laws through measures such as ascertaining regulatory trends and surveying local infrastructure conditions.

In other countries that are currently considering the introduction of automobile recycling laws, Toyota is implementing necessary responses, including the collection and analyzing of relevant information.

Focus

Building a Closed Recycling System for Tungsten in Japan

Tungsten, which is used in dies and cemented carbide tools in car manufacturing, is produced in only a handful of regions and is therefore a valuable resource with a high risk of depletion. Until now, however, approximately 60 percent of cemented carbide product scrap was shipped overseas and approximately 10 percent discarded, with only 20 percent being recycled.

Against this backdrop, Toyota considered the risk of depleting this resource seriously and reassessed the sorting process at plants and other workplaces, involving all internal divisions and group companies. Then in June 2010, through collaboration with a cemented carbide recycling company, Toyota established a recycling system combining a state-of-the-art technology with the recovery of tungsten from cemented carbide product scrap. As a result, an optimum recycling system was built in Japan for each product type, which also improved the economic viability of recycling by reducing the number of sorting steps.

Carbide Recycling Route



Working Together with Society

Promoting New Businesses that Contribute to Environmental Improvement

Promotion of New Biotechnology and Afforestation Businesses

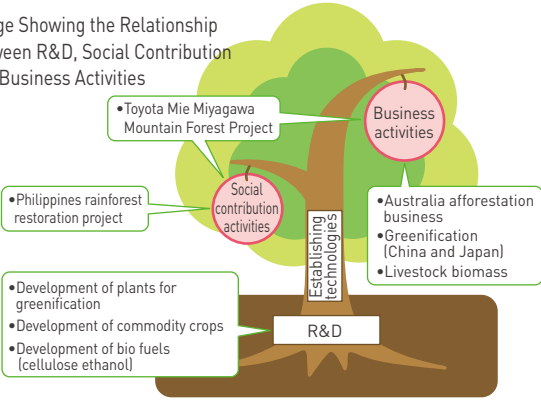
Developing Greenification Businesses that Contribute to Environmental Improvement

Recognizing the need to establish biotechnology and afforestation businesses that contribute to environmental improvement, in addition to developing next-generation environmentally friendly vehicles and implementing environmental initiatives at plants, Toyota has implemented R & D and commercialization of technologies in these areas.

Direction of Initiatives and Vision

1. Contribute to the global natural environment through new business by developing excellent biotechnologies and afforestation-related technologies
2. Develop afforestation businesses that contribute to the environment in response to problems such as global warming and the destruction of forests
3. Develop resource recycling-based businesses in response to problems such as food shortages and air and water pollution

Image Showing the Relationship between R&D, Social Contribution and Business Activities



Business activities

Greenification Business [1]

Affiliate name: Toyota Roof Garden Corporation

In addition to rooftop greening, Toyota Roof Garden also conducts wall greening and businesses that utilize green parking systems, with the goal of easing the urban heat-island effect. The company also produces and sells easy-care slowgrowth Zoyia Grass (TM9) and other new types of grasses developed by Toyota.



Example of wall greening (left); Comparison of TM9 and conventional grass

Greenification Business [2]

Affiliate name: Toyota Santory Midorie [Shanghai] Co., Ltd.

Toyota teamed up with Santory Midorie Ltd., which develops and sells new alternative materials to soil, to establish Toyota Santory Midorie [Shanghai] Co., Ltd. in China. The joint venture will sell greening systems and plants from both companies with the aim of promoting the urban greening business in China through the launch of jointly developed products.

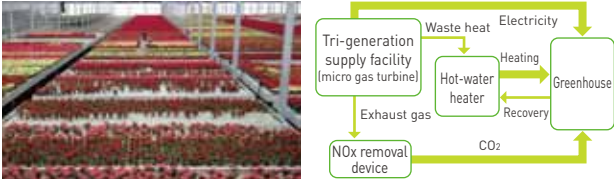


Flower wall (left) and green parking space at the Beijing Motor Show

Floriculture business

Affiliate name: Toyota Floritech Co., Ltd.

Toyota, jointly with a general flower trader, Hakusan Co., Ltd., established Toyota Floritech Co., Ltd. in Rokkasho Village, Aomori Prefecture. Using a tri-generation system and other environmentally considerate large-scale greenhouse facilities, the company produces and sells potted flowers (miniature roses) and ornamental plants.



Inside view of the greenhouse (left); Tri-generation system flow

Livestock Biomass Business

Affiliate name: Toyota Roof Garden Co., Ltd.

Together with Menicon Corporation Toyota developed a manure composting system for the livestock industry called resQ45. As of March 2013, approximately 90 farms, mostly large-scale ones, have been continually using the system. In 2011, Toyota added a new deodorizer for composting swine discharge called Buta resQ to the product lineup, and in January 2013, launched "New-Tokubetsu-Kyuko" (new special express enzyme) for composting chicken droppings and cow dung.



Manure composting system (left); New-Tokubetsu-Kyuko and Buta resQ

Overseas Afforestation Business

Affiliate name: Australian Afforestation Pty. Ltd.



Five years after afforestation was begun

Toyota's Australian afforestation business, Australian Afforestation Pty. Ltd., is engaged in planting eucalyptus trees which grow extremely fast and have a high yield rate. By the end of FY2006, about 1,700 hectares of land were afforested. In 2009, the company began harvesting trees for shipment to Japan as pulpwood.

Mountain Reforestation Program in Japan

Toyota Mie Miyagawa Mountain Forest Project



A well maintained forest

In October 2007, Toyota acquired a mountain forest of approximately 1,700 hectares in Taki-gun, Mie Prefecture and commenced a 50-year reforestation program. As of March 2013 Toyota has conducted thinning and other maintenance activities over 1,060 hectares of forest.

Focus

Bioethanol Project

In 2007, the Toyota Biotechnology & Afforestation Laboratory began working on developing a biofuel that does not compete with food production. Utilizing genetic modification technologies, the Laboratory succeeded in developing a yeast that boosts the production efficiency of biofuel [cellulosic ethanol]. It is currently developing a process for manufacturing ethanol using fast-growing plants such as the Nepia grass cultivated in land unsuitable for food production, and aims to commercialize it by 2020 utilizing a proprietary high-productivity yeast developed by Toyota.

section 3

Environmental Protection and Contribution to a Harmony with Nature Society

Toyota is implementing various environmental protection measures, such as measures to reduce exhaust gas emissions and manage the usage of chemical substances. It is said that approximately 100,000 types of chemical substances are currently being manufactured and sold in the world. Recently, the concept that each corporation must assess the danger of each chemical substance it uses and use it under appropriate control has become mainstream. Each corporation is required to identify the chemical substances it uses and the risks involved, take actions appropriate to the evaluation results and assessed risk, and provide pertinent information to the government and society. Toyota continues to reduce the release of chemical substances covered by the PRTR Law from its plants. Additionally, in cooperation with its supply chain, Toyota is working to reduce the amount of substances of concern (SOCs) contained in its products. Toyota is also aware of the critical need for nature and biodiversity conservation, and is engaged in contributing to a society in harmony with nature through its automotive business and social contribution activities.

Development and Design

Reducing Vehicle Exhaust Emissions to Improve Urban Air Quality

Vehicles that Meet Japanese LEV Emission Standards

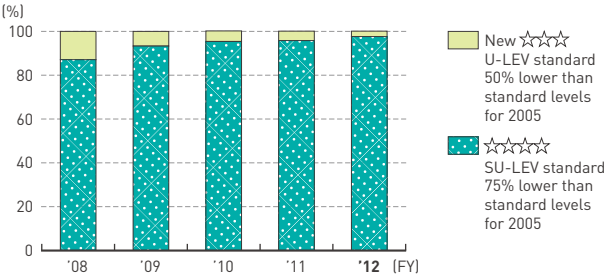
In FY2012, almost 100% of Toyota vehicles produced were certified as meeting the Ultra-Low Emission Vehicle (U-LEV) or higher standards by the Japanese Ministry of Land, Infrastructure, Transport and Tourism.

Percentage of Total Production in FY2012 that Qualifies as LEVs Based on 2005 Exhaust Emissions Standards

Classification	Reduction level	Percentage of total production
New☆☆☆☆ U-LEV standard	50% lower than standard levels for 2005	2.3%(17)
☆☆☆☆ SU-LEV standard	75% lower than standard levels for 2005	97.4%(139)

[] No. of models

Low-Emission Vehicles as a Percentage of Total Production in Japan



FY2012 Vehicles (New and Fully Redesigned Vehicles) that Meet Japanese LEV Emissions Standards

Low-emissions level	☆☆☆☆ SU-LEV	☆☆ U-LEV
Vehicle series	No. of models	No. of models
Pixis Epoch	2	0
Corolla Axio	3	0
Corolla Fielder	3	0
Spade	3	0
Porte	3	0
Auris	3	0
Crown	4	0
Total	21	0

Development and Design

Strengthen the Management of Chemical Substances Contained in Products

Management and Reduction of 4 Key SOCs

All of Toyota's production affiliates in Japan completely eliminated the use of the four key substances of concern (lead, mercury, cadmium, and hexavalent chrome) by 2006, and nearly all of its major overseas plants also eliminated their use by the end of 2007. In October 2013, the United Nations is expected to adopt the Minamata Convention on Mercury, which will ban the manufacture and import/export of products containing mercury as a rule beginning in 2020. However, mercury has already been eliminated from automobiles.

Status of Initiatives to Eliminate the Usage of the 4 Key SOCs

4 key SOCs	All production affiliates in Japan	Major overseas plants
Lead, mercury, cadmium and hexavalent chrome	Eliminated usage in August 2006*	Eliminated most uses by the end of 2007*

* Excluding uses exempt under the Europe ELV Directive

Ensuring Compliance with REACH and Other Global Regulations on Chemical Substances

Since the turn of the century, regulations on chemical substances have been getting tighter all over the world, like the EU ELV¹ Directive and REACH² regulation. These regulations require corporations to collect information on the chemical substance content of their products and manage their supply chains. In response to these chemical regulations, Toyota has built a chemical substance management framework in cooperation with its suppliers. In FY2012, Toyota propagated this framework globally through revision of the Toyota Green Purchasing Guidelines at its regional companies (in Europe, North America, South America, China, Asia, and South Africa, etc.) and supplier meetings.



Toyota Green Purchasing Guidelines (Asian edition)

¹ End of Life Vehicles

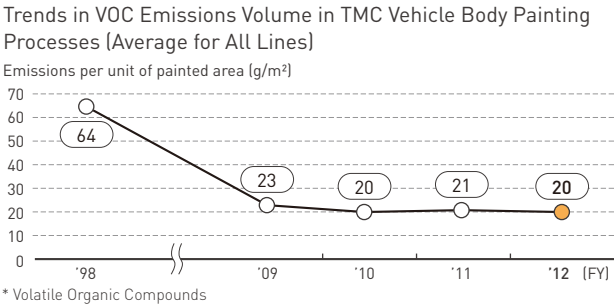
² Registration, Evaluation, Authorisation and Restriction of Chemicals

Production and Logistics

Reduce Substances of Concern (SOC) in Production Activities

VOC Emissions from Paint Reduced to an Average of 20g/m² in Body Painting Processes

Since the previous year, Toyota continued efforts to limit use of solvents in washing processes and recapture a larger percentage of solvent and use deionized water (DI water) for washing instead of waterborne cleaning solvent. As a result of these VOC* reduction activities, total VOC emissions from Toyota body paint lines averaged 20g/m² in FY2012.



Working Together with Society

Initiatives Related to Biodiversity Conservation

Promoting Measures in Accordance with the Toyota Biodiversity Guidelines

Along with tackling climate change, conserving biodiversity is a major environmental issue of global concern, and measures are being implemented on a global scale. Two important international conferences held in 2012—the United Nations Conference on Sustainable Development (Rio+20) held in June in Rio de Janeiro, Brazil, and the Eleventh Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP11) held in October in Hyderabad, India—have helped increase awareness of the issue.

Progress in FY2012

- Focused on enhancing information disclosure and communication with stakeholders
- In the Toyota booth at the Eco-Products Exhibition held in December 2012, personnel from the Forest of Toyota and the Toyota Shirakawa-Go Eco-Institute explained Toyota's environmental education programs and other activities to approximately 200 visitors in a total of 11 sessions.
- In March 2013, Toyota co-sponsored the Junior Eco-clubs' All-Japan Festival with the Japan Environment Association, where personnel from the Toyota Shirakawa-Go Eco-Institute provided information on the hands-on nature programs conducted at the Institute.
- In May 2013, the Toyota Environmental Activities Grant Program held its first meeting for reporting activity results and promoting information exchange. The selection committee commented, "We hope your projects will be presented at the last annual meeting of the United Nations Decade of Education for Sustainable Development (UNDESD), which will be held in Japan in 2014."



Personnel from the Toyota Shirakawa-Go Eco-Institute providing information at the Junior Eco-clubs' All-Japan Festival

Main Examples of Toyota's Biodiversity Conservation Activities

Classification	Action Item	Details
Contribution through technology	Measures to help prevent further global warming	•Improved fuel efficiency on a global scale •Reduced CO ₂ emissions in production and logistics activities
	Measures to reduce atmospheric pollution	•Reduced emissions of vehicle exhaust gases •Reduced VOC emissions
	Promotion of resources recycling	•Promoted the development of recyclable designs •Expanded the use of recyclable materials
	Afforestation activities at plant sites	•Planted native vegetation types in and around Toyota plants in Japan and overseas
	Reforestation	•Conducted forest thinning in Mie Prefecture to restore undergrowth
	Consideration of a new R&D facility in harmony with nature and the local community	•Engaged in preservation of habitats for rare animals and plants •Undertook environmental improvements around <i>yatsuda</i> rice paddies •Conducted maintenance of <i>satoyama</i>
Collaboration and cooperation with society	Human resource development and the protection of rare species	•Conducted environmental education programs at the Shirakawa-Go Eco-Institute and the Forest of Toyota
	Global afforestation	•Conducted afforestation in the Philippines using indigenous plant species
	Toyota Environmental Activities Grant Program	•Provided support to environmental programs, focusing on the issues of biodiversity and global warming
Information disclosure	Reports and website	•Disclosed information regarding Toyota's environmental initiatives in the report "Respect for the Planet—Toyota's Environmental Initiatives—2013" and on the Toyota website
	Strengthened communication with relevant organizations	•Explained Toyota's environmental education programs and other activities at the Eco-Products Exhibition •Provided information on hands-on nature programs at the Junior Eco-clubs' All-Japan Festival
	Initiatives under consideration at the new Toyota R&D Center	•Published the "Project Outline and Environmental Conservation Initiatives at the New Toyota R&D Center" in October 2012

* Please see pp. 06-07 for more information on the new Toyota R&D Center

Working Together with Society

Promote Social Contribution Activities that Contribute to Establishing a Society in Harmony with Nature

More than 120,000 People Visit Toyota Shirakawa-Go Eco-Institute Due to Promotion of Environmental Education Programs

The Toyota Shirakawa-Go Eco-Institute, located in the World Heritage site Shirakawa-Go, was opened in April 2005 with the goal of promoting environmental education. The Institute is managed in collaboration with the Village of Shirakawa and environmental NGOs. With the aim of promoting harmonious coexistence with nature and local communities, the Institute is enhancing and widely promoting locally rooted environmental programs. In FY2012, the Institute restored ancient roads and maintained thatch fields in order to preserve Shirakawa-Go's heritage and traditional culture. It also worked on promoting and spreading environmental education by, for example, widely communicating the Institute's philosophy and activity status through a new Facebook page and publication of the Yui-Mail e-newsletter (approximately 10,000 recipients). As a result of these activities, 13,000 guests stayed at the Institute in FY2012, bringing the cumulative number of visitors to over 120,000. With the number of visitors from other countries, especially Asian countries, on the rise recently, the Institute has helped a large number of visitors experience environmental programs such as the Walk in a Snowy Forest.

Number of Guests Who Stayed at the Institute () number of overseas visitors

FY2011	13,190 (282)
FY2012	13,406 (811)

Forest of Toyota Providing Opportunities to Learn about the Environment through *Satoyama* Restoration

Toyota is restoring a company-owned forest in Toyota City to the *satoyama* ecosystem that once played an important role in people's lives, utilizing it as a field for hands-on nature programs.

The Forest of Toyota was opened to the public in 1997. Various programs are held there, including fun events in the forest designed for families. A hands-on nature program for local elementary school students that started in 2001 now hosts approximately 7,000 schoolchildren each year.

Because of these activities, the Forest of Toyota was recognized in 2011 as Superlative Stage, the highest rating for a corporate forest given by the Social and Environmental Green Evaluation System (SEGES) of the Organization for Landscape and Urban Green Infrastructure.

In FY2012, the actions Toyota took focused on three main themes—forest restoration, enhancements to environmental education programs, and protection of flying squirrel habitats.



A nature interpreter communicates the appeal and roles of *satoyama*

VOICE Comments from event participants (through questionnaires)

- Everything was a new experience for me and it was really fun.
- It was a great first experience for me to learn about enjoying forests.
- Closing my eyes changed my perception, making me realize how much I always rely on my visual sense.
- I could feel the chirping birds and the warmth of the sunlight through my five senses even though it was cold out.
- I experienced the smell and felt the air of the forest, which cannot be experienced in cities.
- When I heard that nothing in the forest goes to waste, I gained a new understanding about the importance of forests and life itself.

Number of visitors in FY2012: 12,101

Cumulative number of visitors: 113,004

Toyota Aqua Social FES Receives the 2012 Good Design Award

At the Good Design Award ceremony in November 2012, the activities of Toyota Aqua Social FES received the Good Design Sustainable Design Award (Minister of Economy, Trade and Industry award). Toyota Aqua Social FES was also selected as one of the Good Design Best 100 entries.

This project, based on the image of water (aqua), combines social contribution activities, such as cleaning rivers and other water sources, with advertising and adopts a new approach called "Co-growth Marketing." The project received high ratings for its ability to help build a sustainable society by returning the guaranteed advertisement revenue to society.

Toyota Environmental Activities Grant Program: Environmental Conservation Activities in Kenya

The Toyota Environmental Activities Grant Program assisted the NPO Commuting Road Empowerment with the Cherangani Hills Grassroots Reforestation Project to help local farmers restore the forest in the Cherangani Hills, one of the five most important water sources in Kenya. This project trains groups of farmers in the western Kenyan hills in tree seedling production in order to restore a natural forest that is a critical water source. The project also helps local farmers learn a terracing technique that uses "Do-nou" technology (Japanese term for soilbag), making it possible to prevent farmland destruction and topsoil erosion while enabling farmers to carry out stable farming in harmony with the environment.

Roads that used to turn muddy during the rainy season were repaired with Do-nou technology, ensuring year-round passage and allowing farmers to stably carry their harvest and seedlings to market.

Encouraged by this project, farmers who used to grow tree seedlings on only a small scale got together to form groups, expanding their organizations. In the future, a system capable of stably selling 100,000 seedlings a year will be built, with the goal of achieving independent organizational management.

Commuting Road Empowerment also plans to initiate other activities, such as reducing environmental impact on the mountain range by helping local farmers become self-sufficient in terms of firewood and livestock feed, and preserving the water catchment area by planting trees.



Road that used to turn muddy during the rainy season



Road that has been repaired using Do-nou technology



Tree seedling production by the Sambalat Group (in a lowland area)



Training in terracing technique



Seedling bed made with locally available materials



Meeting to form an association, voluntarily held by farmer groups

Assistance Provided to Date

Country/region of implementation	Asia (excluding Japan, Pacific)	The Americas	Africa	Europe	Japan	Other	Total
FY2012	8	1	0	0	10	0	19
Cumulative total*	77	19	22	7	107	1	233

* FY2000-FY2012

Environmental Management

Since FY2011 Toyota has been making efforts related to the Fifth Toyota Environmental Action Plan, which sets the direction for activities in the years 2020-2030 under the three priority themes of “contribution to a low carbon society,” “contribution to a recycling-based society,” and “environmental protection and contribution to a harmony with nature society.”

Philosophy, Policies and the Toyota Environmental Action Plan

Toyota’s philosophy and policies on the environment are based on the Guiding Principles at Toyota, which were established in 1992 and revised in 1997. Policies for environmental initiatives were formulated as the Toyota Earth Charter in 1992 and then revised in 2000. This Charter is shared among 562 Toyota consolidated affiliates around the world.

The Toyota Global Vision announced in 2011 stresses the importance of “respect for the planet.” Based on the above philosophy and policies, in FY2012, Toyota’s major production and sales companies created the action policies described below and began implementation. Furthermore, in November 2012, Toyota held the 2nd Global Environmental Meeting at the Toyota City Head office, attended by environmental secretariats from each region. Progress of action being taken was checked and opinions were exchanged on issues such as the recycling of hybrid batteries, management of chemical substances, and enhancement of external communication. Further, in order to revitalize regional environmental improvement activities, encourage sharing (*yokoten*) of best practices, and strengthen collaboration between TMC and regional affiliates, a Global Environmental Awards ceremony was held. Executive Vice President Nobuyori Kodaira presented awards to Toyota Autoparts Philippines Inc. (TAP) and Toyota South Africa Motors (Pty) Ltd. (TSAM), winners in the team activity category and the company-wide activity category respectively.



The 2nd Global Environmental Meeting



The TAP team with Executive Vice President Kodaira

Management

Strengthen and Further Promote Consolidated Environmental Management

Action Policies and Results of Action Taken by Major Affiliates Implementing Consolidate Environmental Management in FY2012

	FY2012 Action Policies and Activity Results			FY2013 Action Policies	
	Action Policy	Goals	Activity Results	Action Policy	Goals
Overall	<ul style="list-style-type: none"> Promote environmental management through strengthened cooperation with each region Encourage implementation of the Fifth Toyota Environmental Action Plan 	<ul style="list-style-type: none"> Achieve goals in all areas 	<ul style="list-style-type: none"> Further strengthened environmental initiatives on a global scale. The 2nd Global Environmental Conference held with participation by affiliates from all regions. Most regional Environment Committees held as planned. Promoted activities under the Fifth Toyota Environmental Action Plan 	<ul style="list-style-type: none"> Continue to promote environmental management through strengthened cooperation with each region 	<ul style="list-style-type: none"> Achieve goals in all areas
Production (83 companies)	<ul style="list-style-type: none"> Strengthen activities to prevent recurrence of non-compliance and complaints All companies to implement initiatives towards achieving the FY2012 goals 	<ul style="list-style-type: none"> Zero non-compliance and complaints Achieve goals in Japan and in all regions 	<ul style="list-style-type: none"> Proactive preventive measures were implemented, but there were cases of minor non-compliance (5² instances of non-compliance and 0 complaints) All companies implemented systematic measures to achieve FY2012 goals and almost all goals were achieved All companies have set goals for FY2015 	<ul style="list-style-type: none"> Continue to strengthen proactive measures to prevent recurrence Promote initiatives to achieve FY2013 goals 	<ul style="list-style-type: none"> Achieve FY2013 goals in Japan and in all regions Zero non-compliance and complaints
Sales (79 companies)	<ul style="list-style-type: none"> Provide support to the Toyota National Dealers' Advisory Council for acquisition of third-party certification of its environmental management system All companies to promote environmental management through DERAP² 	<ul style="list-style-type: none"> Create systems to provide support for the acquisition of EMS³ certification Achieve goals Percentage of dealers: 80% 	<ul style="list-style-type: none"> Provided support for the acquisition EMS certification; increased the number of dealers that acquired EMS certification Achieved goals through steady implementation Percentage of dealers: 86% 	<ul style="list-style-type: none"> Continue providing support for the acquisition of EMS certification Continue implementation 	<ul style="list-style-type: none"> Increase the number of dealers that acquire EMS certification Achieve goals Percentage of dealers: 86% or more

The 66 other Toyota Group companies in Japan and overseas are implementing individual activities on their own initiative.

*1: Includes the 10 production/sales companies *3: Environmental Management System
*2: 3 in Japan and 2 overseas. *4: Dealer Environmental Risk Audit Program

Status of ISO 14001 Certification

The number of production companies in Japan with ISO 14001 certification decreased by two as a result of the merger between Kanto Auto Works, Ltd., Central Motor Co., Ltd., and Toyota Motor Tohoku Corporation. Among the overseas production companies, Toyota Motor Manufacturing, Mississippi, Inc. (TMMMS) acquired certification in FY2012. Of the sales companies and other businesses, Toyota Motor Sales, U.S.A., Inc. (TMS) did not renew certification.

Number of ISO Certified Toyota Group Companies in Japan and Overseas

	Production companies	Production/Sales companies	Sales companies/Other businesses
Japan	39	—	14
Overseas	32	10	20

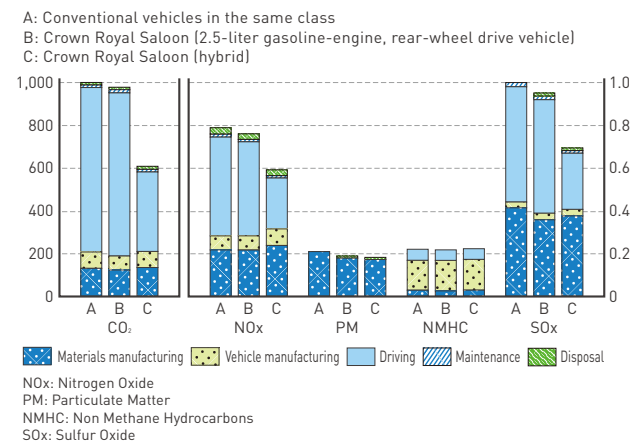
Management

Promote Environmental Management in Product Development through Eco-VAS

LCA of New and Fully Redesigned Models in All Seven Vehicle Series

The Eco-Vehicle Assessment System (Eco-VAS) is a comprehensive environmental impact assessment system that allows systematic assessment of a vehicle’s impact on the environment over the entire lifecycle from vehicle production and use to disposal stages. Toyota uses Eco-VAS to conduct lifecycle assessment (LCA) of a vehicle’s total environmental impact from the materials manufacturing, vehicle manufacturing, driving and maintenance stages through to the disposal stage. In FY2012, Toyota conducted LCA on new and fully redesigned models of seven vehicle series (Pixis Epoch, Corolla Axio, Corolla Fielder, Spade, Porte, Auris and Crown).

LCA of the Crown HV



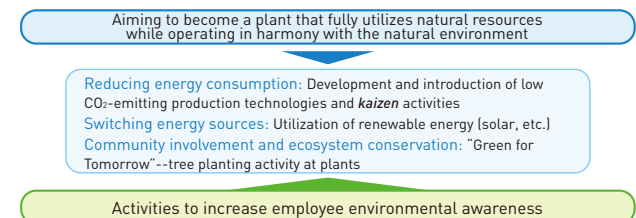
Management

Promote Sustainable Plant Activities

Continue Activities Focusing on Planting Trees at Plants

Since 2007, Toyota has been pursuing sustainable plant activities, positioning the Prius-producing Tsutsumi Plant as a model plant, to bring the concept of sustainability into *monozukuri*. With the concept of “a plant that fully utilizes natural resources while operating in harmony with the natural environment,” efforts are underway towards reducing energy consumption, switching energy sources, enhancing communication with local communities, and protecting ecosystems.

Concept Underlying Sustainable Plant Activities



In FY2012, Toyota installed energy-saving equipment and continued to improve energy conservation activities in production areas in accordance with the medium-term plan. As part of its afforestation activities, Toyota held new tree-planting events at the Miyoshi Plant, the Honsha Test Laboratory, and the Motomachi Plant, planting approximately 4,000 seedlings, including some that had been planted by employees.

At the Tsutsumi Plant, trees planted in 2008 have grown steadily over the past five years, with some exceeding 3 m in height. The growth of the trees in these areas is being monitored continually and the surveys of the ecosystem conducted.



Survey of the ecosystem at a plant site



Tsutsumi Plant (2008)



Tsutsumi Plant (2012)

Management

Promote Environmental Activities in Cooperation with Business Partners

Promoting Third-party Certification of Dealer Environmental Management Systems

Dealers have pressed ahead with voluntary activities based on the Toyota Dealer CSR Guidelines set forth in December 2005. At a CSR workshop held by the Toyota National Dealers’ Advisory Council (TNDAC), participants emphasized the need to further accelerate such initiatives, given the enhanced sales of next-generation environmental vehicles and the increasing public interest in environmental actions taken by companies. They called for increased acquisition of third-party certification of environmental management systems, such as ISO 14001 and Eco-Action 21*.

In FY2012, 14 Toyota dealers across Japan conducted activities toward acquiring Eco-Action 21 certification.

* A set of guidelines set by the Japanese Ministry of the Environment regarding environmental management systems and environmental reports.



Kick-off meeting held at Netz Chukyo

Activities of The Toyota National Dealers’ Advisory Council

The Toyota National Dealers’ Advisory Council issued the TNDAC CSR Guidelines in 2005 to promote unified CSR activities involving all Toyota Japanese dealers. In 2012, the CSR Lecture, offered annually since 2006, was held in October with the theme, “CSR Activities of Toyota Japanese Dealers from the Perspective of Compliance.” Over the 2-day period, the lectures were attended by representatives from dealers all over Japan, most of whom found them extremely useful.

Number of Overseas Dealers Who Achieved DERAP Goals Increases from 84% to 86%

Toyota continues to carry out the Dealer Environmental Risk Audit Program (DERAP) to reduce environmental risks at overseas dealer service shops. These audits are aimed at establishing a frame work to deal with five fundamental environmental requirements including the proper management of waste and treatment of wastewater.

In FY2012, the program covered 3,100 dealers and 46 distributors in 41 countries around the world, an increase of 285 dealers and 7 distributors compared to FY2011. The percentage of dealers satisfying the five requirements increased from 84% to 86%. Toyota will continue to encourage even more distributors to implement DERAP in the future.

Management

Promote Integrated Approaches to Reduce CO₂ Emissions in the Road Transport Sector

Promotion of Eco Driving

As part of efforts to promote environmentally considerate driving practices, Toyota has been developing eco driving support systems and working to popularize their use. Toyota is also providing information on environmentally considerate driving practices through eco drive workshops at the Toyota Safety Education Center “mobilitas,” as well as through pamphlets and the Internet.

Major Eco Driving Support Systems

Eco Drive Indicator	An Eco Drive Indicator on the instrument panel lights up when the vehicle is being operated in a fuel-efficient manner to raise the driver's awareness of environmentally considerate driving. Additionally, the zone display indicator displays the current acceleration position and eco driving range.
Fuel meter	This meter displays the average fuel efficiency over a given time period, enabling drivers to check their eco driving results. This meter is extremely effective when used in combination with the Eco Drive Indicator.

In May 2013, the Japan Automobile Manufacturers Association (JAMA) issued a publication titled “Fuel efficiency of passenger cars - What are the differences between the catalog values and your actual on-road fuel efficiency values?” This publication explains the difference in fuel efficiency between catalog values and actual driving values, and also includes Ten Tips for Fuel-Conserving Eco driving (revised October 2012), which provides an easy-to-understand summary of environmentally considerate driving practices.



Management

Legal Compliance Activities

Achieving Zero Non-compliance and Complaints

In FY2012, Toyota took preventive measures for non-compliance near-misses* that occurred during the year by holding meetings in which participants identified the root causes of near-miss incidents and discussed corrective actions. (This activity has been implemented since FY2010.) Despite these efforts, an accident occurred at a logistics office due to a pipe connection error, causing untreated wastewater to be discharged. Toyota reported the accident to the relevant governmental agency and immediately took corrective action. The cause was identified as faulty repair work done in FY2011. Toyota revised procedures for repair work to ensure that appropriate inspections are conducted after plumbing repairs are done. Further, company-wide inspections are being conducted to detect any similar pipe connection errors.

* Non-compliance near misses: Cases that pose high potential risks although they did not result in incidents.

Reporting and Storing Electrical Devices Containing PCBs

Since FY2005, Toyota has been using outside subcontractors to process electrical devices containing polychlorinated biphenyl (PCB). To date, 4,229 transformers and condensers have already been processed. The remaining 1,018 units will continue to be handled on an outsourcing basis in FY2013 and beyond.

Soil and Groundwater-related Measures

In 1997, Toyota completed the implementation of measures to prevent outflow of groundwater at six production plants. Toyota is continuing groundwater remediation using pump and aeration treatment and reports on the levels of trichloroethylene to the government as well as to local councils in the surrounding communities.

Trichloroethylene Levels	
Plant	Levels in groundwater
Head Office	Less than 0.002 - 1.44
Motomachi	Less than 0.002 - 0.18
Kamigo	Less than 0.002 - 0.18
Takaoka	Less than 0.002 - 0.42
Miyoshi	Less than 0.002 - 0.14
Tsutsumi	Less than 0.002 - 0.42

Environmental standards: 0.03
Unit: mg/liter

Note 1: Measurements are taken at all plants
Note 2: Has not been detected in plants other than those listed
Note 3: The level has a range since each plant includes multiple measurement points

Management

Eco-factory Activities

Eco-factory Activities Implemented at Eight Plants

Toyota continues with Eco-factory activities for plants being newly constructed and converted or expanded on a large scale to ensure that its factories set the highest worldwide standards for environmental consideration and sustainability. Activities include on-site verification of ongoing environmental solutions in each phase—namely planning, engineering, trial production and full-scale operation—and, should a failure be discovered, corrective actions are taken, and the process is re-examined. In FY2012, Eco-factory activities were expanded to plants undergoing large-scale modifications or expansion and were implemented at a total of eight plants in North America, Indonesia, Thailand, Brazil and China.

Eco-factory Activities										
	North America		India	Indonesia	Thailand		Brazil	China		Europe
	TMMMS	TMMAL	TKM No. 2 Plant	TMMIN	TMT Gateway Plant	STM	TDB Sorocaba	SFTM Chengshun New Plant	TMCAP	TMMR
Planning stage										
Audits of facility specifications									13	
On-site audit		13			13	13			15	
Compliance and risk evaluation		14		13	13	14	13		15	
Performance evaluation (CO ₂ , VOC, etc.)	13		13				14	14	16	13

Activities expanded in FY2013 to include performance enhancement projects
Implementation completed by FY2011
Implementation completed in FY2012
Numbers indicate planned year of implementation

Focus

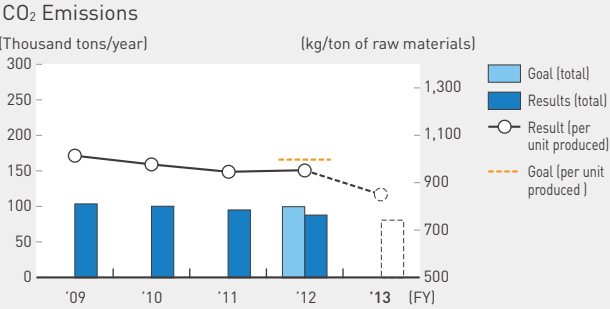
Examples of Toyota's Environmental Protection Activities

Best Practice at the Myochi Plant

CO₂ Emissions Reduction (Energy Saving) Activities

Since the collapse of Lehman Brothers, the Myochi Plant has been consolidating its production processes in order to adjust its production capacity.

Both an older line and a new line had been in use for the casting process, which consumes a large amount of energy. By consolidating production into the new line, which possesses higher energy efficiency, the Myochi Plant was able to reduce usage of contracted power supply by 30%, thus reducing CO₂ emissions per unit produced by 10% and achieving its CO₂ emissions reduction goal.



Sustainable Plant Activities

Toyota's initiative to lower building temperatures in summer by growing shady “green curtains” in front of office buildings at plants was awarded the prize for excellence in the business category of the FY2012 Aichi Green Curtain Contest. In 2013, a commemorative year that marks the 40th anniversary of both the Toyota Environment Month and the Myochi Plant, both of which were established in 1973, Toyota is striving to create environmentally considerate plants through activities such as tree planting in cooperation with local communities.



Award ceremony at the FY2012 Aichi Green Curtain Contest



Green curtain that was awarded the prize for excellence

Best Practice at the Hirose Plant

Initiatives to Reduce Energy Consumption on the Hybrid Parts Production Line

In the hybrid system used in the Prius and Aqua, the energy generated and stored during deceleration is used to drive a motor and improve fuel efficiency. An inverter is used to control charging and discharging during this process.

Because heat is generated during charging and discharging, a cooler must be installed inside the inverter to cool it. In 2011, the Hirose Plant began manufacturing coolers in addition to inverters.

In the conventional method, a 6-kg jig was heated to a high temperature in a vacuum to weld the approximately 700-g cooler, requiring a large amount of energy. Therefore, the Hirose Plant developed a fast, uniform heating method that allows welding under normal atmospheric pressure without using a jig.

The new process made it possible to streamline equipment and reduce the processing time, halving the CO₂ emissions during manufacture of the cooler. Even after the startup of this new process, the Hirose Plant is continuing to implement further energy-saving activities, such as shortening the welding time and reducing the processing defect rate.



Appendix

Status of Major Global Environmental Data for FY2012

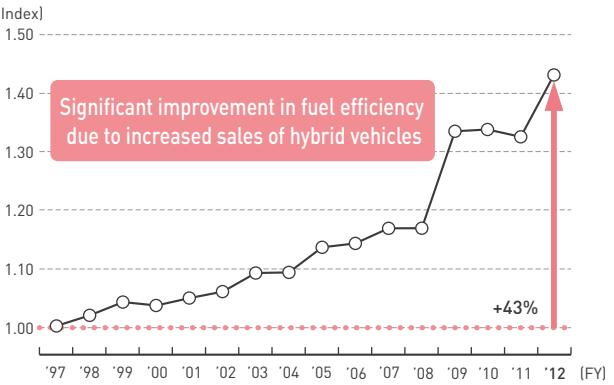
Toyota is promoting environmental management based on the three priority themes of “contribution to a low carbon society,” “contribution to a recycling-based society,” and “environmental protection and contribution to a harmony with nature society.” Listed below are major environmental data collected in Japan and overseas.

Contribution to a Low Carbon Society

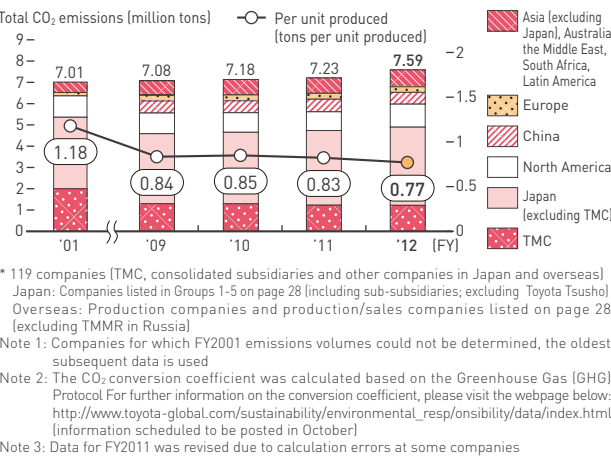
Reduction of CO₂ Emissions

Increase in Average Fuel Efficiency

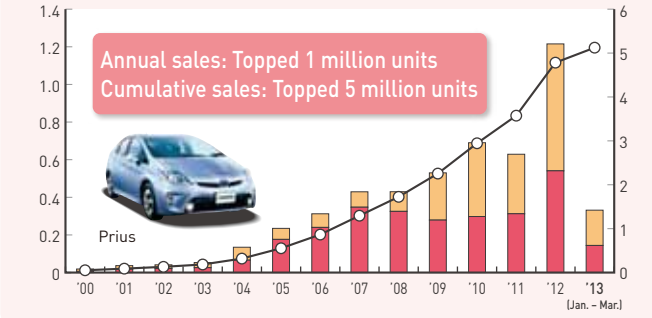
Average Fuel Efficiency of Toyota Vehicles in Japan, US, and Europe



Trends in Global CO₂ Emissions (from Energy Sources) and CO₂ Emissions per Unit Produced (Stationary Sources such as Plants and Offices)



Cumulative Sales of Hybrid Vehicles Unit: million units (the right-hand scale applies to the line graph)



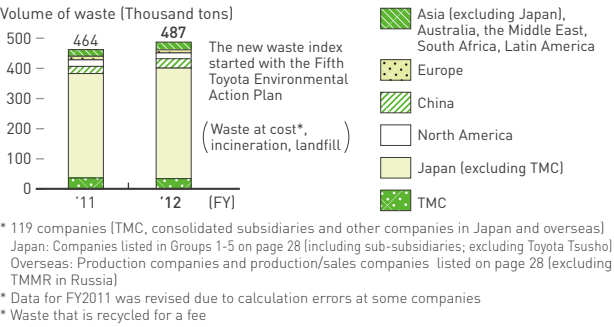
Hybrid Vehicle Lineup (as of March 2013)

Toyota Brand	
Sedan	Camry Hybrid, Crown Hybrid, SAI, Prius, Prius PHV, Avalon Hybrid (for overseas markets only)
Wagon	Prius α
Minivan	Alphard hybrid model, Vellfire hybrid model, Estima Hybrid
Hatchback/Station wagon	Aqua, Auris Hybrid (for overseas markets only), Yaris Hybrid (for overseas markets only)
SUV	Highlander Hybrid (for overseas markets only)
Commercial	Dyna/Toyocce hybrid models
Lexus Brand	
Sedan	LS600h/LS600hL, GS450h, HS250h, ES300h (for overseas markets only)
Hatchback/Station wagon	CT200h
SUV	RX450h

Contribution to a Recycling-based Society

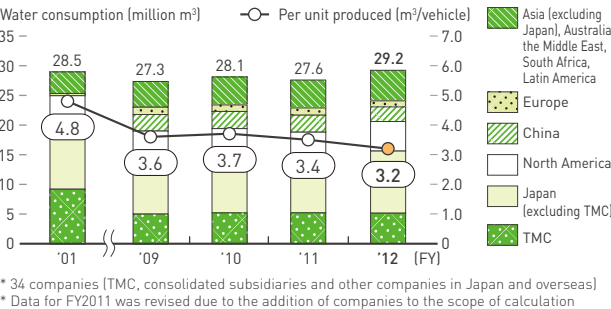
Reduction of Waste Volume

Waste Volumes



Reduction of Water Consumption

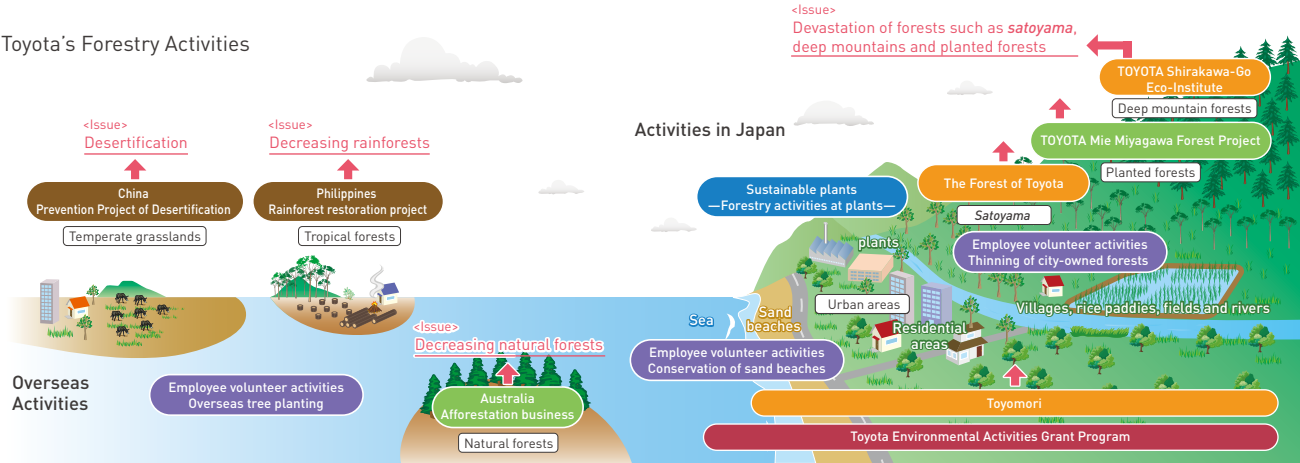
Water Consumption at Vehicle Assembly Plants and Consumption per Unit Produced



Environmental Protection and Contribution to a Harmony with Nature Society

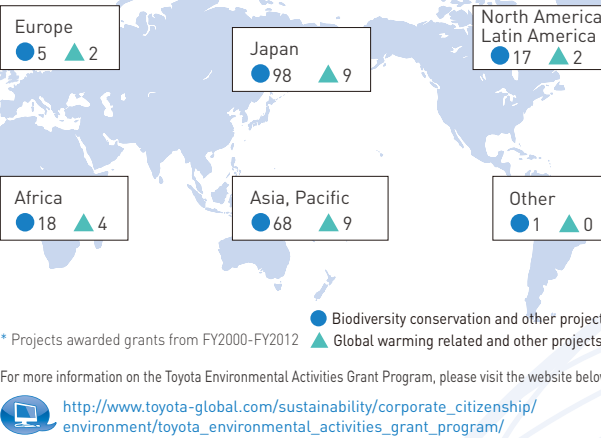
Community and Society-based Forestry Initiatives

Toyota's Forestry Activities



Support for Environmental Improvement and Protection Activities Towards Realizing Sustainable Development

Breakdown of Toyota Environmental Activities Grant Program Grant Recipient Projects (Totals)



Environmental Management

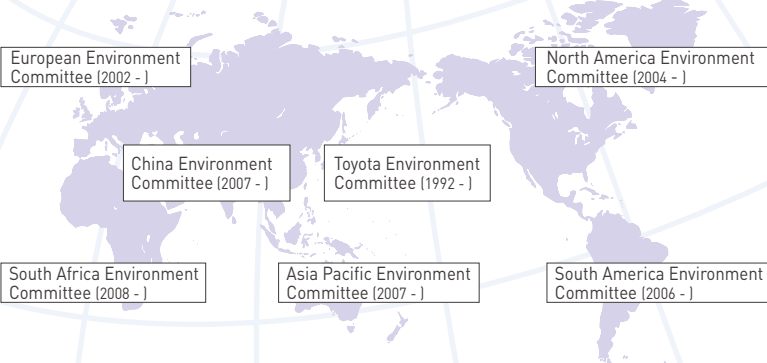
Strengthening Consolidated Environmental Management

Percentage of Companies Subject to Consolidated EMS Worldwide

Percentages of vehicles produced and sold by companies subject to consolidated EMS worldwide

Production area: 99%
Sales area: 90%

Promotion Structure for Global Environmental Management



For information on indices other than in the environmental data listed below, please visit the following webpage (information scheduled to be posted in October)
 http://www.toyota-global.com/sustainability/environmental_responsibility/data/index.html

Scope of Companies Subject to Consolidated EMS

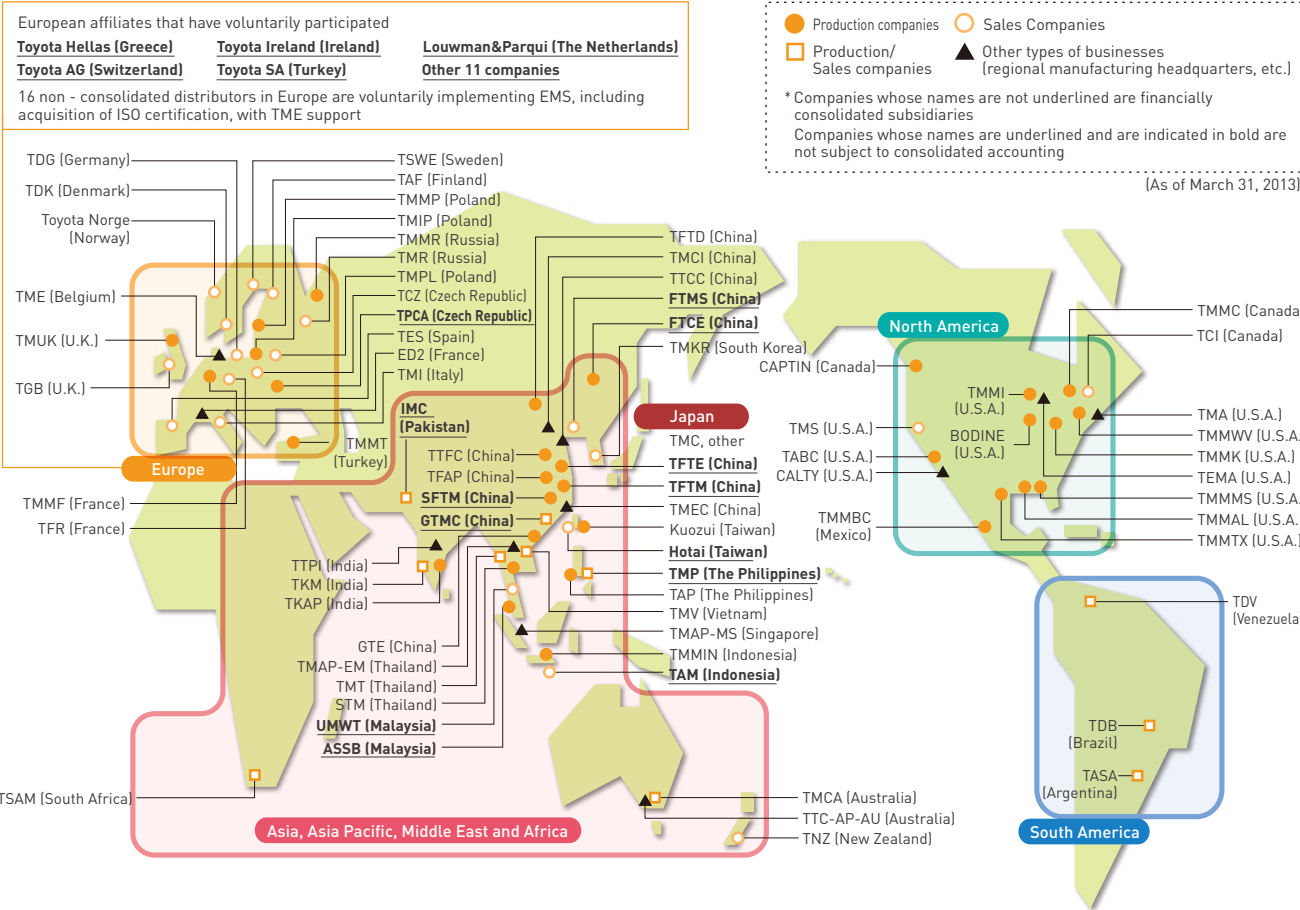
Toyota's consolidated environmental management system (EMS) covers a total of 562 companies. This includes not only all financially consolidated subsidiaries, but also major production companies, overseas distributors and other companies not subject to consolidated accounting. Specifically, companies subject to consolidated EMS fall into the following four major categories: (1) 166 subsidiaries which are financially consolidated and under the direct control of TMC; (2) 52 major production companies and overseas distributors that are not subject to consolidated accounting; (3) one organization from other types of businesses; (4) 343 subsidiaries that are financially consolidated and under the indirect control of TMC (managed via consolidated subsidiaries).

Organization/Structure

1. Jointly adopt the Toyota Earth Charter and draft individual environmental policies
2. In production, set quantitative goals and follow up on those goals
3. In sales, create an environmental management system; reduce environmental impact, make social contributions, and carry out environmental communication in line with the nature of business. In FY2006 begin quantitative management of environmental impact such as CO₂ emissions during logistics activities
4. Implement top level environmental responses based on actual conditions in each country and region

* TMC's requirements to companies not subject to consolidated accounting may vary according to region and the nature of business

Main Companies Subject to Consolidated EMS



Main Companies Subject to Consolidated Environmental Management System (EMS) in Japan (alphabetical order) (As of March 31, 2013)

Production companies					Sales Companies	Other businesses
Group 1	Group 2	Group 3	Group 4	Group 5	Tokyo Toyopet Motor Sales Co., Ltd. Toyota Home Tokyo Co., Ltd. Toyota Tokyo Parts Distributor Co., Ltd. Toyota Tokyo Rental & Leasing Co., Ltd. Total 33 companies	Aichi Rikuun Co. Tacti Corporation Toyofuji Shipping Co., Ltd. Toyota Modellista International Corporation Toyota Enterprises Inc. Toyota Central R&D Labs, Inc. Toyota Technocraft Co. Toyota Transportation, and others Total 50 companies *Includes one company not subject to consolidated accounting
•Consolidated subsidiaries •Automotive production companies and others •Toyota secondary companies	•Companies not subject to consolidated accounting •Main parts manufacturers •Body manufacturers, etc	•Consolidated subsidiaries •Parts manufacturers	•Consolidated subsidiaries •Various other products production companies	•Companies not subject to consolidated accounting •Parts manufacturers		
Daihatsu Motor Co., Ltd. Gifu Auto Body Industry Co., Ltd. Hino Motors, Ltd. Toyota Auto Body Co., Ltd. Toyota Motor East Japan, Inc.*1 Toyota Motor Hokkaido, Inc. Toyota Motor Kyushu, Inc.	Aichi Steel Corporation Aisan Industry Co. Ltd. Aisin AI Co., Ltd. Aisin AW Co., Ltd. Aisin Seiki Co., Ltd. Aisin Takaoka Co., Ltd. Denso Corporation JTEKT Corporation Tokai Rika Co., Ltd. Toyoda Gosei Co., Ltd. Toyota Boshoku Corporation Toyota Industries Corporation Toyota Tsusho Corporation	Cataler Corporation Central Motor Wheel Co., Ltd. Kyoho Machine Works, Ltd. Primearth EV Energy Co., Ltd. Toyota Housing Corporation Yutaka Seimitsu Kogyo, Ltd.	Admatechs Co., Ltd. Japan Chemical Industries Co., Ltd. Shintec Hozumi Co., Ltd. Toyota Turbine and Systems Inc.	Chuo Pack Industry Co.,Ltd. Chuo Spring Co.,Ltd. Fine Sinter Co., Ltd. FIS Co., Ltd. Koito Manufacturing Co., Ltd. Kyowa Leather Cloth Co., Ltd. Taiho Kogyo Co., Ltd. Toyoda Iron Works Co., Ltd. Trinity Industrial Corporation Tsuda Industries Co. Ltd.		
All - Toyota Production Environment Conference Members					All - Toyota Production Environment Meeting Members	

*1 Established through the merger of Kanto Auto Works Ltd., Central Motor Co., Ltd., and Toyota Motor Tohoku Corporation in July 2012

Status of Major Environmental Data in Japan for FY2012

Area	Item	Key indicator (unit)	FY1990	FY1995	FY1998	FY2001	FY2010	FY2011	FY2012	Related pages
Product	Exhaust gases	Percentage of total production that achieves emission levels 50% lower than 2005 gasoline standards (No. of models)	—	—	—	—	4.5% [29]	4.0% [19]	2.3% [17]	19
		Percentage of total production that achieves emission levels 75% lower than 2005 gasoline standards (No. of models)	—	—	—	—	95.1% [134]	95.5% [135]	97.4% [139]	
	Clean-energy vehicles	Number of units sold [units]	—	—	—	—	343,645	456,936	658,585	—
		Electric vehicles [units]	—	—	—	—	0	0	19	
		Hybrid vehicles [units]	—	—	—	—	343,542	456,873	658,517	
		CNG vehicles [units]	—	—	—	—	103	63	49	—
	10·15 test-drive mode (Note 1)	703 - 827kg	17.6	17.6	—	—	—	—	—	
		828 - 1,015kg	12.3 (average)	12.3 (average)	—	—	22.6	23.2	—	
		1,016 - 1,265kg					19.1	21.5	—	
		1,266 - 1,515kg	8.5 (average)	8.0 (average)	—	—	26.5	27.0	—	
		1,516 - 1,765kg					13.8	14.1	—	
		1,766 - 2,015kg					11.7	11.5	—	
		2,016 - 2,265kg					9.8	11.3	—	
		2,266kg -					8.2	8.0	—	
	JC08 test-drive mode	601 - 740kg	—	—	—	—	—	—	30.0	10
		741 - 855kg					—	—	26.2	
		856 - 970kg					—	—	20.9	
		971 - 1,080kg					—	—	27.1	
		1,081 - 1,195kg					—	—	24.4	
		1,196 - 1,310kg					—	—	16.7	
		1,311 - 1,420kg					—	—	25.9	
		1,421 - 1,530kg					—	—	21.6	
		1,531 - 1,650kg					—	—	14.7	
		1,651 - 1,760kg					—	—	14.4	
		1,761 - 1,870kg					—	—	11.7	
		1,871 - 1,990kg					—	—	10.9	
		1,991 - 2,100kg					—	—	10.7	
		2,101 - 2,270kg					—	—	14.0	
		2,271kg -					—	—	8.2	
Production	CO ₂ (Note 2)	Total emissions volume [calculated in CO ₂ equivalent in 10 thousand tons/year]	211 (Note 4)	—	—	—	119	117	116	11
		Emissions volume per unit produced [calculated in CO ₂ equivalent in tons/unit/year]	—	—	—	—	0.48	0.46	0.41	
	Substances of concern	VOC emissions volume per body area (g/m ²)	—	—	64	—	20	21	20	20
Recycling	Waste (Note 3)	Volume of waste per unit produced (kg/unit)	—	—	—	29.5	15.8	14.1	12.1	15
	Recycling rate	Vehicle recycling/recovery rate (%)	—	—	—	—	97	99	99	17

Note 1: The fuel efficiency figures for FY1990 were calculated by converting the figures obtained in the Japanese 10 test-drive mode to the 10-15 test-drive mode

Note 2: Since non-production bases were also brought under the scope of the reduction goals in FY2005, figures include company-wide emissions from FY1990

Note 3: Zero landfill waste was achieved in FY2000 and has been maintained ever since

Note 4: Total figure for the period from January to December 1990

Environmental Accounting

Environmental accounting at Toyota is based on a classification of environmental costs into "environmental investments¹" and "maintenance costs²." Toyota also calculates the economic effects and eco-efficiency of its activities. For details on the effects of measures implemented to reduce environmental impact, please see the section "Major Environmental Data for FY2012 in Japan" on p. 29.

1. Environmental costs, such as those for research and development of environmentally considerate products, whose effects are judged to extend beyond the current term into the future
2. Environmental costs other than environmental investments

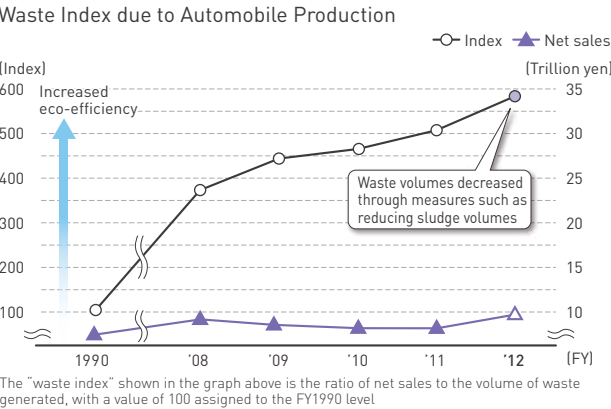
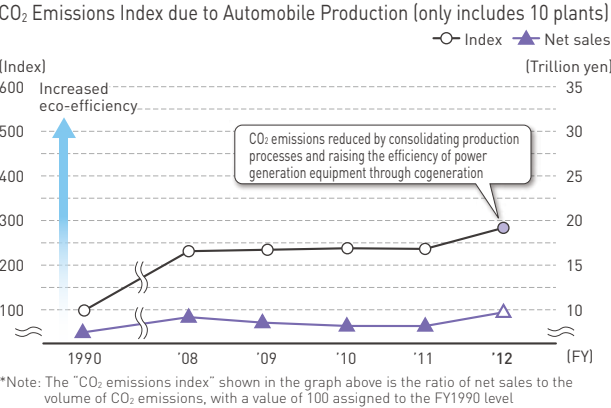
Environmental Costs
Calculation scope: Toyota Motor Corporation (unconsolidated)

Actual Results Based on Toyota's Format						(Unit: billion yen)
Classification	Item		Details	FY2010	FY2011	FY2012
Environmental investments	Research and development			215.4	262.4	270.6
	Recycling-related			0.7	0.7	0.7
	Other (social contribution, ISO certification, education and training, etc.)			1.1	1.1	0.8
	Plant and equipment investment ³ primarily for environmental action	Prevention of global warming	0.7	0.4	0.2	
		Waste processing	0.0	0.1	0.0	
		Pollution prevention, etc.	0.9	1.1	0.8	
			1.6	1.6	1.0	
		Expenses for environmental action included in normal plant and equipment investment	6.2	6.8	7.9	
Subtotal for environmental investments			225.0	272.6	281.0	
Maintenance costs	Expenses related to environmental measures	Waste processing	2.0	1.9	1.9	
		Waste water treatment	0.3	0.3	0.3	
		Atmospheric pollution and odor abatement	0.8	0.8	0.9	
		Global environmental preservation	0.8	0.8	0.7	
	Awareness-building	Advertising, public relations, etc.	10.3	10.3	16.9	
	Professional environmental staff	Personnel ⁴	2.0	1.8	1.8	
	Environmental restoration	Vehicle recalls	0.0	0.0	4.6	
		Soil and groundwater remediation	0.3	0.3	0.3	
	Subtotal for maintenance costs			16.5	16.2	27.4
Total (As a percentage of net sales)			241.5 (2.9%)	288.8 (3.5%)	308.4 (3.2%)	

FY2012 Actual Results Based on the Ministry of the Environment's Format (Unit: billion yen)			
Classification		Toyota	
		Investment	Costs
1. Business area costs	(1) Pollution prevention	0.2	1.2
	(2) Global environmental conservation	8.4	0.7
	(3) Resource circulation	0.0	1.9
2. Upstream/downstream costs	Amount allocated to recycling related and industry organizations	0.0	0.7
3. Administration costs	Environmental advertisements, environmental report publication, professional environmental staff, etc.	0.0	19.3
4. Research and development costs	R&D for reducing substances of concern	0.0	270.6
5. Social activity costs	Contribution to environmental preservation organizations, etc.	0.0	0.2
6. Environmental remediation costs	Soil and groundwater remediation, etc.	0.3	4.9
Total		8.9	299.5
		308.4	

- 3 Depreciation expenses of investments in plant and equipment are not included in these costs.
Reference: FY2012 total R&D expenses: 710.9 billion yen; Total investment in plant and equipment: 170.8 billion yen
4 The figure for FY2010 has been revised following a review of environmental activities.
5 Five body manufacturers: Toyota Motor East Japan, Inc. (established in July 2012 through the merger of Kanto Auto Works, Central Motor, and Toyota Motor Tohoku), Daihatsu Motor, Toyota Auto Body, Hino Motors, and Toyota Motor Kyushu [Calculations made on the basis of standards used by each company]

Eco-efficiency (Net Sales/Environmental Impact)



Independent Practitioner's Review Report

To improve the accuracy and objectivity of this report, "Respect for the Planet—Toyota's Environmental Initiatives—2013," the quantitative information concerning Toyota's environmental activities in FY2012, described in pages 10-30 of this report (excluding publicly released data and focus), has undergone a third-party review conducted by Deloitte Tohmatsu Evaluation and Certification Organization Co., Ltd., a subsidiary of Deloitte Touche Tohmatsu LLC which is a member-firm of Deloitte Touche Tohmatsu Limited. The procedure for the third-party review of this report is as follows:

1. Independent practitioner's review plan 2. Onsite independent practitioner's review 3. Communicate findings
4. Check the final version of this report 5. Submit an Independent Practitioner's Review Report

(TRANSLATION)		
Independent Practitioner's Review Report		
Mr. Akio Toyoda, President, Toyota Motor Corporation		August 9, 2013
		Hiroshi Inanaga Chief Executive Officer Deloitte Tohmatsu Evaluation and Certification Organization Co., Ltd.
<p>1. Scope of the Review</p> <p>We have reviewed the report titled "Respect for the Planet -Toyota's Environmental Initiatives- 2013" (the "Report") prepared by Toyota Motor Corporation (the "Company"). The purpose of our review was to provide limited assurance from an independent practitioner about whether the quantitative environmental information (excluding publicly released data and the data included in the subsections with the heading "Focus") for the period from April 1, 2012 to March 31, 2013 included in pp. 10-30 of the Report was accurately measured and calculated in accordance with the Company's calculation methods which refer to the Environmental Reporting Guidelines (2012 version) (issued by the Ministry of the Environment, Government of Japan) and the Global Reporting Initiative ("GRI") Sustainability Reporting Guidelines (G3.1).</p> <p>2. Responsibility of the Management and Responsibility of the Independent Practitioner</p> <p>The Report is the responsibility of the Company's management. Our responsibility is to provide our limited assurance with respect to our review performed on the Report as an independent practitioner.</p> <p>3. Summary of Review</p> <p>To obtain an adequate and valid basis for providing limited assurance with respect to our conclusions, we performed our review in accordance with the International Standard on Assurance Engagements 3000 (issued by the International Federation of Accountants in December 2003) and the Proposed Environmental Report Review Standard (issued by the Japanese Ministry of Environment in March 2004).</p> <p>The review procedures performed for the quantitative environmental information (excluding publicly released data and the data included in the subsections with the heading "Focus") for the period from April 1, 2012 to March 31, 2013 included in pp. 10-30 of the Report consisted of: 1) agreeing information to summary tables and supporting documents on a sample basis; 2) interviewing the responsible Company personnel and the persons in charge; 3) reviewing and agreeing information to the relevant Company minutes, the Company's regulations, and ISO-related documents, etc.; 4) site visits; and 5) comparing information with other available supporting internal and external materials.</p> <p>4. Conclusion</p> <p>On the basis of the review procedures described in the preceding paragraph, nothing has come to our attention that caused us to believe that the quantitative environmental information (excluding publicly released data and the data included in the subsections with the heading "Focus") for the period from April 1, 2012 to March 31, 2013 included in pp. 10-30 of the Report was not accurately measured or calculated, in all material respects, in accordance with the Company's calculation methods which refer to the Environmental Reporting Guidelines (2012 version) (issued by the Ministry of the Environment, Government of Japan) and the GRI Sustainability Reporting Guidelines (G3.1).</p> <p>The above represents a translation, for convenience only, of the original Independent Practitioner's Review Report issued in the Japanese language.</p>		

Company Outline

Name:	TOYOTA MOTOR CORPORATION	Number of shareholders:	668,186
Date of establishment:	August 28, 1937	Total number of shares issued:	3,447,997 thousand
Principal operations:	Manufacturing and sales of automobiles, etc.	Stock exchanges on which the shares are listed:	Japan: Tokyo, Nagoya, Osaka, Fukuoka and Sapporo Overseas: New York and London
Capital:	397.0 billion yen		

Note: Capital amounts and number of shareholders are as of the end of March 2013. Capital less than 0.1 billion yen is rounded off.

Head Office:	1, Toyota-cho, Toyota City, Aichi Prefecture, Japan 471-8571	TEL +81-565-28-2121	Major production bases in Japan
Tokyo Head Office:	1-4-18, Koraku, Bunkyo-ku, Tokyo, Japan 112-8701	TEL +81-3-3817-7111	Automobiles: Honsha Plant, Motomachi Plant, Kamigo Plant, Takaoka Plant, Miyoshi Plant, Tsutsumi Plant, Myochi Plant, Shimoyama Plant, Kinuura Plant, Tahara Plant, Teiho Plant, Hirose Plant
Nagoya Office:	4-7-1 Meieki, Nakamura-ku, Nagoya City, Aichi Prefecture 450-8711	TEL +81-52-552-2111	