TOYOTA

TOYOTA MOTOR CORPORATION

Sustainability Data Book 2019

Sustainability Data Book 2019

Fiscal Year Ended March 31, 2019

Sustainability Data Book 2019

Editorial Policy

The *Sustainability Data Book* explains Toyota's initiatives related to the Environment (E), Society (S), and Governance (G).
The *Environmental Report 2019*—Toward Toyota Environmental Challenge 2050—is excerpted from the Sustainability Data Book 2019.

Period Covered

Fiscal year 2019 (April 2018 to March 2019)
Some of the initiatives in fiscal year 2020 are also included.

Third-Party Assurance

Third-Party Assurance in the Environment section denotes data confirmed through third-party assurance.

Scope of Report

Initiatives and activities of those of Toyota Motor Corporation (TMC) and its consolidated subsidiaries, etc., in Japan and overseas.

Disclosure of Information on Overseas Affiliates

Total of 16 countries and regions (including Japan) disclose detailed information on company websites. The information disclosed globally by these reports covers about 90 percent of Toyota vehicles sold worldwide.

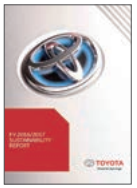
Reference Guidelines

- Ministry of the Environment of Japan *Environmental Reporting Guidelines* (2018 Version)
- ISO 26000 guidelines
- A comparison table relative to the *GRI Sustainability Reporting Guidelines* is disclosed on the Toyota company website

GRI Content Index

Argentina


Australia


Brazil


China

Europe


India

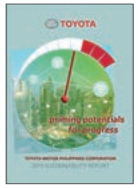

Indonesia

Malaysia
* Issued in the UMW Holding Report


New Zealand


North America


South Africa


The Philippines


Taiwan (Kuozui)

Taiwan (Hotai)


Thailand

Vietnam

Contents

Society

Environment

Governance

Overview of Toyota Motor Corporation

Company Profile

Company Name	Toyota Motor Corporation
President and Representative Director	Akio Toyoda
Company Address Head Office Tokyo Head Office Nagoya Office	 1 Toyota-cho, Toyota City, Aichi Prefecture, Japan 1-4-18 Koraku, Bunkyo-ku, Tokyo, Japan 4-7-1 Meieki, Nakamura-ku, Nagoya City, Aichi Prefecture, Japan
Date Founded	August 28, 1937
Capital	635.4 billion yen (as of the end of March, 2019)
Main Business Activities	Motor Vehicle Production and Sales
No. of Employees (consolidated)	370,870 (as of the end of March, 2019)
No. of Consolidated Subsidiaries	608 (as of the end of March, 2019)
No. of Affiliates Accounted for under the Equity Method	63 (as of March 31, 2019)

Non-automotive Business

Financial Services

Provides financial services for vehicle loans and leasing in more than 30 countries and regions worldwide.

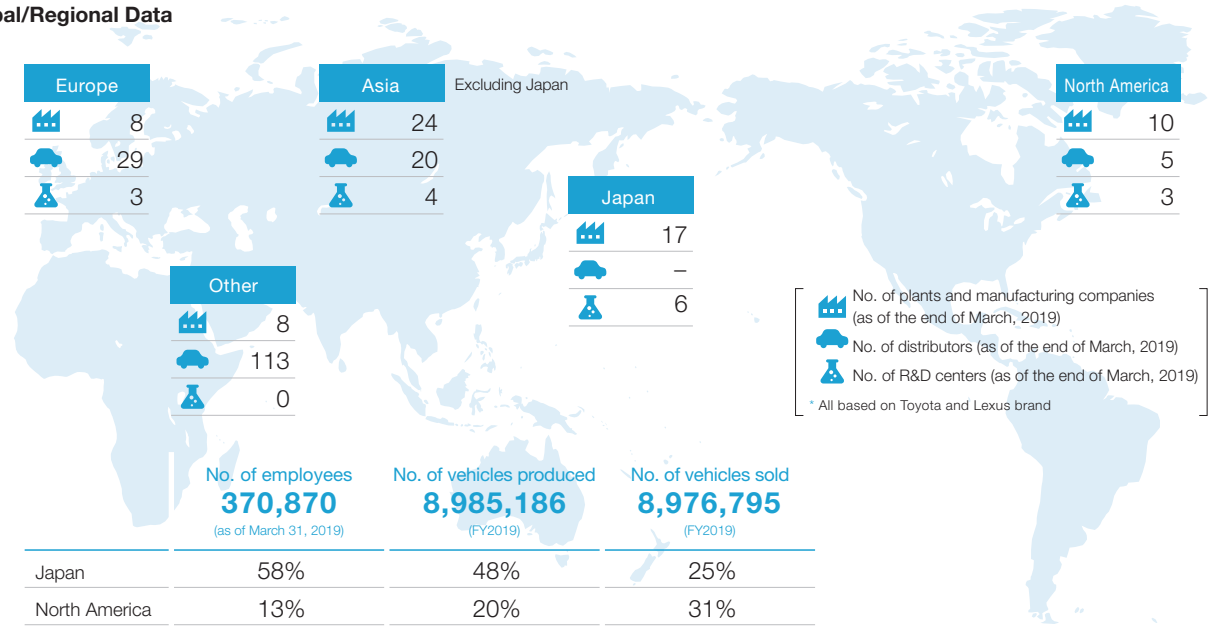
Housing

Consolidating the Toyota Group's knowledge to offer a wide variety of housing services to meet different customer needs.

Other Business

Toyota is also involved in marine businesses, as well as biotechnology and afforestation businesses.

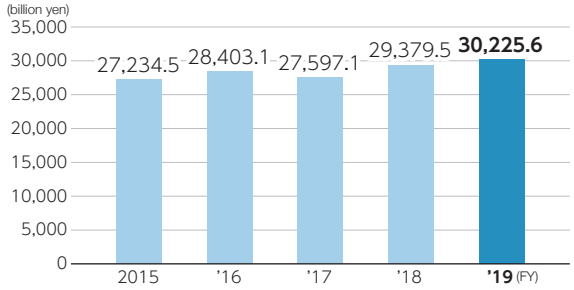
Global/Regional Data



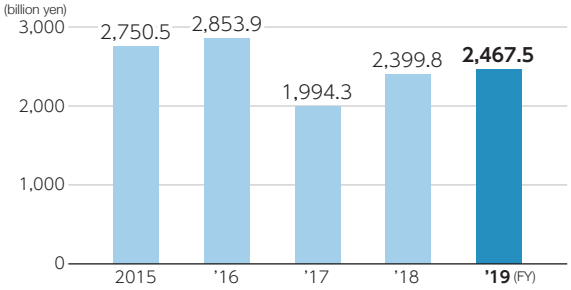
	No. of employees 370,870 (as of March 31, 2019)	No. of vehicles produced 8,985,186 (FY2019)	No. of vehicles sold 8,976,795 (FY2019)
Japan	58%	48%	25%
North America	13%	20%	31%
Europe	6%	8%	11%
Asia	17%	19%	19%
Other	6%	5%	15%

Consolidated Financial Highlights Based on U.S. GAAP—Generally Accepted Accounting Principles (Financial Years Ended March 31)

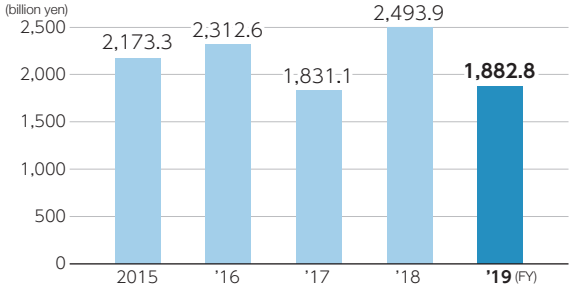
Net Revenues



Operating Income

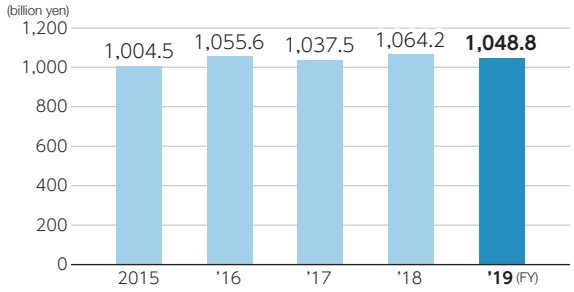


Net Income

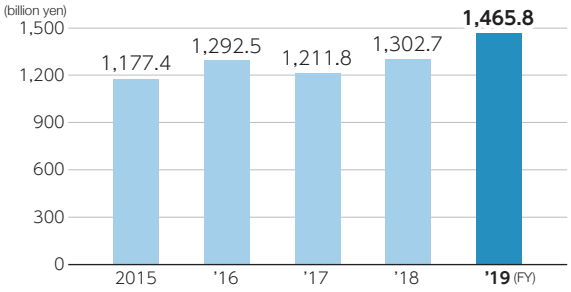


- Shows the net income attributable to the shareholders of Toyota Motor Corporation

R&D Expenses



Capital Investment



- Capital investment excludes vehicles and equipment on operating leases

Corporate Principles

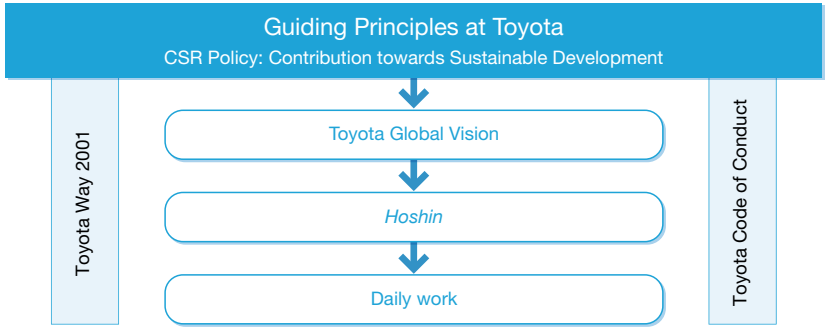
Fundamental Approach

Toyota strives to be a good corporate citizen trusted by all stakeholders and to contribute to creating an affluent society through all its business operations. The corporate principles are explained as follows, with our basic values and mindset.

Five Main Principles of Toyoda

- Always be faithful to your duties, thereby contributing to the company and to the overall good.
- Always be studious and creative, striving to stay ahead of the times.
- Always be practical and avoid frivolousness.
- Always strive to build a homelike atmosphere at work that is warm and friendly.
- Always have respect for spiritual matters, and remember to be grateful at all times.

Relationship with Philosophy, *Hoshin* (Yearly plan) and Regular Business Activities



Guiding Principles at Toyota

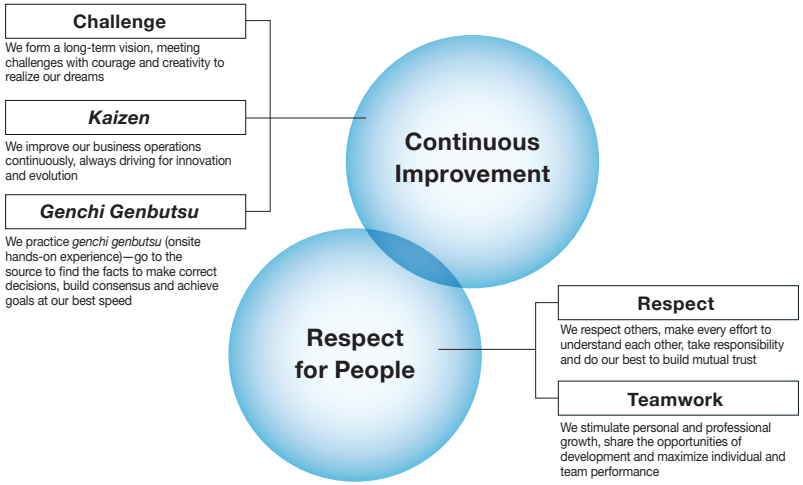
Since its foundation to the present day, Toyota has handed down the Five Main Principles of Toyoda released in October 1935, which embody the thinking of the Toyota Group founder, Sakichi Toyoda, and are the basis of corporate management.
In 1992, in response to changes in society and business structure, Toyota established the Guiding Principles at Toyota (revised in April 1997) to clarify how Toyota is expected to act, based on the recognition that strong policies are important for finding the way to proceed, especially when the environment surrounding us is drastically changing.

Guiding Principles at Toyota

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

Toyota Way 2001

The Toyota Way 2001, defined in April 2001, clarifies the values and business methods that all employees should embrace in order to carry out the Guiding Principles at Toyota.
The Toyota Way is supported by two main pillars: "Continuous Improvement" and "Respect for People."
Continuous Improvement means that we are never satisfied with where we are and always work to improve our business by putting forward new ideas and working to the best of our abilities.
Respect for People means that we respect all Toyota stakeholders and believe the success of our business is created by individual effort.



Toyota Code of Conduct

The Toyota Code of Conduct organizes the basic attitudes necessary for people working at the company and in society, providing a description of basic conducts. It also details what is required of employees and what needs to be kept in mind. Along with the Toyota Way 2001, it is essential that each employee carries out the Guiding Principles at Toyota and fulfills their social responsibilities.

Toyota Code of Conduct

Toyota Global Vision

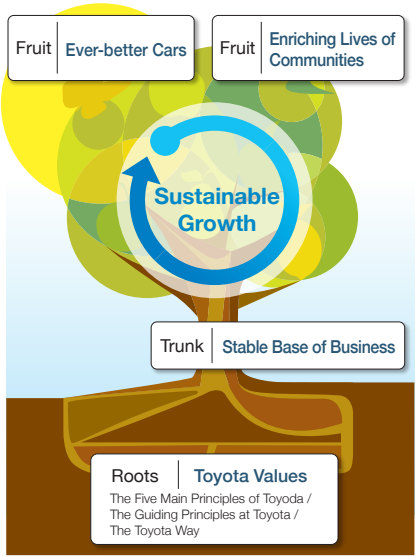
The Toyota Global Vision—announced in March 2011—reflects lessons learned from financial losses caused by the global economic crisis in 2008 and the series of recall issues of 2010. It reflects company-wide review and comprehensive discussions on how Toyota wants to be, and the kind of values it should esteem.
The Five Main Principles of Toyoda, the Guiding Principles at Toyota, and the Toyota Way 2001 are fundamental values of Toyota's corporate activities.
To be sustainable in society, we strive to implement a positive cycle of making ever-better cars that exceed customer expectations; contributing to Enriching lives of Communities by being rewarded with the smile of customers and communities; and achieving a stable business base.

"Rewarded with a smile by exceeding your expectations"

Toyota will lead the way to the future of mobility, enriching lives around the world with the safest and most responsible ways of moving people.

Through our commitment to quality, constant innovation and respect for the planet, we aim to exceed expectations and be rewarded with a smile.

We will meet challenging goals by engaging the talent and passion of people, who believe there is always a better way.



Toyota Global Vision

Sustainability Policy

The Toyota CSR policy is an adaption of the Guiding Principles at Toyota and brings in focus our relationships with stakeholders (established in January 2005, revised in August 2008). Toyota aims to build a corporate group that is admired and trusted by society through ensuring that all employees, including those at consolidated subsidiaries, recognize and act on our sustainability policy. We also expect our business partners to embrace the spirit of our CSR policy and act in accordance with it.

CSR Policy: Contribution towards Sustainable Development

Preamble

We, Toyota Motor Corporation and our subsidiaries, take initiative to contribute to harmonious and sustainable development of society and the earth through all business activities that we carry out in each country and region, based on our Guiding Principles. We comply with local, national and international laws and regulations as well as the spirit thereof and we conduct our business operations with honesty and integrity. In order to contribute to sustainable development, we believe that management interacting with its stakeholders as described below is of considerable importance, and we will endeavor to build and maintain sound relationships with our stakeholders through open and fair communication. We expect our business partners to support this initiative and act in accordance with it.

Customers

- Based on our philosophy of "Customer First," we develop and provide innovative, safe and outstanding high quality products and services that meet a wide variety of customers' demands to enrich the lives of people around the world. (Guiding Principles 3 and 4)
- We will endeavor to protect the personal information of customers and everyone else we are engaged in business with, in accordance with the letter and spirit of each country's privacy laws. (Guiding Principles 1)

Employees

- We respect our employees and believe that the success of our business is led by each individual's creativity and good teamwork. We stimulate personal growth for our employees. (Guiding Principles 5)
- We support equal employment opportunities, diversity and inclusion for our employees and do not discriminate against them. (Guiding Principles 5)
- We strive to provide fair working conditions and to maintain a safe and healthy working environment for all our employees. (Guiding Principles 5)
- We respect and honor the human rights of people involved in our business and, in particular, do not use or tolerate any form of forced or child labor. (Guiding Principles 5)
- Through communication and dialogue with our employees, we build and share the value "Mutual Trust and Mutual Responsibility" and work together for the success of our employees and the company. We recognize our employees' right to freely associate, or not to associate, complying with the laws of the countries in which we operate. (Guiding Principles 5)
- Management of each company takes leadership in fostering a corporate culture, and implementing policies, that promote ethical behavior. (Guiding Principles 1 and 5) (Guiding Principles 1 and 5)

Business Partners

- We respect our business partners such as suppliers and dealers and work with them through long-term relationships to realize mutual growth based on mutual trust. (Guiding Principles 7)
- Whenever we seek a new business partner, we are open to any and all candidates, regardless of nationality or size, and evaluate them based on their overall strengths. (Guiding Principles 7)
- We maintain fair and free competition in accordance with the letter and spirit of each country's competition laws. (Guiding Principles 1 and 7)

Shareholders

- We strive to enhance corporate value while achieving a stable and long-term growth for the benefit of our shareholders. (Guiding Principles 6)
- We provide our shareholders and investors with timely and fair disclosure on our operating results and financial condition. (Guiding Principles 1 and 6)

Local Communities/Global Society

Environment

- We aim for growth that is in harmony with the environment by seeking to minimize the environmental impact of our business operations, such as by working to reduce the effect of our vehicles and operations on climate change and biodiversity. We strive to develop, establish and promote technologies enabling the environment and economy to coexist harmoniously, and to build close and cooperative relationships with a wide spectrum of individuals and organizations involved in environmental preservation. (Guiding Principles 3)

Community

- We implement our philosophy of "respect for people" by honoring the culture, customs, history and laws of each country. (Guiding Principles 2)
- We constantly search for safer, cleaner and superior technologies that satisfy the evolving needs of society for sustainable mobility. (Guiding Principles 3 and 4)
- We do not tolerate bribery of or by any business partner, government agency or public authority and maintain honest and fair relationships with government agencies and public authorities. (Guiding Principles 1)

Social Contribution

- Wherever we do business, we actively promote and engage, both individually and with partners, in social contribution activities that help strengthen communities and contribute to the enrichment of society. (Guiding Principles 2)

Organization for Solving Sustainability Issues

As the automotive industry faces once-in-a-century dramatic changes, it is a requirement to make ever quicker decisions and be ever more efficient with work. Meanwhile, stakeholder levels of expectation regarding non-financial issues, centered on the Environment (E), Society (S), and Governance (G), are also increasing.
To respond to these changes, Toyota established its Sustainability Meeting in 2018. Chaired by the Chief Risk Officer, members include outside directors and outside auditors. The Meeting discusses non-financial issues from a range of angles, and confirms management directions.

Organization

Initiatives Aligned with Global Society

Toyota is working on initiatives that contribute to the sustainable development of society and the world through all its business activities in cooperation with global society. At the root of these initiatives are the Five Main Principles of Toyoda, passed down as the basis of our corporate management, and the Guiding Principles, which lay out how we are expected to be as a company. In 2011, we announced the Toyota Global Vision, which lays out how we want to be as a company, based on our experiences with the 2008 global financial crisis and the series of recalls we had in 2010.
Toyota's ideas and values are in line with the aims of the UN Sustainable Development Goals (SDGs), which went into effect in January 2016.
In addition, environmental issues are one of the key aspects of what Toyota sees as sustainability issues. With a view to the "under 2°C" scenario* agreed on in the Paris Agreement, we are promoting initiatives under the Toyota Environmental Challenge 2050.

* At the 21st Conference of the Parties (COP21) of the United Nations Framework Convention on Climate Change held in Paris in 2015, efforts to reduce net emissions of CO_2, etc. to zero in the second half of this century were agreed upon with a long-term goal of keeping the rise in the global average temperature to well below 2°C compared to the preindustrial revolution level.

Contribution toward achieving SDGs through the Toyota Environmental Challenge 2050 (p. 51)

Stakeholder-oriented Management

In the preamble of its CSR Policy, Toyota declares that it will engage in stakeholder-oriented management in order to contribute to sustainable development and strive to maintain and develop sound relationships with stakeholders through open and fair communications.
Specifically, Toyota's relevant divisions and offices all over the world act as the main contacts to hold dialogues with major stakeholders. They communicate Toyota's philosophy and also help deepen mutual understanding.
Additionally, Toyota maintains communication with external experts in order to examine, for example, the direction of its sustainability-related initiatives.
Toyota will continue to further strengthen dialogue with stakeholders to earnestly address society's expectations and to utilize them in our future initiatives.

Implementation Status of Stakeholder Engagement

Stakeholder		Communication Methods	Frequency	Description	Incorporation into Corporate Activities
Customers	Based on our "Customer First" philosophy, we take measures to incorporate the comments and opinions of customers into better products and services	Toyota Customer Assistance Center	As needed	Responding to customer opinions by telephone and email forms	Improving customer satisfaction activities
		Official website, product website	As needed	Disseminating company information and business details, providing FAQ, etc.	Improving customer satisfaction activities
		Information sharing through social media	As needed	Disseminating company information and business details	Disseminating information in response to customer demand
Employees	Bilateral communications to build teamwork and foster a sense of unity based on a labor-management relationship founded on mutual trust and responsibility	Joint labor-management roundtable conferences/ Labor-management meetings	Several times a year	Discussions/negotiations, opinion exchanges and mutual understanding regarding labor-management issues	Strengthening labor-management relationships
		Employee satisfaction survey	Once or twice every two years	Surveying employees' satisfaction regarding workplace culture and company life	Improving workplace culture, and evaluating and planning various labor-management and personnel policies
Business Partners	Close communication to achieve a mutually beneficial relationship based on mutual trust	Dealers: Various meetings, seminars, and events	As needed	Sharing corporate policies	Building closer, mutually beneficial relationships based on mutual trust
		Suppliers: Supplier convention, various meetings with supplier associations, seminars, and events	As needed	Sharing purchasing policies, and strengthening of mutual study and partnership	
Shareholders	Timely and appropriate disclosure of operation and financial results to shareholders and investors, and constructive dialogues toward sustained growth and corporate value enhancement	Shareholders' Meeting	Once a year	Unconsolidated and consolidated financial statements, audit and supervisory board reports, and deliberation and decisions on resolutions	Improving management quality through constructive dialogues
		Financial results announcement	Four times a year	Press and telephone conferences to explain Toyota's financial status and initiatives	
		Face to face meeting	As needed	Explanation and discussion on financial status, local projects, technologies, products, etc. with institutional and private investors	
		Investor information website, etc.	As needed	Providing information on financial status, business details, etc. Website "T-ROAD," with President's messages	
Local Communities/ Global Society	Dialogue with various stakeholders to build good relationships with local communities and to solve global social and environmental issues	Roundtable conferences with local residents	Several times a year	Explanation and discussions with local representatives on Toyota's initiatives at each plant	Promoting mutual understanding and forming stable local communities
		Inviting local communities to Toyota's events and participating in local events	As needed	Social gatherings with local residents	
		Participating in joint projects between public and private sectors	As needed	Cooperating in progressive initiatives such as verification tests	Improving advanced technologies and recognizing/ resolving social issues
		Participating in economic and industry organizations	As needed	Participating in the planning and implementation phases of various organizations' initiatives A founding member of the World Business Council for Sustainable Development (WBCSD)	Introducing policies to improve the vitality of the nation industries
		Participating in collaborative activities with NGOs and NPOs	As needed	Social contribution activities at each region around the world	Recognizing social needs in individual regions

Society

Initiatives for Improving Traffic Safety

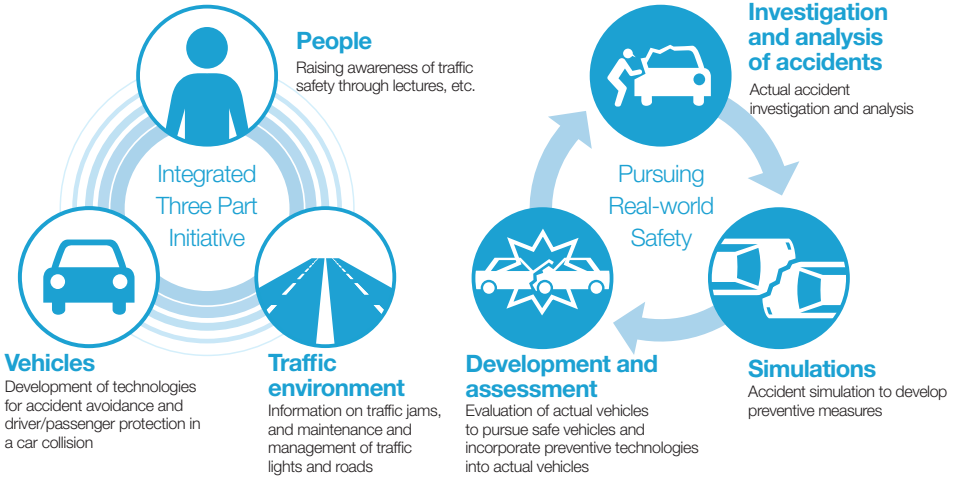
Fundamental Approach

According to a World Health Organization (WHO) survey*, 1.35 million people worldwide died in traffic accidents. While the number of deaths due to traffic accidents has been decreasing slightly in Japan, the United States and Europe, it has been constantly increasing in emerging nations and regions where traffic safety education and transportation infrastructure have not kept up with increases in the number of cars on the road. Unless countermeasures are implemented, traffic fatalities are predicted to become the seventh leading cause of accidental death by 2030.

In order to achieve Toyota's ultimate goal of Zero Casualties from Traffic Accidents, the development of safe vehicles is of course important, but it is also essential to educate people, namely drivers and pedestrians, and to ensure safe traffic infrastructure including traffic signals and roads.

Toward achieving a safe mobility society, Toyota believes it is important to promote an Integrated Three Part Initiative, involving people, vehicles, and the traffic environment, as well as to pursue Real-world Safety by learning from actual accidents and incorporating that knowledge into vehicle development. Toyota has also defined its Integrated Safety Management Concept as the basic philosophy behind technologies toward achieving the elimination of traffic casualties and is moving forward with developing such technologies.

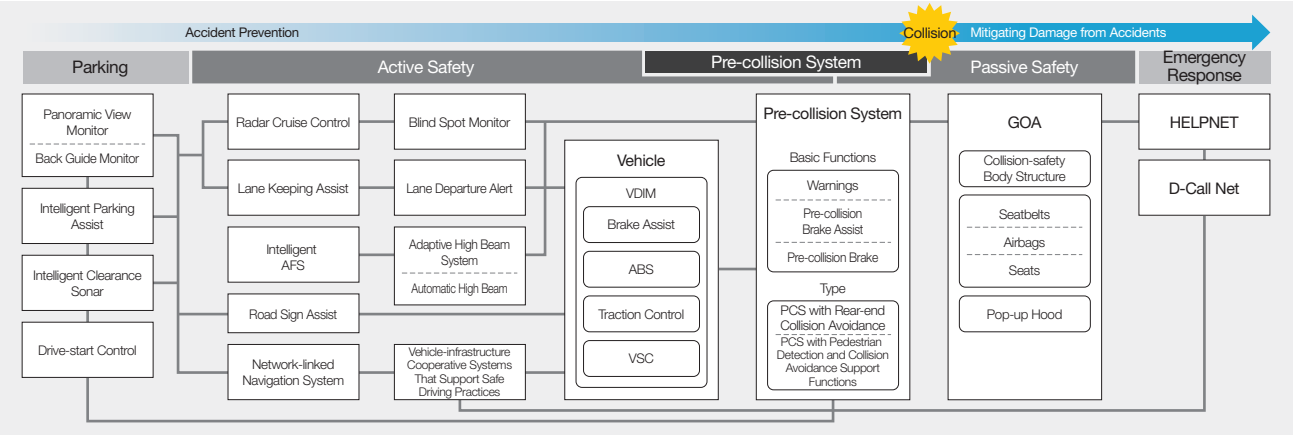
* Source: Global status report on road safety 2018, WHO



Integrated Safety Management Concept

Toyota provides optimum driver support for each stage of driving, from parking to normal operation, the accident itself, the pre-and post-crash timeframe, and post-accident rescue. Toyota's approach is to enhance safety levels through strengthening inter-system coordination rather than seeing each system separately. These are the approaches behind our Integrated Safety Management Concept.

Integration of Individual Technologies and Systems



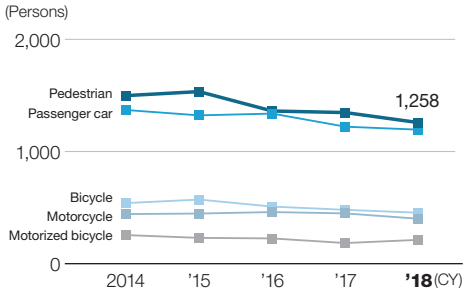
Actual Status of Traffic Accidents and Toyota's Safety Technology

There were 3,532 traffic fatalities in Japan in 2018, a drop of 162 people over the previous year. This was the lowest number since the National Police Agency began keeping records in 1948. Classified by road users, pedestrians accounted for the largest number of deaths, with the percentage of fatalities among the elderly (65 years or older) increasing yearly.

Another emerging issue is accidents caused by drivers pressing the accelerator by mistake instead of the brake in parking lots, or driving the wrong way down expressways, which are both more common among the elderly. This is becoming a major social issue.

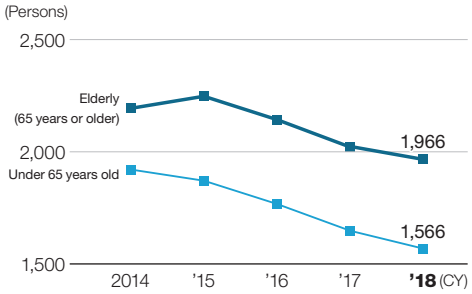
For this reason, more and more attention is being given to active safety technologies that help prevent accidents in addition to the existing passive safety features. At Toyota, we are working on installing the Toyota Safety Sense system that packages multiple active safety systems, including collision damage mitigation braking, in almost all our passenger vehicle models. We are also working on developing the Intelligent Clearance Sonar (ICS) (Parking Support Brakes [Stationary Objects]), which helps prevent accidents caused by pressing the wrong pedal.

Number of Traffic Fatalities by Accident Type



Source: Status of traffic fatalities within 30 days of the accident in 2018, National Police Agency

Number of Traffic Fatalities of the Elderly (65 Years or Older)



Source: On the number of traffic fatalities during 2018, National Police Agency

Active Safety

Toyota Safety Sense (Active Safety Package)

The Toyota Safety Sense system incorporates three major functions considered effective in reducing serious traffic accidents causing death or injury. It packages multiple active safety functions, based around Pre-collision Safety (PCS), which works to either help avoid collisions with cars ahead or pedestrians, Lane Departure Alert (LDA), which contributes to preventing accidents caused by leaving the lane, and Automatic High Beam (AHB), which helps ensure clear sight in front at night.

In January 2018, functions for detecting nighttime pedestrians and daytime crossing cyclists were added to the Alphard and Vellfire. Additionally, adoption of the advanced driving support feature Lane Tracing Assist (LTA), which can lead to autonomous driving, will help reduce the load on the driver on highways.

Since its market launch in 2015, Toyota Safety Sense has been installed in a total of more than 10 million vehicles globally (as of October 2018).

Toyota Safety Sense is now available on nearly all passenger cars (as standard or option) in the Japanese, United States, and European markets. It has also been introduced in a total of 68 countries and regions, including China, other select Asian countries, the Middle East, and Australia.

Pedal Misapplication Prevention System

About 30 percent of all traffic accidents are said to occur in parking lots.[1] Furthermore, drivers who are 75 years or older tend to be responsible for a large percentage of accidents caused by pedal misapplication in parking lots and other areas.[2] To help remedy this situation, Toyota has so far installed ICS in approximately 90 percent of all vehicles sold, including compact cars.

Meanwhile, as for vehicles that are already owned by customers, Toyota is successively expanding the number of vehicle models that can be retrofitted with the pedal misapplication prevention system. We began selling the pedal misapplication prevention system in December 2018 targeting five vehicle models already on the market, and plan to successively expand the number of targeted vehicle models to 12 by the end of 2019.

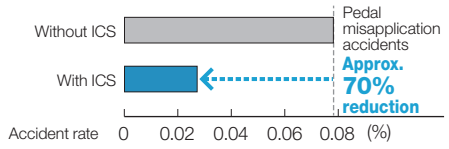
1 Source: Statistics of Parking Lot Accidents (statistics from six prefectures in Tohoku Region), The General Insurance Association of Japan
2 Source: ITARDA INFORMATION No. 124 - Traffic Accident Analysis Report, issued in February 2018, Institute for Traffic Accident Research and Data Analysis (ITARDA)

Display of the pedal misapplication prevention system for retrofitting

Accident Reduction Effects

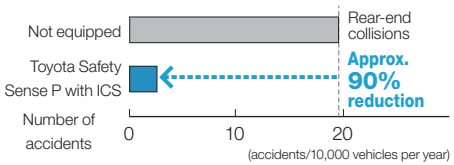
In real traffic environments, installation of the ICS in cars has reduced the number of accidents caused by pedal misapplication by about 70 percent. It has also been confirmed that the ICS in combination with Toyota Safety Sense has reduced rear-end collisions by about 90 percent (Toyota comparison).

Effects of Toyota Safety Sense P and ICS on Accident Reduction



* Based on an analysis of accidents occurring in parking lots involving the Alphard, Vellfire, and Prius
Based on a survey of data concerning approximately 2,500 accidents from insurance companies that cover the policies for about 60,000 of the above-mentioned vehicle models
- Subject vehicle series: Alphard, Vellfire, Prius
- Survey period: January 2015–June 2016
- Survey subjects: Approximately 63,000 vehicles, of which 26,000 were equipped with ICS (42%)

* Pedal misapplication was identified as the accident cause based on customer reports



* Based on an analysis of ITARDA data
The accident incidence rate is calculated by dividing the number of accidents by the number of vehicles in operation (converted from the number of vehicles sold based on the timing of sale)
- Subject vehicle series: Prius
- Survey period: December 2015–December 2016
- Survey subjects: Approximately 247,000 vehicles, of which approximately 84,000 were equipped with Toyota Safety Sense P, and approximately 121,000 were equipped with Toyota Safety Sense P and ICS

Passive Safety

Passive safety combines a body structure that absorbs collision energy with devices that efficiently protect the vehicle occupants in order to minimize collision damage.

In 1995, Toyota set up unique, stringent internal goals related to passive safety performance called "Global Outstanding Assessment (GOA)," in order to pursue world-leading safety levels, and developed a collision-safety body and passenger protection devices. Since then, to maintain leadership in this field, Toyota has continued to advance GOA, improving the real safety performance of its vehicles in a wide variety of accidents.

To analyze the human body injury mechanism, we developed and evolved Total Human Model for Safety (THUMS), a virtual human body model that simulates effects on human bodies that cannot be measured using dummies. THUMS has been utilized in predicting injuries to the various parts of the human body. Furthermore, based on our Integrated Safety Management Concept, we are working on technology development for preventive link functions that operate protective devices in a collision by linking with the Pre-collision Safety (PCS) system. We have developed functions that prepare to deploy the seatbelt mechanism or SRS* side & curtain shield airbags to protect the occupants when the PCS determines that a collision with another vehicle is likely, or prepare to deploy the pop-up hood to protect the pedestrian or cyclist when the PCS determines that a collision with a pedestrian or cyclist is likely.

* SRS (Supplemental Restraint System): A system of supplementary restraints to protect occupants

Column

Outside Evaluations of Safety

ASV+++ (the highest ranking) in the JNCAP[1] Active Safety Performance Assessment	Alphard/Vellfire (Grand Prix Award in preventive safety performance), Crown, Corolla Sport
Five Star Award (the highest ranking) in the JNCAP[1] Collision Safety Performance Assessment	Crown (Grand Prix Award in collision safety performance) Camry, Corolla Sport
TSP+[2] (the highest ranking) in the New Car Assessment Program of the Insurance Institute for Highway Safety (IIHS) in the U.S.	Camry, RC
TSP (the highest ranking) in the New Car Assessment Program of the Insurance Institute for Highway Safety (IIHS) in the U.S.	Avalon, Corolla, Highlander, Prius, Prius Prime, RAV4, Lexus ES, IS, NX, RX
Five Star Award (the highest ranking) in the NCAP[1] in the U.S.	Avalon, Camry, C-HR, Corolla, Highlander, Prius, RAV 4, Sienna, Yaris iA, Lexus ES, IS, NX, RX
Five Star Award (the highest ranking) in the Euro NCAP[1] in Europe	Lexus ES
Five Star Award (the highest ranking) in the ANCAP[1] in Australia	Corolla, Lexus ES
Five Star Award (the highest ranking) in the CNCAP[1] in China	Camry
Good (the highest ranking) in occupant protection, pedestrian protection, and prevention in the C-IASI[3] in China	Camry, Izoa
Grade 1 (the highest ranking) in the KNCAP[1] in Korea	Camry
Five Star Award (the highest ranking) in the ASEAN NCAP[1]	C-HR, Rush

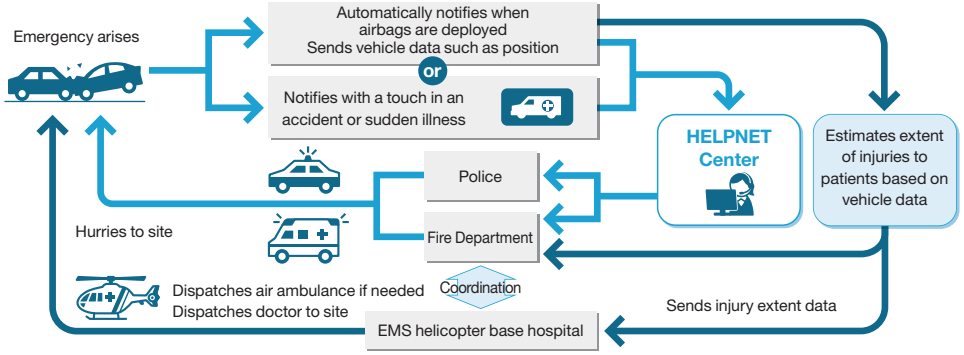
* Period: Japan: April 2018–March 2019; U.S. NCAP: 2019 model year; U.S. IIHS: December 2017– November 2018; Other: January–December 2018
1 NCAP (New Car Assessment Program): A new car assessment program being carried out in various countries
2 TSP+: A ranking given to the most outstanding TSP vehicles
3 China Insurance Automotive Safety Index

Emergency Response

Every minute counts in emergency response to accidents or sudden illness. In 2000, Toyota rolled out HELPNET® service, an emergency reporting system utilizing the G-Book information network (the current T-Connect) and G-Link. In the event of an accident or sudden illness, HELPNET® contacts a dedicated operator who will arrange for rapid dispatch of an emergency vehicle with police or fire department responders. The service automatically contacts an operator when the airbag deploys and supports the D-Call Net® which makes quick deployment decisions for air ambulances, etc. now available nationwide. This service is provided by sending vehicle data to the HELPNET center from an on-board data communication module (DCM).

We installed DCM as a standard feature in the Crown and Corolla Sports, launched in June 2018, and aim to equip all new passenger vehicles in the Japanese market with DCM.

HELPNET® (Airbag-linked Type) Illustration



→ HELPNET® Steps
→ D-Call Net® Steps

* Air ambulances may not be available depending on the location, time of day, weather, etc. D-Call Net® will not respond when the HELPNET® button is pressed.
* HELPNET® is a registered trademark of Japan Mayday Service Co., Ltd. D-Call Net® is a registered trademark of HEM-Net (Emergency Medical Network of Helicopter and Hospital).

Support for Initiatives at Collaborative Safety Research Center (CSRC), the U.S.

In January 2011, with the goal of establishing safer and more reliable transportation means, Toyota established the CSRC inside the Toyota Technical Center (TTC) located in the state of Michigan. The first-phase project was completed at the CSRC in March 2017. Over a five-year period, the CSRC started and completed 44 research projects jointly with 23 universities and research organizations, publishing more than 200 technical papers.

Furthermore, the CSRC has been making its research results public through presentations at various vehicle safety-related conferences so that these results can be utilized by people engaged in the development of vehicle and traffic safety technologies.

In 2017, Toyota started a new second-phase project called “CSRC Next.”

This reflects Toyota’s position that it is important to understand how humans will cope with advancing vehicle technologies. Toyota will invest 35 million dollars over five years, focusing on the issues related to and possibilities of autonomous driving and connected vehicle technologies. We intend to publish our research results publicly, contributing to safer vehicles industry-wide.

Automated Driving

To help achieve Zero Casualties from Traffic Accidents, Toyota has been conducting research and development on automated driving technologies since the 1990s. Toyota’s unique approach to automated driving, called the “Mobility Teammate Concept,” seeks out a relationship between people and vehicles so they stand by and support one another as companions would. Based on this philosophy, Toyota is aiming to help realize a world in which every person, including the elderly and the physically challenged, can enjoy mobility safely, easily, and freely.

With regard to safety in particular, based on the concept of “Guardian,” which is intended to enhance the driver’s abilities rather than replace them, the human driver is assumed to be always in control of the car. If there is a risk of accident or if one is imminent, Guardian tries to help avoid the accident by working with the driver’s maneuvers.

MOBILITY TEAMMATE CONCEPT
Automated Driving Tech.

Initiatives Targeting People

Believing that educating people is also important for preventing traffic accidents, Toyota started donating traffic safety teaching materials for small children in the form of traffic safety picture books and story-telling card sets given to children starting kindergarten and nursery school nationwide in the 1960s, in cooperation with Toyota dealers nationwide. Since then, Toyota has been holding the Toyota Safety School designed for small children every year. In 2005, we established the Toyota Safety Education Center Mobilitas at the Fuji Speedway. We also hold Toyota Driver Communication, a safe driving technique seminar aimed at drivers.

Additionally, with the spread of the Safety Support Car (Sapo Car) program recommended by the government, we are working with Toyota dealers to continue to spread our safety technologies further and keep our customers informed. This is why we are rolling out Support Toyota (the overall name for our safety and assurance activities) to help achieve car lifestyles that offer safety and assurance.

Customer First and Quality First Measures

Fundamental Approach

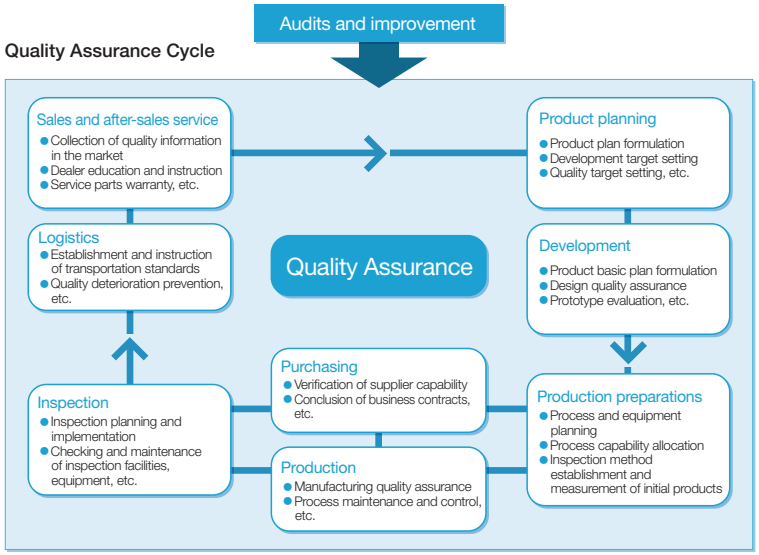
The origins of Toyota's "Customer First" and "Quality First" principles lie in the Five Main Principles of Toyoda, which embody the thinking of Sakichi Toyoda, and the spirit of audit and improvement of Kiichiro Toyoda. Since its foundation, Toyota has established a corporate culture that focuses particular attention on quality that will produce customer smiles and on *kaizen* (continuous improvement) achieved through *genchi genbutsu* (onsite hands-on experience). In accordance with our commitment to quality as stated in the Toyota Global Vision, each employee in every area maintains a constant and strong awareness of issues and a sense of ownership and makes ongoing efforts to implement *kaizen* and to collaborate closely with personnel in other fields to enhance customer safety, peace of mind, and satisfaction.

Initiatives to Improve Quality

Toyota sees quality as a combination of product quality, sales and service quality, and the quality of work performed by each employee that serves, as the foundation supporting the other aspects of quality.
We believe that products and services that gain the confidence of customers can be only created when all employees who engage in every process, from development, purchasing, production, and sales to after-sales service activities, build quality into their work and implement the quality assurance cycle by linking the various processes.

Toyota's Concept of Quality

Quality Assurance Cycle



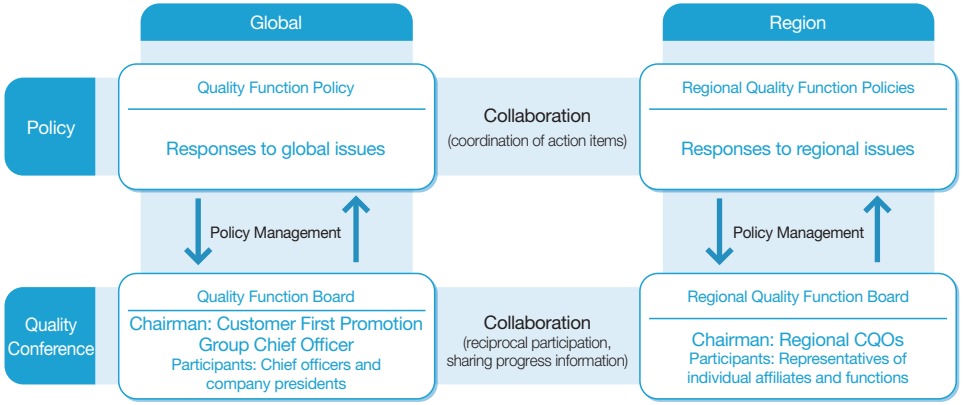
Organization and Structure

The fundamentals of these actions are function management and policy management.
Function management refers to setting company-wide policies based on functional parameters such as quality and safety, with each group and company taking action in collaboration with other divisions. Policy management refers to the formulation and implementation of plans for achieving targets in each group and company, based on the company-wide policy. In terms of policy management for quality functions, Toyota established a Quality Function Policy each year as a plan for addressing company-wide quality issues and ensuring quality corresponding to new businesses and technologies. Toyota deploys this policy within its company , reports progress and results through the Quality Function Board and other platforms, and takes actions as needed.

In addition, in order to strengthen quality improvement activities led by the regions, Toyota has appointed Chief Quality Officers (CQOs) in Japan and other regions around the world. Among the meetings of the Quality Function Board, the highest-order global conferences held several times each year, the one in January requires CQOs from all regions to attend and discuss future quality function policies.

Additionally, each region has organized a variety of quality-related conferences. For the highest-order conference chaired by the regional CQO, TMC sends its Global CQO or a secretariat member in order to facilitate and support better communication and collaboration. Toyota also shares its quality function policies with its affiliated group companies and suppliers, promoting collaborative actions for ensuring quality.

Global Policy Implementation Structure and the Quality Conference



Establishing Quality Assurance Structure toward Transformation into a "Mobility" Company

As the automotive industry faces an era of profound transformation, the likes of which come only once every 100 years, Toyota is taking many steps to transform itself into a "mobility" company.

In the mobility society that will arrive in the future, in addition to automobiles' basic safety and comfort (quality of things), in such areas as running, turning, and stopping, it is necessary to ensure the quality and security of the communication automobiles use to connect to people, things, and cities. The quality of the telecommunication platform and servers, which control the operations of services, must also be ensured in order to guarantee the quality of customers' experiences (quality of experiences) obtained through mobility services.

With this in mind, Toyota is also making company-wide efforts to strengthen the quality assurance process, including in its services, in order to provide high-quality products and services that bring a smile to customers' faces in its mobility businesses.

Storytelling Activities to Maintain Focus on the Series of Recall Issues

February 24, the day that President Akio Toyoda attended U.S. Congressional hearings, held to investigate the series of recall issues that occurred in 2010, was designated "Toyota Restart Day." We are creating mechanisms and taking measures to raise awareness in order to maintain focus on the lessons learned from the experiences Toyota underwent at that time.

For example, in 2014 Toyota established its Customer Quality Learning Center as education facility for conveying the experiences and lessons Toyota learned from the series of recall issues to future generations of employees. Using exhibits that appeal to the five senses, such as actual examples of faulty parts and vehicle simulators, the center acts as an important education facility for conveying the situation back then to current Toyota employees.

In addition to posting the status of the series of recall issues, current quality issues are added every year to renew the program. We are making these efforts to create key education facilities for maintaining focus on all that Toyota learned. We have also set up customer quality learning centers unique to individual plants and overseas sites, and are working to ensure employees in each region and each plant thoroughly understand the importance of quality. Additionally, employees who experienced the series of recall issues take on the role of storyteller to convey the experiences and lessons learned within their own work sites.

On Toyota Restart Day in 2019, Chairman Uchiyamada himself was a storyteller in a roundtable discussion held with storytellers from various work sites. He compared the situation at the time of the recall issues and the current situation, and highlighted the risk of forgetting the lessons learned. Some of the participating storytellers commented, "We must convey our spirit, not just knowledge," and "The discussion helped me renew a sense of crisis in a positive way," reaffirming the validity of the storytelling initiative.

Roundtable discussion with Chairman Uchiyamada

Coping with Quality Problems

We have a system whereby each employee takes action to enhance quality in accordance with the Customer First Principle, and prepares for and responds in a timely manner to quality-related issues. When making recall decisions, quality failures are determined not simply based on legal compliance, but also from the customer's perspective, putting safety and assurance first.

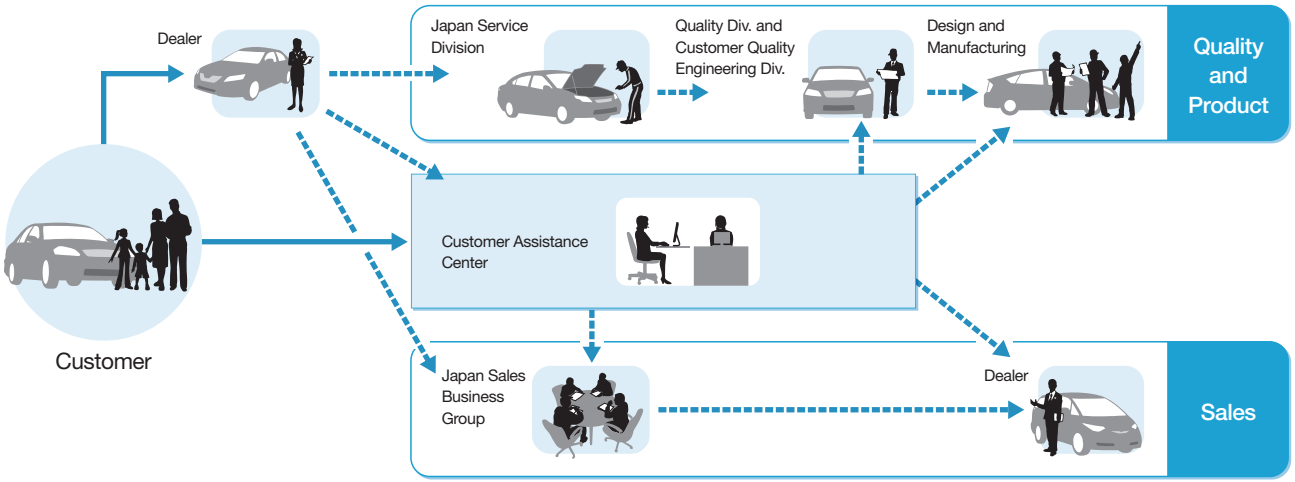
Final decisions are made with the participation of regional representatives, who are closest to customers, so that feedback from regional customers is accurately reflected. After a decision to recall is made, Toyota contacts individual customers through dealers, and additionally posts information on its website to ensure prompt repair service.

Customer First Measures

Toyota's principle of Customer First exists for the purpose of providing customers with products and services that earn their smiles. Toyota hopes to offer cars with superior features in terms of environmental, safety and quality performance, while also offering the intrinsic appeal of cars, such as high driving performance, at an affordable price.
We humbly and obediently accept information provided by our dealers and customer feedback received at customer assistance centers, taking them to heart and utilizing them for making ever-better cars.

System for Implementing Customer Feedback (Japan)

In order to respond to customer inquiries, opinions, and requests, the most recent customer feedback is gathered from dealers. Also, we established the customer assistance centers and are taking actions which lead to the creation of ever-better cars and services.



Toyota Customer Assistance Center and Lexus Information Desk

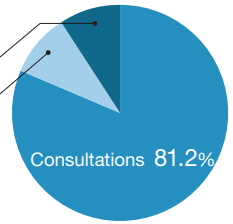
The Toyota Customer Assistance Center and the Lexus Information Desk are open for consultation 365 days a year, and have established a structure designed to ensure constant customer satisfaction.
Toyota offers speedy, appropriate and empathetic responses to customer inquiries, and listens to opinions and requests, based on the principle of Customer First. At the same time, Toyota addresses all issues while also maintaining close cooperation with its dealers. Furthermore, the Salesperson Support Desk has been established in order to support dealers in implementing the Customer First principle.
Toyota also conducts surveys of customers who use our telephone service via an automated response system, in an effort to continuously make further improvements.

Number and Content of Calls Received by the Center and the Desk in 2018

Number of calls received: 314,000 (Japan)

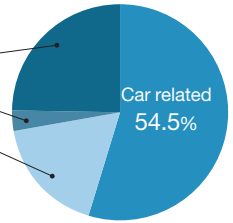
Breakdown of call content (Japan)

Opinions and issues	9.2%
Salesperson support	9.6%



Content of calls received (Japan)

Other (car delivery date etc.)	24.8%
Brochure requests	3.1%
Navigation and audio systems related	17.6%



Customer Feedback from Each Country and Region

In order to put the Customer First principle into practice worldwide, Toyota has established customer assistance centers not only in Japan, but also in the U.S., Europe, other Asian countries, and we are giving our full attention to customer voices daily.

Customer Feedback Delivered to Toyota

[Compliments]

Japan

The other day, **I was helped by an employee working at a Toyota Motor Corporation plant.**
When my car had a flat tire in the parking lot of a large-volume retail store and I was at a loss because I could not get in touch with my family, this employee offered to change the tire. Because I had never experienced a flat tire before, I was so shaken up that I forgot to get the name or contact information of the kind employee.
Since I did hear that the person was a Toyota Motor Corporation employee, I am writing this letter.
I consider myself fortunate to be driving a car made by wonderful people who would kindly offer to help someone in a dire situation.
I sincerely hope that Toyota Motor Corporation will continue to be a company where many people with such wonderful spirit make cars that can be driven safely and with peace of mind.

U.S.

I own a 1985 Supra and have been driving it for 32 years, covering 176,000 miles (282,000 km).
When I drive it around town, many people stop and do a double take.
I bought a Lexus LC500 last month.
I think this car will also become my next "permanent buddy" and I will end up driving it over 176,000 miles in the next 32 years.
Even though I have driven it for only two weeks,
I have already noticed that everyone does a double take, just like when I was driving the Supra.
I am very lucky to be able to drive two such exciting cars.
Thank you for making such good cars. I'm really impressed.

New Zealand

An incident happened when my boyfriend and his friend had gone fishing to a remote lake and were driving home.
Although he was a safe driver,
a bad road made steering impossible, and the Prado slid 65 m down to the bottom of a canyon.
He sustained cuts and bruises, and his friend hurt his wrist and shoulder ligament.
I cannot express in words how grateful I am that they were fortunate enough to survive such a serious accident.
We have promised each other that we are absolutely going to buy another new Prado when we have enough money. I cannot think of owning any other car.
I'm really grateful to our Prado as well as to Toyota Motor Corporation, which manufactured this car.

[Claims and Consultations]

Japan

"I cannot figure out how to use the navigation system!"
"Getting answers to questions related to the navigation system takes too long!"

Countermeasures

[Initiatives for Improvement]

Deployment of Navigation Corner Where Specialists Handle Navigation-related Inquiries

Navigation-related issues account for 20 percent of all customer inquiries. Since navigation-related inquiries are diverse we have assigned navigation specialists to minimize the amount of time customers must wait. Moreover, many customers ask questions while operating their navigation systems. Therefore, we have provided models of all Toyota genuine navigation systems installed in our vehicles over the past 10 years at the Navigation Corner to create the same operational environment as those of customers.

Navigation Corner

Ongoing Customer First Staff Education

To coincide with the designation of every May as Consumer's Month by the Japanese government, Toyota has declared it Customer's Month, and undertakes initiatives aimed at spreading awareness of the Customer First principle throughout the company. The Customer Feedback Exhibitions present feedback from customers not just in Japan but around the world, as well as initiatives taken from the customer's perspective. The exhibitions serve as forums for each employee to reconfirm the importance of listening to customer feedback.

As part of employee education, "Experience and Learn from Customer Feedback" sessions are held to observe and experience the functioning of our call center, the Customer Assistance Center. A Customer Feedback Board summarizing customer feedback has been posted on the company intranet, drawing employee attention to issues of concern to customers.

Furthermore, we are actively encouraging some of our employees to obtain the Consumer Affairs Advisor qualification, which is certified by the Japanese Prime Minister. Facility and vehicle evaluation from the customer's viewpoint is also held by a group of experts, the Toyota Consumer Affairs Advisor Group.


A customer feedback exhibition

Video shown at the exhibition

After-sales Services Measures

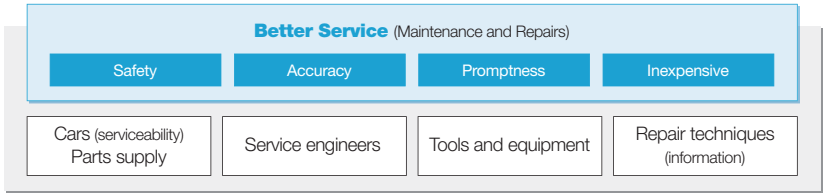
To bring smiles to the faces of as many customers as possible, it is essential to simultaneously achieve both better cars and better services. Customer car use requires regular check-ups, legally mandated inspections, and repairs following breakdowns or accidents. After-sales service provides safety, peace of mind, and comfort to customers at these times, and continues support for the Toyota and Lexus brands. In recent years, the average duration of car use has been lengthening (as of the end of March 2018, the average vehicle age excluding minivehicles in Japan was 13.2 years, increasing by 1.6 years from 10 years ago). As a result, the role of after-sales service is becoming increasingly important. More than 100 million Toyota vehicles are currently owned worldwide and each of them is irreplaceable to the customer. Toyota is taking measures to provide ever-better services in accordance with the concept of the 3S Spirit (*Seikaku* + *Shinsetsu* = *Shinrai*: Accuracy + Caring = Trust) so that we can achieve high levels of customer satisfaction in using their Toyota vehicles.

Organization and Structure

Better service means the ability to safely, accurately, promptly, and inexpensively perform maintenance and repairs in cases of breakdown. To do this, we are working to enhance the serviceability of vehicles so they can be repaired quickly and the availability of service parts, and to develop service engineers.

Based on the idea that after-sales services begin at the stage of vehicle development, we believe that serviceability is also one aspect of a car's performance, and incorporate serviceability improvement based on market feedback into vehicle development. Toyota has also established a system to deliver parts exactly when they are needed to countries around the world so that repairs and other services can be completed in a timely manner. Parts inventories and inspection work are being made more efficient by applying Toyota Production System concepts at dealer worksites.

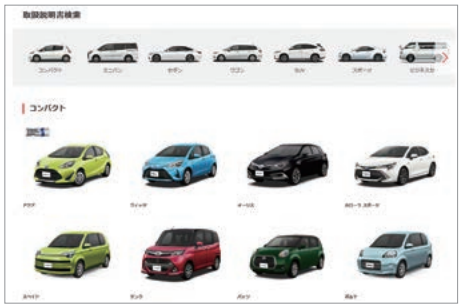
Better Service and Supporting Factors



In terms of tools for supporting service operations, the number of diagnostic codes for identifying failure causes has been increased. When the on-board computer performs self-diagnosis and detects a failure, it sends the diagnostic code for the failed part to the dealer so that the part causing the problem in the vehicle can be quickly identified. We are also taking innovative steps to improve service operation efficiency by reducing the number of frequently performed operations or automating them.
Service, technology, sales, and other divisions are collaborating on repair techniques to deploy easy-to-repair car manufacturing. They also provide necessary information quickly and make repair work speedy and easy.
There are currently approximately 180,000 Toyota personnel involved in after-sales service in Japan and overseas, and educational systems and facilities are being established in each region. The Tajimi Service Center in Gifu Prefecture, Japan, plays a central role in enhancing the knowledge and technical skills of service staff worldwide.

Measures to Help Customers Use Their Vehicles Safely

To help customers enjoy driving their vehicles safely and comfortably, user's manuals are created and information on the latest models is posted on the Toyota website. We are also taking steps utilizing the product information provision tools for distributors and dealers, as well as the company website to accurately communicate the risks resulting from operational errors.


User's manual search screen (Japan)

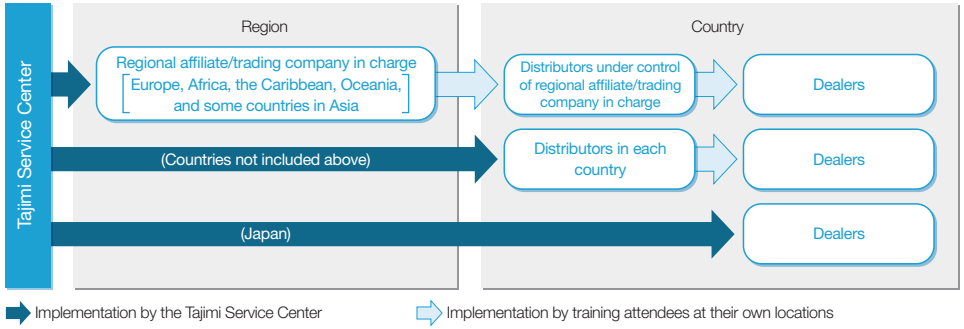
Initiative with Toyota National Dealers' Advisory Council to Listen Directly to Customer Feed

Since dealers offer services to customers directly, Toyota is working with dealers to provide ever-better cars and ever-better services.
In Japan, the sectional meetings of Toyota National Dealers' Advisory Council and Toyota are discussing after-sales services.
Technical Sectional Meetings, which have been held regularly since 1977, investigate quality issues and serviceability from the customer's perspective. At Service Meetings, held since 1990, various issues regarding the service sites of dealers are investigated. The results of both meetings are used to implement improvements.

Training Centers Develop Global Service Technical Staff

The Tajimi Service Center in Gifu Prefecture, Japan provides training on service technologies and sheet metal painting to service engineers from dealers in Japan and overseas distributors worldwide.
The Tajimi Service Center, which opened in July 2013, includes classrooms, practice fields, and drive evaluation courses with a variety of road conditions on a vast 187,000 m^2 site. In FY2019, a total of approximately 2,100 staff members from 18 sites in Japan and overseas were trained at the center, bringing the cumulative total number of attendees to approximately 11,800.
The Center has completed the R&D functions for the latest service technologies compatible with the service, repair, and sheet metal painting/repair of Toyota cars on the market that are equipped with state-of-the-art technology. These new technologies will increase the knowledge and improve the technical skills of staff members who come to the center for training from all over the world, contributing to the creation of a foundation for reinforcing global competitiveness in service technology.

Service Technology Training Process



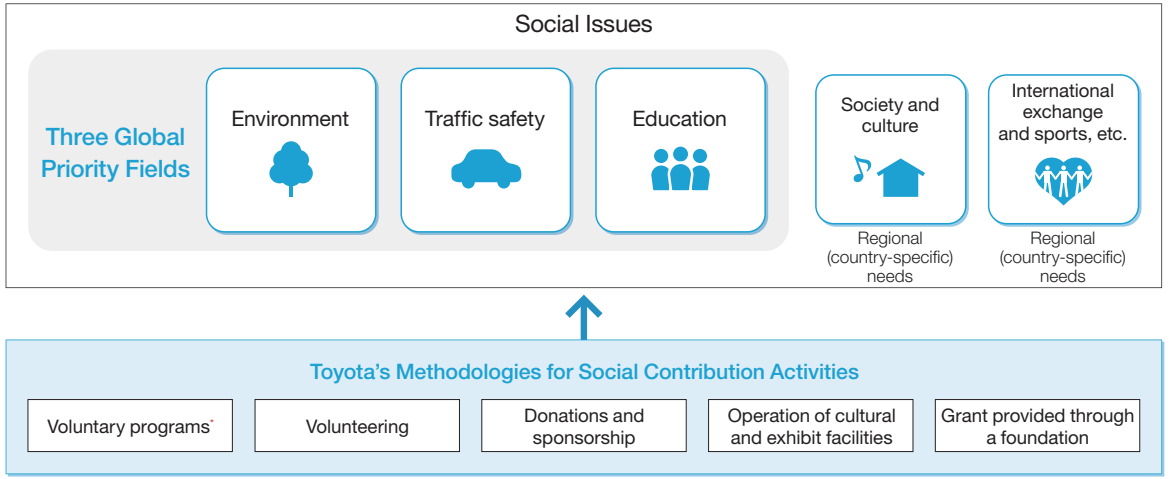

Tajimi Service Center

Social Contribution Activities

Fundamental Approach

Based on Toyota's founding principle of contributing to society by making automobiles, we have been striving to contribute to the sustainable growth of society.
We set environment, traffic safety, and education as the three global priority fields for our initiatives, in addition to making social contributions through our main business. We also hold social, cultural and other activities according to the social needs of each country or region, utilizing our resources of technology and expertise, etc. In addition, we focus on volunteering and passing on automotive and manufacturing cultures to the next generation in order to enrich the lives of communities.

Social Contribution Activity Fields



* Social contribution activities that are planned and developed, or implemented by a company on its own depending on the situation

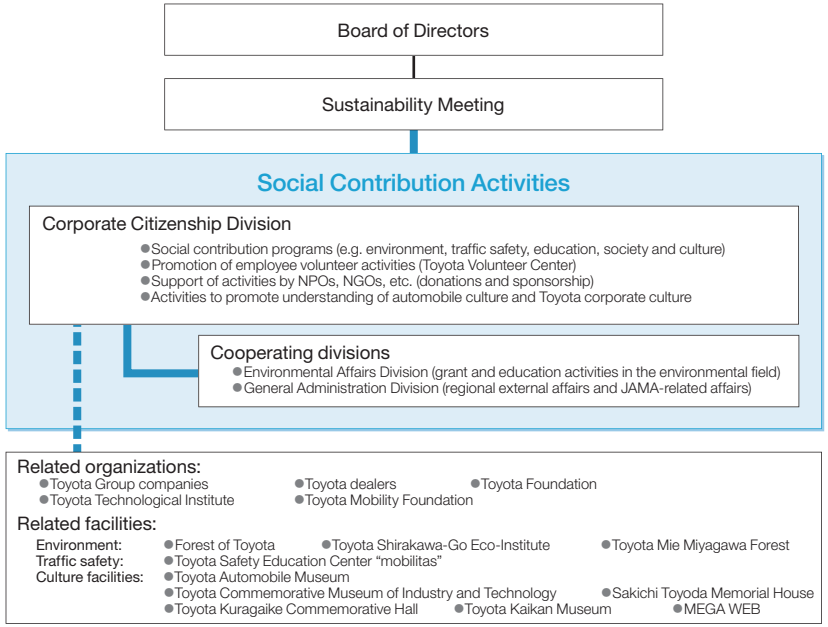
Basic Principles and Policies of Social Contribution Activities (Established in 1995)

Purpose	We in the Toyota Group will undertake social contribution activities to contribute to sustainable social vitality
Stance	We will maximize the benefits of our social contribution activities by working with partners; by using our resources effectively; and by concentrating on initiatives that address real social needs, including the need for fostering human resources
Employee participation	We will support independent social contribution activities that our employees undertake as members of the community
Information disclosure	We will disclose information about our social contribution activities, aiming to promote the development and improvement of societies
Global perspective	We will adopt a global perspective on social contribution activities while adapting our activities to needs and circumstances in each nation and region where we operate

Organization and Structure

In Japan, the Corporate Citizenship Division, a specialized division for social contribution activities, plays the lead role in organizing activities. Outside Japan, it is mainly the regional headquarters in the United States, Europe, Asia and China that promote social contribution activities in each region.

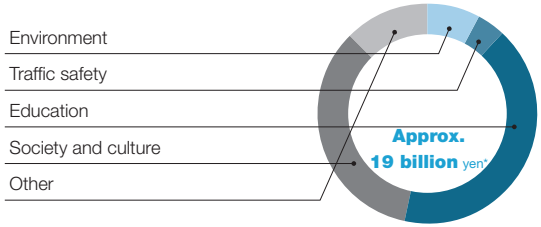
Organization Structure (Japan)



Organization Structure (Overseas)

U.S.	Toyota Motor North America promotes activities based on local needs and in collaboration with related affiliates
Europe	Toyota Motor Europe implements Europe-wide projects and individual affiliates also promote activities based on local needs
Asia	Regional social contribution meetings are led by Toyota Motor Asia Pacific to consider the deployment and direction of activities within the region
China	Toyota Motor (China) Investment promotes activities in China based on local needs and in collaboration with related affiliates

FY2019 Expenditure for Social Contribution Activities

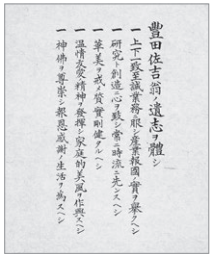


* Consolidated base including TMC and major subsidiaries.
Overseas affiliates' results have been converted to yen based on the average exchange rate for FY2019.

Column **Toyota's Social Contribution Activities which Started with Sakichi Toyoda's Hope for People's Happiness**

Toyota's social contribution activities trace their roots to Sakichi Toyoda, the father of Toyota Motor Corporation's founder, Kiichiro Toyoda. In 1925, Sakichi pledged one million yen (at the time) to the Imperial Institute of Invention and Innovation to encourage battery-related inventions to support inventions that would enrich people's lives. The invention of such batteries proved to be extremely difficult, and none have yet been completed. Nevertheless, the resulting progress in batteries for cars has had a tremendous impact on industries and people's lives. Even after Sakichi's death, this spirit was handed down to Kiichiro and others who started the automotive industry in Japan, through the desire to contribute to the development and welfare of the country and feelings of gratitude. This spirit was later incorporated into the Five Main Principles of Toyoda, the Guiding Principles at Toyota, and the Toyota Global Vision.


Sakichi Toyoda


Five Main Principles of Toyoda

Examples of Activities

We set environment, traffic safety, and education as the three global priority fields for our initiatives, and have also been actively involved in areas such as society and culture according to the social needs of each country or region.

Social contribution activity website | Toyota's Social Contribution Activities Report

Respect for Human Rights

Fundamental Approach

Toyota complies with local, national and international laws and regulations as well as the spirit thereof and we conduct our business operations with honesty and integrity. Furthermore, in order to contribute to sustainable development, we believe that management interacting with its stakeholders is of considerable importance, and we endeavor to build and maintain sound relationships with our stakeholders through open and fair communication.

Human Rights as an Essential Foundation of Labor Relations

Toyota respects the basic human rights of all individuals, including our employees and those in our supply chain. Toyota is a company that practices the philosophy of "Respect for People." We share a common belief that every Toyota employee has the infinite capability to better themselves, the company, and society. The integration of such achievements by our employees will bring company growth. This growth allows our company to provide decent employment, which in turn, allows our members to build trust in the company and provide further productivity improvements.

Each employee's contribution towards the creation of a work environment that promotes safety & health, respects each employee's dignity, is inclusive, and that is free of discrimination and harassment is essential to ensuring a decent work environment, which will lead to the productivity improvement needed for company growth. Discrimination, unhealthy, and unsafe work environments are not only violations of human rights, they are also conditions that will negatively impact employee performance. Since our employees spend a considerable amount of time at work we aim to create positive working conditions and environments that will allow them to excel.

In addition, the contributions and cooperation of all our stakeholders are essential to providing satisfying products and services to our customers. We have continued manufacturing vehicles up to this point thanks to the support of many individuals. Going forward, we will continue to engage our employees and show respect to all of our stakeholders as we continue to contribute to society as a mobility company.

At present, with our customers' needs and the very concept of automobiles constantly changing, Toyota is endeavoring to transform itself from an automobile company to a mobility company, that is, a company that provides all kinds of services related to people's mobility. As we face new competitors and a changing business domain, Toyota's employees are each harnessing their knowledge and giving their best efforts to survive in an environment marked by constant, major change, with Toyota's management philosophy of "Respect for People" serving as the foundation. To meet the expectations of our stakeholders, we also refer to international norms such as the UN Guiding Principles on Business and Human Rights and the Universal Declaration of Human Rights to tackle issues related to human rights.



Employees of Toyota Motor North America

UN Guiding Principles Reporting Framework

Toyota has formulated an internal policy related to human rights and refers to the UN Guiding Principles on Business and Human Rights and other international norms when promoting it. To fulfill our responsibility to respect human rights, we have identified "risks that have an adverse impact on human rights" based on the scale and properties of our businesses, relief possibilities, stakeholder expectations, and so on that must be given priority. Currently, we have identified the three areas of "freedom of association," "precarious work," and "supply chain due diligence" as risks that have an adverse impact on human rights, and we are making them our priority. In addition, Toyota has also developed its Toyota Supplier CSR Guidelines (see page 27) based on the UN Guiding Principles on Business and Human Rights and the Universal Declaration of Human Rights.

Freedom of Association

In Toyota's "Respect for People" management-philosophy, we aim to respect individual capabilities, ways of thinking, and creativity and harness them fully. To do this, it is necessary to make sure that all employees are on the same page regarding the company's management situation, the surrounding environment, and management issues, and we emphasize thorough dialogue with employees. In addition, based on the Universal Declaration of Human Rights, we respect our employees' right to freely associate while also respecting their right not to be compelled to belong to an association in compliance with the laws of the countries in which we operate.

Regardless of whether or not there is a labor union, Toyota has taken every opportunity it can to engage in thorough dialogue with employees and build healthy labor relations. We believe that dialogue and

discussion with employees or their appropriate representatives is part of these kinds of relationships between labor and management. Moreover, to ascertain the status of dialogue with employees and issues related to freedom of association, we periodically send out and collect questionnaires from our subsidiaries and request that improvement be made to policies and activities based on the responses. For affiliates that require concentrated initiatives, associates from the Toyota Motor Corporation (TMC) are dispatched to review policies and activities, and work with the affiliate in question to enhance communication with and training for employees regarding Toyota's policies concerning freedom of association and legal compliance.

Precarious Work

The term non-permanent workers refers to temporary workers, contract employees, dispatch employees, and so on. This status is marked by a number of uncertain and unstable characteristics, such as uncertain employment periods, low wages, and low employee benefits. Our businesses require personnel equipped with both a deep understanding of Toyota values and advanced skills, and because a long period of time is required to cultivate such personnel, Toyota strives to provide stable employment even when the external environment is harsh. At the same time, because it is engaged in the automobile industry, in which demand is greatly influenced by new products and seasonal factors, Toyota hires a certain number of temporary personnel for a certain period either directly or indirectly to respond to these fluctuations. For this reason, in addition to each affiliate hiring non-permanent workers based on the customs and labor laws of each region, Toyota also strives to avoid inappropriate working conditions and employment.
First, we confirm the composition of employees at affiliates in various countries, and for non-permanent employment relationships, we identify affiliates requiring prioritized examination. TMC associates are dispatched to identified affiliate sites, and we implement improvements such as reallocations and reviews of employment rules related to contract terms when necessary. In addition, we review and continuously improve the working conditions of fixed-term contract employees at TMC.

Supply Chain Due Diligence

Automobiles are comprised of approximately 30,000 parts, and because the supply chain is extremely broad and deep, we are aware that preventing adverse impacts on human rights in our supply chain is a theme we should prioritize. So, we established a workshop for suppliers that are particularly large and difficult to replace in order to share incidents to be wary of and examples of problem solving.
Toyota adheres to the principle of mutual trust and mutual responsibility between labor and management and aims to collaborate with suppliers to contribute to sustainable societal development as well as the earth's sustainability. It also strives to comply with the laws of various countries and regions while protecting human rights and performing activities that contribute to both local communities and the international community.

Education Related to Human Rights

Toyota invests in the education of our members and suppliers in relation to anti-discrimination, open and honest dialogue, as well as human rights related matters. Training is conducted both at TMC and affiliates in conjunction with our group companies and Tier 1 suppliers. Targets of the training include supplier executives, TMC managers who will be assigned to affiliates in various countries, and those in charge of purchasing at our overseas affiliates.


Participants gathered for training

Labor Relations Training for Supplier Executives

Labor relations training for suppliers is held about 10 times per year, primarily as preparation for executives from the head office of our main suppliers in Japan who are being transferred to overseas suppliers. At the training, a variety of areas are covered, including best practices for building positive labor-management relationships, information on past labor disputes, labor-management negotiations, and the latest trends in human rights, international norms, and regulations.


Case Study and Group Discussion


Negotiations roleplay

Training Prior to Being Transferred to Overseas Human Resources

All TMC employees who are being transferred to the human resources functions at affiliates in various countries receive this training so that they can understand the new roles for their overseas posting, the employment situation in the country, and the culture. Training includes lectures on labor-management relationships and human rights.

Training Prior to Being Transferred to Purchasing

All TMC employees who are being transferred to purchasing at affiliates in various countries receive this training to help support their daily purchasing responsibilities at their overseas posting. The training will involve lectures for building healthy labor-management relationships at local suppliers, including lectures related to human rights.

Toyota's Approaches to Conflict Minerals Issues

In recent years, there has been a concern that the minerals being mined in the Democratic Republic of the Congo (DRC) and neighboring countries have become a major source of funding for armed groups. The Dodd-Frank Wall Street Reform and Consumer Protection Act requires companies to investigate and disclose the use of conflict minerals (gold, tin, tantalum, and tungsten) in their products.

Toyota's Policy on Conflict Minerals

Toyota has adopted Policies and Approaches to Conflict Minerals Issues and is dealing with the issues involved based on these guidelines.
Additionally, we revised the Toyota Supplier CSR Guidelines in 2012, requesting our suppliers to engage in responsible material procurement.

Toyota Supplier CSR Guidelines

Toyota's Policies and Approaches to Conflict Minerals Issues

We—Toyota Motor Corporation and its subsidiaries—promote obtainment of materials with full deliberation and care to avoid the procurement or usage of materials which are unlawful or which are obtained through unethical or otherwise unacceptable means.
We recognize that the situation surrounding conflict minerals originated in the DRC or an adjoining country is one of the significant social issues among supply chains.
We aim at procurement and usage that are free from conflict minerals originated in the DRC or an adjoining country and relating to illegal conduct including human rights infringement.
To achieve such procurement and usage, we conduct inquiries tracing back through our supply chains and confirm if conflict minerals are used. And we take appropriate steps to discontinue procurement of materials that can cause social problems or finance armed groups if usage is detected.
Based on mutually beneficial relationships, we ask our suppliers to understand our policies and approaches and to promote responsible material procurement.

Reasonable Country of Origin Inquiry

Toyota has conducted a reasonable country of origin inquiry with due diligence throughout its global supply chain since 2013.
In 2018, Toyota again conducted a survey of its automotive, marine, and other businesses in line with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-affected and High-risk Areas.

Before conducting the survey, Toyota formulated a manual detailing how to fill in the survey sheet and developed a tool, both to be used by suppliers to compile survey results. Toyota also supported a briefing session co-sponsored by the Japan Auto Parts Industries Association (JAPIA)[1] and the Japan Electronics and Information Technology Industries Association (JEITA)[2]. We contacted suppliers who had not submitted a Conflict Minerals Reporting Template (CMRT), and collected CMRTs from thousands of suppliers in total. We have reviewed suppliers' CMRTs and requested them to make corrections if there are errors and/or omissions in order to improve our efforts associated with conflict minerals.

We are also making efforts to work with other industry groups on the issue of conflict minerals in Japan and overseas.
Toyota Motor North America, Inc. (TMNA), a U.S. subsidiary of Toyota, has participated in a working group set up by the Automotive Industry Action Group (AIAG)[3], a U.S. group tasked with setting a code of conduct for the auto industry. TMNA has also been cooperating with the Responsible Minerals Initiative (RMI)[4] through activities of each working group. Through AIAG, we supported and contributed to RMI activities. Specifically, TMNA as Leader of AIAG's Smelter Engagement Team contacted 29 smelters/refiners between January and December, 2018, and contacted an additional 34 smelters/refiners as Team-Lead of the Global Smelter Engagement Team. They performed surveys of smelters/refiners, visited their industry organizations, and encouraged those companies to participate in the Responsible Minerals Assurance Process (RMAP) and to conduct re-audits.

As a result of the industry-wide cooperation outlined above, the number of conflict-free smelters/refiners worldwide has been increased to 255 as of November 2018. Of these, 247 companies are included in Toyota's 2018 survey results.
The survey results from January–December 2018 and Toyota's initiatives were incorporated into Form SD and the Conflict Minerals Report, and filed with the U.S. Securities and Exchange Commission (SEC) on May 31, 2019.

1 JAPIA: https://www.japia.or.jp/en/top/
2 JEITA: https://www.jeita.or.jp/english/
3 AIAG: https://www.aiag.org/
4 RMI: (Formerly known as Conflict-Free Sourcing Initiative) (http://www.responsiblemineralsinitiative.org/)

Conflict Minerals Report

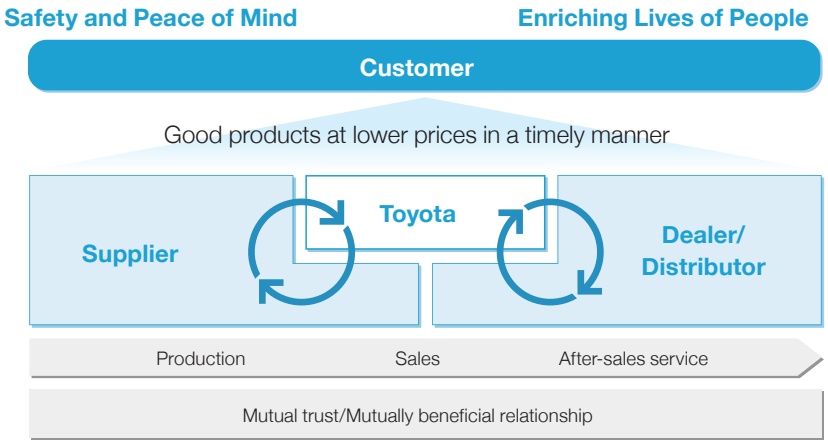
Collaboration with Business Partners

Fundamental Approach

In order to contribute to society through car-manufacturing and *monozukuri* (manufacturing) and put into practice the principle of "Customer First," it is necessary to share principles and collaborate with our business partners such as suppliers and dealers.
Toyota pursues open and fair business, and engages in sustainability initiatives through close collaboration with business partners to raise quality in terms of safety and customer satisfaction.

Excerpt from "CSR Policy: Contribution Towards Sustainable Development"

- We respect our business partners such as suppliers and dealers and work with them through long-term relationships to realize mutual growth based on mutual trust.
- Whenever we seek a new business partner, we are open to any and all candidates, regardless of nationality or size, and evaluate them based on their overall strengths.
- We maintain fair and free competition in accordance with the letter and spirit of each country's competition laws.



Collaboration with Suppliers

Since its establishment, Toyota has worked closely with its suppliers in its manufacturing. As part of these efforts, Toyota has globally implemented its Basic Purchasing Policies according to the spirit of mutual benefit based on mutual trust. We have close relationships with existing and new suppliers to promote "Customer First."
To address the increasing interest in corporate social responsibility, including in our supply chain, we have dialogues with supplier executives.
Before conducting business transactions, we conclude contracts that clearly spell out legal compliance, respect for human rights, and considerations for local and global environments. Internally, we work to raise the awareness of all our employees, including buyers, through seminars and trainings.
Toyota is also committed to continue contributing to the sustainability of society and the earth by working with suppliers to ensure compliance, respect for human rights, and reduce negative environmental impact.

Toyota Basic Purchasing Policies

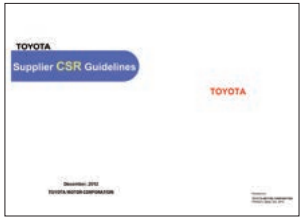
1. Fair Competition Based on an Open-door Policy
Toyota is open and fair to any and all suppliers, regardless of nationality, size, or whether they have done business with us before.
We evaluate suppliers by quality, technological capabilities, and reliability in delivering the required quantities on time, and efforts addressing social responsibilities, such as environmental issues.

2. Mutual Benefit Based on Mutual Trust
We develop mutual benefit in long-term relationships.
To foster the trust, we pursue close communication with suppliers.

3. Localization with Good Corporate Citizenship
We actively procure from local suppliers, including parts, materials, tools, equipment and others materials. In this way, we aim to contribute to the local society and be a good corporate citizen.

Implementation of the Toyota Supplier CSR Guidelines

At Toyota, we believe it is important to cooperate with suppliers, and issued the Toyota Supplier CSR Guidelines in February 2009. Toyota suppliers are requested to implement their own activities based on the guidelines and in turn develop their individual policies and guidelines to be followed by their own suppliers.
Furthermore, in December 2012, Toyota revised the guidelines to more clearly indicate its principles regarding human rights issues (strengthening of monitoring and corrective actions, and approaches towards conflict minerals) in order to help enhance its suppliers' initiatives.



Toyota Supplier CSR Guidelines

Bribery Prevention

In response to the global expansion of its business and societal demands, Toyota adopted the Anti-Bribery Guidelines in 2012 to completely eliminate corruption.
Toyota is strengthening its preventive measures by deploying the Guidelines to our suppliers.

Anti-Bribery Guidelines (For Business Partners)

Suppliers' Sustainability Activities

Toyota suppliers voluntarily hold CSR lectures and workshops, and engage in volunteer activities.
CSR lectures are held every year by Toyota's supplier associations, Kyohokai and Eihokai, with the aim of improving member companies' awareness and understanding of sustainability, and encouraging sustainability initiatives.
In FY2019, a lecture titled "Sustainable growth strategy that utilizes Guidance for Collaborative Value Creation" was given.
The automotive industry is facing an era of profound transformation, the likes of which comes only once every 100 years, and individual companies are being forced to strengthen their competitiveness. Against this backdrop, the lecture provided an opportunity to consider specific strategies and business-model-related initiatives, improve corporate earning power, and share and recognize measures for sustainably enhancing corporate value, from the ESG (Environment, Society, and Governance) perspective as ways to respond to the new era.
Furthermore, Toyota also holds CSR Study Meetings every year to support the activities of its suppliers.
In FY2019, a CSR Study Meeting was held and attended by 450 people from 350 suppliers, focusing on sustainability trends and initiatives.
Toyota participates in the supplier CSR training program of the Automotive Industry Action Group (AIAG)* to support its overseas suppliers in their activities.
In the previous fiscal year, Toyota participated in the development of the Supplier Responsibility Training Project. This new e-learning program is available to suppliers on AIAG website. Toyota will continue working to help raise awareness across its supply chains.

* AIAG: https://www.aiag.org/

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Addressing conflict mineral issues p. 25
Promoting Environmental Activities p. 94

CSR lecture

Collaboration with Dealers

Dealers are the front line where Toyota's "Customer First" policy is directly observed. Toyota and its dealers share the value of its products/services and always work as one to enhance customer satisfaction based on a strong relationship of trust through close two-way communication.
Toyota follows a "Customer First, Dealer Second, Manufacturer Third" concept. We support dealers in making concerted efforts to meet customer expectations in order to raise the level of customer satisfaction. We believe that, through these efforts, we will realize growth for both dealers and Toyota.

Support of Toyota Dealers in Japan

The Toyota National Dealers' Advisory Council (TNDAC), which is comprised of Toyota dealers in Japan, established the CSR Study Group in 2005. TNDAC then reorganized it into the Compliance Study Group in 2016, which has been studying to ensure legal compliance and giving suggestions to all Toyota dealers in Japan.
To help dealers carry out compliance activities, TNDAC distributes the Legal Compliance Manual, which explains major laws and regulations and summarizes the checkpoints, to dealers each year.
Additionally, Toyota supports TNDAC and dealers in many ways, including the following:

- Setting up a compliance support website that lists best practices from dealers
- Providing information through seminars and lectures held by TNDAC
- Providing support for revising the Legal Compliance Manual in response to revisions in laws and regulations

Toyota Gentaiken Program

The Toyota Gentaiken Program aims to nurture future car fans by providing children of the "virtual era" with opportunities to gain real-life experience using their five senses and to experience the global environment and economy.
This program works together with local dealers to offer "traveling classrooms" at elementary schools in the area.
The theme of the classroom activities is to offer fun and hands-on experiences. The class for fourth graders teaches about the power and control of a car using a model and a real car in Car Gentaiken Class. The class for fifth graders provides a full understanding of cars, teaching the students about the relationship of cars to the environment and economics using quizzes or games, as part of learning about the automotive industry in their social studies class.
In FY2019, the Car Gentaiken Class was conducted at 86 schools and the Class to Fully Understand Cars at 326 schools, for a total of 412 schools. Since starting in 2008, the program has provided classroom activities to approximately 180,000 children in 3,679 schools.


Fifth-grade classroom instruction

Onsite Visit from Toyota Dealers Overseas

Every year, Toyota dealers throughout Japan host visits by Toyota dealers from all over the world who have expressed the desire to learn customer satisfaction (CS) activities.
They learn how Japanese dealers improve customer satisfaction and create more Toyota fans throughout the entire value chain, including new car sales, service, insurance, used cars, and credit. After genchi genbutsu (onsite hands-on experience), they incorporate what they have learned into various activities at their own locations back home.
Through active communication among dealers with different cultural backgrounds, these visits offer each dealer new ideas and learning opportunities.


Visitors

Overseas Distributors

The overseas distributors are important Toyota partners in providing ever-better cars for customers worldwide. Toyota has approximately 170 distributors and 10,000 dealers overseas that are creating Toyota fans through their involvement in the local community.

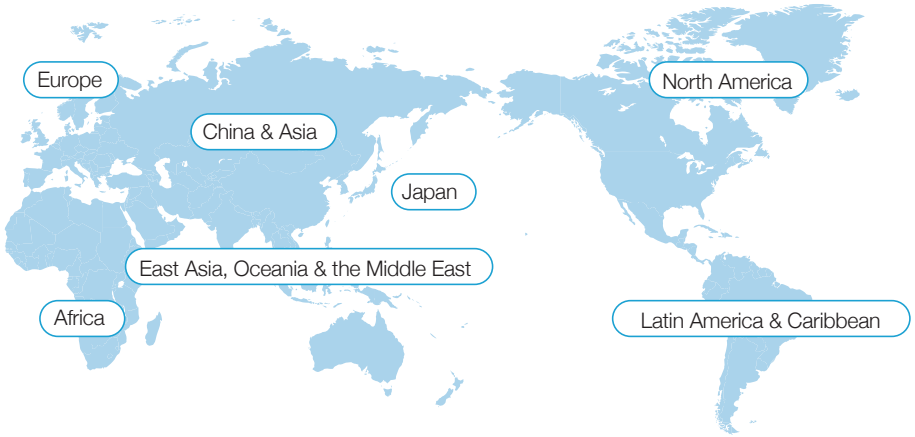
Organization and Structure

Toyota's sales operations are divided into six regions (excluding Japan) throughout the world: North America, Europe, China & Asia, East Asia/Oceania & the Middle East, Africa, and Latin America & Caribbean, to provide the best cars and services according to the market characteristics of each region. The car usage conditions and environment, as well as the required functions and services, can vary greatly depending on the country and region. Toyota strives to comprehend customer feedback in a timely manner through overseas dealers, in order to make ever-better cars.

In January 2019, Toyota transferred all of its sales and marketing operations for Africa to Toyota Tsusho Corporation, which has great strengths when it comes to doing business in Africa. Such a transfer is expected to concentrate the power of the Toyota Group for contributing to regional development through business and would enable the provision of "best-in-town" service.

By promoting greater work efficiency and strengthening their activities through this transfer, Toyota and Toyota Tsusho aim to provide better services to their customers in Africa.

Since 1984, a World Convention has been held every four years to bring together overseas distributors and executives of Toyota. At this convention, Toyota expresses its appreciation for the hard work and shares its policies, to make it an opportunity to reaffirm further improvement of customer satisfaction.



Environmental Initiatives in Collaboration with Domestic and Overseas Dealers and Distributors

Toyota is working with domestic and overseas dealers and distributors to create environmentally friendly dealers and members to lower environmental risks through sales activities.

Environmental Initiatives p. 94

Employees

Fundamental Approach

Toyota's philosophy for its employees, who support the stable base of its business, is institutionalized as the Toyota Way in Human Resources Management.

The aim of the Toyota Way in Human Resources Management is to realize management with respect for people, that is, providing all employees with opportunities to achieve social contribution and self-realization through their work, and enabling them to exercise their abilities to think, to be creative, and to perform. For this aim to be achieved, "a relationship of mutual trust and mutual responsibility between labor and management*" is essential, in which the company gives the highest priority to ensuring stable employment and strives to improve labor conditions, while all employees execute their duties and responsibilities for the prosperity of the company. This philosophy is shared by all Toyota affiliates around the world, where it is reflected and implemented in management and various policies based on the features of each region.

Toyota believes that these initiatives will lead not only to management with respect for people, but also to customer satisfaction and social contribution, and thus the sustainable growth of the company and society.

Concept of the Toyota Way in Human Resources Management to Build a Good Working Environment

Toyota Way in Human Resources Management

Purpose: Realization of management that shows respect for people

Principle: Establishment of a relationship of mutual trust and mutual responsibility between labor and management

- Building an environment in which employees can work with full confidence in the company
- Building a framework that promotes constant and voluntary wisdom and improvement
- Comprehensive human resources development
- Nurturing teamwork that aims to ensure the fulfillment of individual roles and optimization of the whole

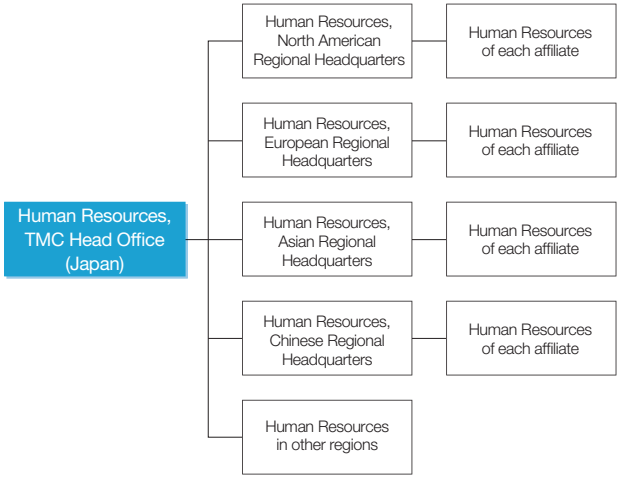
*** A Relationship of Mutual Trust and Mutual Responsibility Between Labor and Management**

Toyota went through painful experiences such as redundancy and labor disputes during the management crisis of the 1950s, which led Toyota to conclude the Joint Declaration of Labor and Management in 1962. Since then, both parties have worked to nurture a relationship in which employees proactively cooperate to improve productivity, while the company works to maintain and improve working conditions. Further, by sharing this understanding with employees and enhancing employee awareness in times of crisis, Toyota has also created "a relationship of mutual trust and mutual responsibility between labor and management," based on which employees and management execute their duties and responsibilities for the prosperity of the company. This concept is the foundation of Toyota's labor-management relations. Now, 50 years after the conclusion of the Joint Declaration of Labor and Management, Toyota is striving to further strengthen the labor-management bond.

Organization and Structure

At Toyota, Global HR members discuss how to create good working environments where employees can work with trust, how to develop frameworks to enhance constant and proactive *kaizen* (continuous improvement), how to develop people, and how to create a sense of unity for teamwork through daily communication and periodic conferences.

These discussions are reflected in the global HR Function Guidelines (HRFG) and each affiliate's HR *hoshin* the following year in order to realize the Toyota Way in Human Resources Management.



Results of Employee Satisfaction Survey

By providing its employees with opportunities to achieve social contribution and self-realization through their work, Toyota aims to enable all employees to exercise their abilities to think, to be creative, and to perform. Toyota uses its employee satisfaction surveys to measure the results of these efforts and utilizes the analysis results for planning and implementing measures to make a better workplace.

Results of Employee Satisfaction Survey (Japan)

	(FY)	2013	2014	2015	2016	2017	**2019**
Administrative and engineering employees	(%)	73.9		77.2		78.0	**75.8**
Shop floor employees	(%)		69.2		71.9		

Percentage of Employees Who Feel Personal Growth (Japan)

	(FY)	2014	2015	2016	2017	**2019**
Administrative and engineering employees	(%)	76.5	77.2	78.4	77.6	**75.2**
Shop floor employees	(%)	75.8		71.9		

Results of Employee Satisfaction Survey (Overseas)

	(FY)	2011	2013	2015	2017	**2019**
Administrative and engineering employees	(%)	74.0	74.0	76.0	74.0	**77.0**
Shop floor employees	(%)	72.0	72.0	72.0	72.0	**70.0**

Creating Attractive Workplaces

In order to strengthen its human resource base for sustainable growth, Toyota has created a working environment in which employees can work with confidence and feel safe. Toyota strives to foster employees' pride and loyalty to the company by encouraging a culture of teamwork through communication.

Employee teams, including those from overseas affiliates, competed in the annual Toyota Relay Race (*HURE! hure! Ekiden*). The enthusiastic cheering from more than 30,000 spectators enhanced the sense of unity and boosted morale within Toyota.

Ekiden

Promoting Various Sports, from Company Teams to Classes for Children

Toyota is working to help create affluent communities by promoting various sports. Since our founding in 1937, Toyota has focused particularly on company sports.

The players' commitment to challenge, teamwork and never giving up embodies the spirit of Toyota. Coworkers playing hard increase employee motivation and provide excitement in the workplace. There are currently 33 sports clubs and 18 individual athletes who are training to compete in Olympic and Paralympic Games. They have achieved high rankings at competitions.

In addition, we sent Toyota athletes to lead "Dream Classes" at elementary schools in Toyota City, and provided support for sports classes offered by dealers and sports events held by local communities.

Safety and Health

Fundamental Approach

Ensuring the safety and health of employees has been one of Toyota's most important long-standing business activities and will continue to be so, going forward. Upon assuming the position of General Safety and Health Supervisor in 1957, then Senior Managing Officer Eiji Toyoda explained his basic stance on safety and health: "Safe work is the 'gate' to all work. Let us pass through this gate." Toyota has handed these words down as its Basic Philosophy for Safety and Health, incorporating the strong desire that employees never be involved in an occupational accident.

This is why we are using the PDCA cycle to improve priority policies implemented under the leadership of company-wide safety and health managers (operating officers), as part of our overall safety and health activities.

For health promotion, we hold discussions with the Toyota Motor Health Insurance Society, labor unions and industrial health personnel (human resources, safety & health) to take health support measures.

In September 2017, President Akio Toyoda announced the "Proclamation of Health Commitment: Aiming at Becoming a Health-first Company." This proclamation states that the physical and mental health of our employees is the "driving force of good performance," and Toyota actively supports the "challenge to improve your lifestyle" for each employee and engages in initiatives for "health promotion and illness prevention."

Dialogues are held between labor and management at each work site to cooperatively resolve these issues of safety and health according to the specific situations at each location.

Furthermore, the KPIs of safety and health are reported as important issues at Executive Meetings on a regular basis.

Basic Philosophy for Safety and Health

Safe work
Reliable work
Skilled work
Safe work is the "gate" to all work
Let us pass through this gate

Promoting a Three-pillar Approach to Safety

We have promoted the interactive development of safety and health based on our safety and health function policy. For safety, we work to ensure that our management takes the leadership and that everyone adheres to the basic rules. Under the slogan of "Eventually achieving zero accidents and the continuation of zero accidents at all worksites," we will intensify efforts toward the three pillars of safety: human resource development (raising awareness of hazards through education and on-the-job training and conducting programs with the participation of all personnel), risk management (developing safety management systems), and environmental and facility preparation (providing safe machinery and comfortable workplace environments).

If any incidents occur, we will promptly communicate the relevant information to all general managers to ensure that the same incident does not recur.

Accident Frequency Rate (Frequency Rate of Lost Workday Cases)

(FY)	2015	2016	2017	2018	**2019**
(%)					
Frequency rate of lost workday cases (Global)	0.89	0.75	0.60	0.59	**0.42**
Frequency rate of lost workday cases (Japan)	0.06	0.03	0.07	0.07	**0.08**
All industries (Japan)	1.66	1.61	1.63	1.66	**1.83**
Manufacturing industry (Japan)	1.06	1.06	1.15	1.02	**1.20**
Automobile manufacturing industry (Japan)	0.23	0.20	0.18	0.15	**0.19**

Data source: All industries, manufacturing industry, and automobile manufacturing industry (2018 Survey on Industrial Accidents by the Ministry of Health, Labour and Welfare)

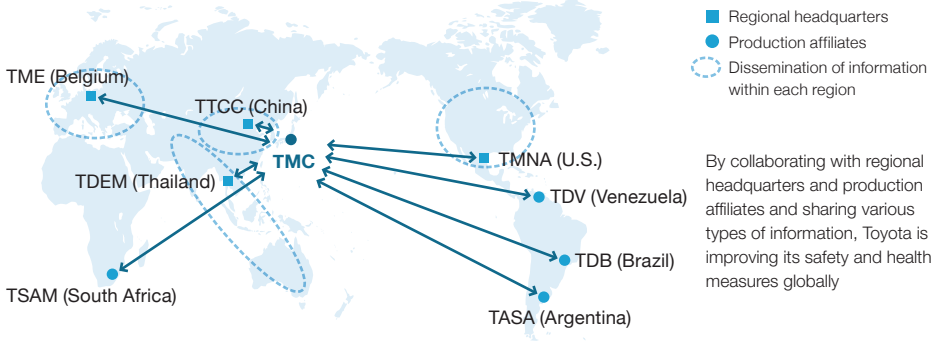
Global Safety Measures

Toyota regional headquarters take the lead in promoting safety and health measures in each region. We are currently working with each region to develop an occupational safety and health management system (OSHMS) globally. Along with unique regional requirements, we have established requirements that are shared throughout global Toyota based on ISO 45001*. Using OSHMS, weaknesses are identified by genchi genbutsu (onsite hands-on experience) to improve safety management. For example, we confirm whether measures are being implemented to avoid accidents that have occurred at the sites of other affiliates, and that a system has been created to ensure the effort is active and continuous.

Toyota also holds an annual global safety meeting, attended by managers from all regions who are responsible for safety and health, and who study measures for common issues and can share information on best practices.

* ISO 45001: The international standard related to occupational safety and health management systems established by the ISO (International Organization for Standardization)

Structure for Sharing Global Information and Collaboration



By collaborating with regional headquarters and production affiliates and sharing various types of information, Toyota is improving its safety and health measures globally


Global Safety Meeting (held in North America in 2019)


Confirming safety activities (Australia and Asia area)

Safety Initiatives with Business Partners (Japan)

At Toyota, we are providing opportunities to communicate and tackle each issue to ensure safety for business partners on the premises, in order to create a friendly work environment.
For example, when performing routine cleaning and inspection of equipment, improvements are made, such as adding lights for dark work spaces or placing non-slip treads on slippery footholds.
In order to mutually raise the level of safety awareness, we are cooperating with All Toyota Safety and Health Cooperating Association, comprised of 17 Toyota Group companies; Toyota Motor Corp. Safety and Health Cooperating Association, comprised of suppliers;Kyohokai, a supplier association comprised of parts and materials suppliers that have close business relationships with TMC; and Eihokai, comprised of equipment and logistics suppliers.

Column

Recognized as a 2019 Certified Health & Productivity Management Outstanding Organization

For the second year in a row, Toyota was certified as a 2019 Certified Health & Productivity Management Outstanding Organization (Major Corporations), certifying that we carry out outstanding health policies and activities in our health management. This is based on the idea that if a company values the health of their employees, it will create a workplace that allows employees to stay energetic and motivated, resulting in improved performance and growth for the company. This certifies us as a corporation that carries out strategic initiatives to manage employee health from a management perspective.

2019
健康経営優良法人
Health and productivity
ホワイト500

Building up Good Health (Japan)

Starting in FY2018, we have been promoting the Healthy Lifestyles Challenge 8 program as an activity to prevent illness.
This program encourages employees to make improvements in their health-related practices in eight areas to maintain and enhance their mental and physical health: (1) appropriate weight (BMI), (2) breakfast, (3) drinking, (4) snacking, (5) exercise, (6) smoking, (7) sleep, and (8) stress. The aim is to develop mentally and physically healthy people, encouraging each employee to examine one or more issue to raise awareness and adopt healthier practices.
Reports indicating the status of implementing the eight health-related practices are provided and checked against the Healthy Lifestyles Challenge 8 Implementation Sheets on which health behavior targets are set and implementation status is checked weekly. A smartphone application is also provided to check the number of steps walked and the eight health-related practices.
In addition, feedback on the Healthy Lifestyles Challenge 8 results is provided to each division along with support such as exercise instruction and health lectures to promote the development of health-related customs and culture at each workplace. In addition, company cafeterias are offering low-calorie, nutritionally-balanced meals to support improvement in eating habits. We also promote no smoking inside the office floor to prevent second-hand smoke.

Column

Health Support Center “WELPO”

The WELPO health support center conducts quadrennial physical examinations for all employees and their spouses (dependents) aged 36 years or older, as well as employees stationed overseas, with the aim of detecting cancer early and preventing lifestyle-related diseases such as metabolic syndrome. The center also offers health workshops that match the health status of individuals.
By providing employees and their spouses relaxed time to reflect on their health and lifestyle habits, the center helps them take concrete steps toward being healthy.


Health Support Center “WELPO”

Mental Health Care Measures (Japan)

To actively promote good mental health, we provide both mandatory and optional trainings, such as Self-care Training and Line Care Training, with the aim of preventing mental health problems from either occurring or recurring.
Self-care Training targets new and young employees and helps raise awareness on how to identify warning signs and deal with stress.
Line Care Training includes psychological training, as well as case-study-based training for newly-appointed managers. Listener Training is for supervisors who directly supervise subordinates. Trainees receive advice on how to communicate at workplaces and collaborate with industrial health personnel.
We established internal guidelines on mental health measures for employees, and industrial health personnel, personnel in charge of human resources, and the employee’s colleagues work together to ensure a smooth return to the workplace and provide daily support.

Human Resources Development

Fundamental Approach

Toyota is committed to developing human resources with the philosophy that "*Monozukuri* is about Developing People." For sustainable growth, we need to make improvements each day. In order to realize "Ever-better Cars" and "Customer First," all employees need to share the same values regardless of different cultures and customs. To ensure this, Toyota develops global OJT based on the Toyota Way for sustainable growth.

Five Key Values for The Toyota Way

Challenge	*Kaizen*	*Genchi Genbutsu*	Respect	Teamwork

Practice of the Toyota Way

We have organized and arranged methods and techniques into "Global Content" to share the values and ways of thinking of The Toyota Way so that it can be understood and practiced by Toyota employees around the world.
This Global Content is practiced by Toyota employees through training and OJT both in Japan and overseas.

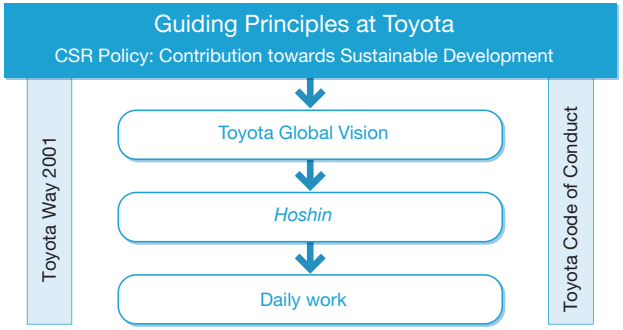
List of Global Content

	Administrative and engineering employees	Shop floor employees
Managers	*Hoshin* management ● Activity for *kaizen* (continuous improvement) on a company-wide scale ● Measures for maximizing organizational output	Skills and roles of management and supervision ● Managing skill of standard operations for managers/supervisors ● Section and team operational knowledge gained from managing irregularities
Managers	On-the-job development (OJD) ● A four-step method for promoting human resource development through the practice of regular business activities and guidance	
Managers	Management at Toyota ● Overall image of management at Toyota ● Effective worksite management	
General employees	Problem solving ● Methods of working using an eight-step method for identifying and solving problems (The Toyota Way)	Problem solving ● Techniques for improving current conditions to realize ideal working conditions
General employees	*Ji kotei-kanketsu* (built-in quality with ownership) ● A three-step method for building in quality in each process	Production skills ● Knowledge regarding recognizing irregularities and crucial points ● Trouble-shooting capability
General employees		Basic skills ● Minimum skills necessary for production line work processes
General employees	Toyota Way ● Toyota's values ● The fundamentals of all work	

Evaluation of and Feedback to Each Employee in Relation to Principles and *Hoshin*

Daily work (topics and roles) of Toyota employees are derived from annual direction (*hoshin*). Evaluation and feedback are based on close communications between subordinates and superiors. Specifically, topics and roles are determined at the beginning of each fiscal year and employees consult with their supervisors periodically. Through these consultations, supervisors assess the employees' self-evaluations and provide feedback. Repeating this cycle leads to human resource development. Results for each half year are reflected in bonuses and performance abilities are reflected in raises for the following year.

Relationship with Philosophy, *Hoshin* and Daily Work



Global Human Resource Development Structures

With the aim of sharing the values of the Toyota Way globally, Toyota is providing trainings through global executive human resource development, TMC human resource development undertaken by TMC, and overseas affiliate human resource development undertaken by affiliates in each region.

Global Executive Human Resource Development

The Global 21 Program is to provide skilled global employees with knowledge suitable for global Toyota executives and to exercise their strengths to the best of their ability in their respective areas of responsibility. The program comprises the following three pillars.

1. Indication of management philosophy and expectations of executives
   The Toyota Way and Global Vision are disseminated and incorporated into global human resource evaluations and training.
2. Human resource management
   Evaluation standards and processes are standardized globally to ensure fairness and consistency. There are five major areas of evaluation: issue creativity, issue execution capabilities, organizational management capabilities, human resource utilization capabilities and leadership.
3. Training deployment and training programs
   Global assignments and executive training are carried out. Development of human resources at overseas affiliates is based on local training together with OJT at TMC to learn Toyota ways of performing work. TMC's human resource development includes programs corresponding to Global 21 within TMC training program.

TMC's Human Resource Development (Japan)

Management Human Resource Development

All personnel who are promoted to senior professional/senior management or senior managers undergo one-year, rank-specific training.
The training is based on group training and seminars that include discussions in small groups. Officers and general manager class employees serve as instructors to strengthen a culture of learning and teaching.
Training for selected managers is also conducted to develop executive human resources candidates. These personnel work on management issues, attend overseas business schools for short periods, and attend leadership programs for executives in Japan. In this way, opportunities are created for top management to directly observe personnel in these positions and to foster executive minds for the candidates.

Administrative and Engineering Human Resource Development

Practice of the Toyota Way is positioned as the foundation of human resource development. OJT focuses on *genchi genbutsu* (onsite hands-on experience), while off-the-job training (OFF-JT) opportunities for growth are also created with the guidance of supervisors or superiors.
For example, employees first participate in group training to learn steps for problem solving and then apply them to actual issues in their work duties.
For one year after hiring, new employees undergo comprehensive training on fundamental knowledge in various areas. In the third and sixth to eighth years of employment, young and mid-career employees undergo group training consisting of the five pillars of OJT in accordance with the Global Vision.

Five Pillars of OJT for Young and Mid-career Employees

	Specific Measures
Working method	Problem solving, the Toyota Production System, etc.
Making ever-better cars	Comparison of new vehicles and competing vehicles
Enriching the lives of communities	Participation in volunteer activities
Customer First	Learning customer feedback at call centers
Company history	Learning from the founding spirit and the history of failure

Dispatch Program for Young Employees

The dispatch program for young employees overseas was expanded from 2014 to accelerate the early development of young employees.
Employees working for more than four years are dispatched to overseas affiliates, overseas graduate programs (including MBA programs), or domestic affiliates for one to two years. Their mission is to acquire practical skills, deepen their understanding of different cultures, and improve their language skills.
In 2018, 373 employees were dispatched.

Shop Floor Employee Human Resource Development

OJT is conducted by supervisors and superiors at worksites. Focus is placed on the cycle of clarification of goals and development plans, development and assignment, and evaluation/feedback.
Programs include OFF-JT, including rank-specific training and training for managers/supervisors, as well as OJT and OFF-JT combined for acquiring knowledge and technical skills.
The workplace environment is changing with a declining birth rate and aging population, a shrinking workforce, and diversification of worksite members. It is necessary for worksite members to maximize results to maintain production.
Specifically, we take measures to support employees who return to work until 65 after retirement at age 60 and female shop floor employees. In order to respond flexibly to new technologies and changes in production systems, we specify evaluation down to the technical element unit. Start-up seminars are also held to support transferred employees to support efficient acquisition of work skills.

Human Resource Development of Overseas Employees at TMC Head Office

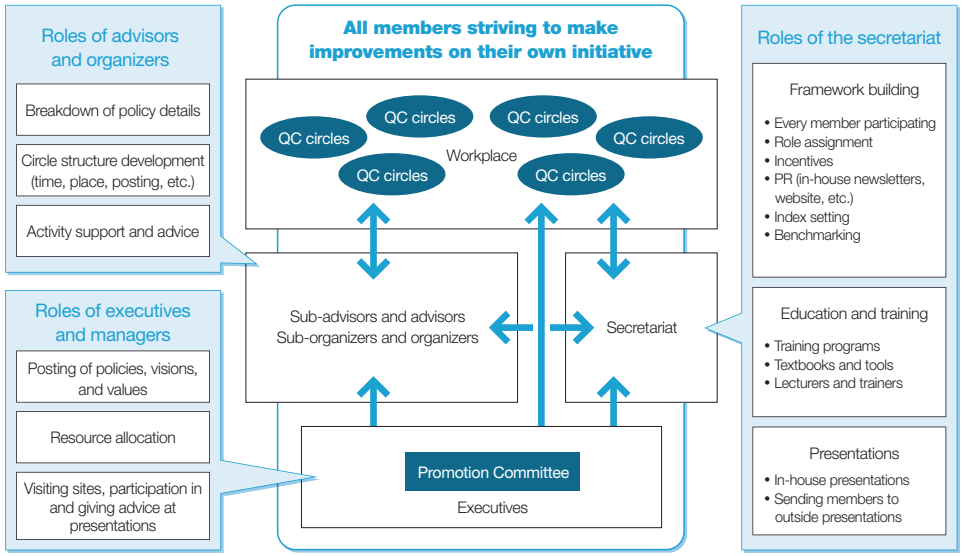
With the goal of promoting self-sufficiency in overseas affiliates, we temporarily transfer employees from overseas affiliates to TMC for OJT. Transferees focus on learning skills, knowhow and the Toyota Way throughout their training period, which is from six months to three years. Executives are posted as general managers or department managers at TMC to learn about decision-making processes and to be connected with other employees.

TQM (Total Quality Management)

TQM is a management initiative that puts into practice the principles of "Customer First," "*kaizen* (continuous improvement)," and "every member participating." Its goal is to create a culture of employees challenging themselves to institute reforms and achieve human resource development that draws out creativity. As measures to implement it, Toyota is actively carrying out QC circle activities* and the Creative Suggestion System. QC circle activities in particular have also been deployed to affiliates overseas, with more than 100,000 participants involved in approximately 16,000 circles every year.

* QC circle activities: The circles are formed mainly by employees in shop floor jobs, who actively engage in activities to identify and solve on-the-job problems. When carrying out activities, all circle members strive to make continuous improvements on their own initiative, with the determination to promote individual growth and improve the workplace together. As a result, teamwork and trust are developed, and a positive and fulfilling workplace is created.

QC Circle Activity Promotion Structure



Diversity and Inclusion

Fundamental Approach

Toyota's strengths lie in our capacity to respect our employees' abilities to think and promote reforms involving every member.
Recent technical innovations centered on CASE are propelling Toyota to transform from a car company into a mobility company. We believe such a transformation is becoming increasingly important as we are expected to continue creating innovations steadily in existing areas while taking on challenges in new areas.
In such an environment, Toyota considers diversity and inclusion to be one of the key bases of management, and we are working to create an attractive workplace where employees with wide-ranging skills and values can demonstrate their abilities to the fullest and achieve self-realization.
In order to become a company that will be needed and chosen by society, we are promoting collaboration with a wide variety of partners both inside and outside the company while putting into practice the values Toyota has embraced since its founding, such as the attitude of humbly learning and taking on challenges from the customer's viewpoint.

Global Promotion Structure

We are implementing measures appropriate to individual regions globally throughout the entire Toyota Group. In particular, we have set up a dedicated diversity and inclusion promotion organization in the Head Office in Japan, TMNA (U.S.), TMCA (Australia), and TSAM (South Africa). Furthermore, in many regions, we have established diversity and inclusion promotion organizations consisting mainly of concurrent appointments within the area of human resources.



Diversity promotion members from various countries

Promoting Women's Participation in the Workplace (Japan)

In promoting diversity and inclusion, we recognize that gender diversity has been an issue, particularly at the Head Office in Japan. In 2002, we started initiatives at the Head Office centered on expanding and establishing measures to support women who are trying to balance work and childcare. Then in 2012, we began focusing on initiatives for creating a work environment that would help women gain motivation and supporting their participation (especially development of female managers).

[Support Measures for Balancing Work and Childcare]
For those planning to take maternity leave, we have been offering Pre-maternity Leave Seminars and Supervisor Career Interviews since 2015. The goals of these events are to ease the participants' concerns about balancing work and childcare and to raise the level of desire to continue growing after returning to work, as well. The participants evaluate their career plans and how best to achieve them, hear about other employees who successfully balanced work with family in the past, and participate in roundtable discussions.

[Career Development Support Measures]
In 2019, we introduced a career workshop targeting female employees and their supervisors. We are supporting the continued growth of female employees through various measures, including supporting long-term career building with life events taken into consideration, providing advice to supervisors on how to guide their subordinates, and facilitating dialogues between supervisors and subordinates. Additionally, in 2005, we introduced the career return system, which provides re-employment opportunities to employees who are forced to leave Toyota due to job-related relocation of their spouse (regardless of the spouse's gender or whether the spouse is a Toyota employee) or the need to provide nursing care. Then in 2019, we expanded the system and introduced the career continuation support system for Toyota employees who are moving overseas due to their spouse's overseas relocation. By providing a structure enabling Toyota employees to continue their careers at the overseas relocation destinations of their spouses, we are helping our female employees develop long-term careers and promoting excellent performance.



Career development support workshop targeting young women in administrative and engineering positions and their supervisors

"Bubu Forest" Large-scale Onsite Childcare Facility

In April 2018, Bubu Forest was built in the headquarter area, and it is the fourth childcare facility, for 320 children. To support shift workers at plants and nurses who work the night shift, Bubu Forest offers operation in the early morning hours as well as overnight stays. It also offers shuttle service from nearby plants to pick-up and deliver children. The facility also accepts new enrollments throughout the year, to accommodate the needs of employees including those who intend to return to work after childbirth, mid-career employees, and employees returning to Japan from overseas assignments.

In addition, Pipo Land, a new childcare facility established together with Bubu Forest within Toyota Memorial Hospital, has also been opened to take in sick children. This childcare facility is available to Toyota City residents and allows Toyota Motor Corporation (TMC) to build stronger ties with the local community in support of promoting work-life balance and childcare.


Bubu Forest childcare facility


Shuttle service


Opening ceremony

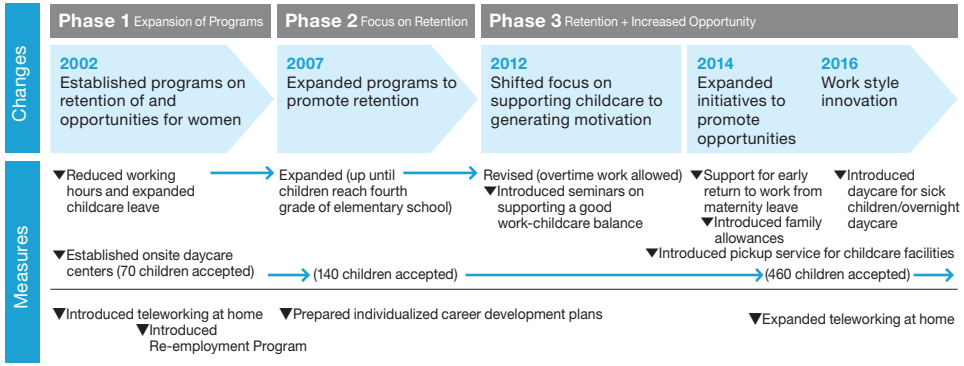
Toyota Female Engineer Development Foundation

Toyota and nine group companies established the Toyota Female Engineer Development Foundation in December 2014 to contribute to the promotion of women's participation in manufacturing businesses in Japan. The aim is to attract and expand the number of girls to study in the science fields and foster female engineers in *monozukuri* (manufacturing). Our female engineers visit schools in Aichi Prefecture and give lectures to high school students to introduce them to engineering careers. The Foundation provides a development program for female engineering university students to support career-building as well as a scholarship program that provides financial support.

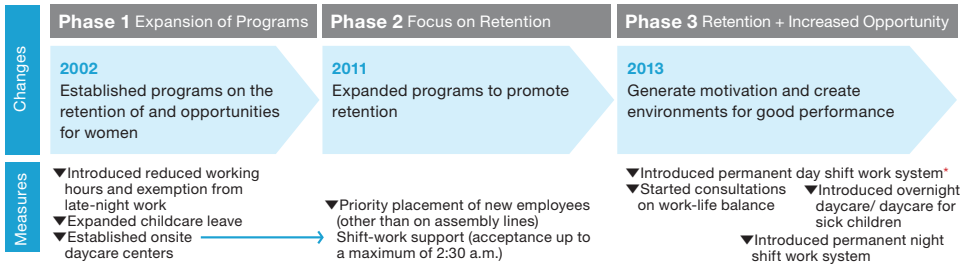

Development program (consultation with employees)


Visiting a high school to give a lecture

Overall Image of Initiatives to Promote Women's Participation in the Workplace (Administrative and Engineering Employees) (Japan)



Overall Image of Initiatives to Promote Women's Participation in the Workplace (Shop Floor Employees) (Japan)



* A system that allows employees engaging in childcare to be exempted from shift work at plants

KPIs for Promoting Women's Participation in the Workplace (Japan)

Our initiatives to promote women's participation in the workplace, which began in 2002, have resulted in continuous improvements in all KPIs, including the goals described in the action plan based on the Act on Promotion of Women's Participation and Advancement in the Workplace. We will strive to improve the KPIs by continuing to implement these initiatives.

Action Plan Based on the Act on Promotion of Women's Participation and Advancement in the Workplace

Toyota has decided on the following plan to build an environment to promote women's participation in the workplace.

1. **Period** — April 1, 2016 to March 31, 2020
2. **Our Challenges** — The number of female employees is not large enough, and the proportion of females in managerial positions is low
3. **Target** — The number of female in managerial positions in 2014 to be increased threefold by 2020, and fivefold by 2030
4. **Our Actions**

Action 1 Maintain a hiring rate for female graduates (Administrative: 40%; Engineering: 10%)

Action 2 Provide support for balancing work and childcare, and create an atmosphere and environment to support an early return to work from maternity leave

Details of the Action

Support for balancing work and childcare

- Create a working atmosphere that supports women's participation in the workplace [from April 2016]
- Promote male employees' participation in childcare [from October 2016]
- Expand the teleworking system [from October 2016]

Support for early return to work from maternity leave

- Promote usage of subsidies for childcare costs [from April 2016]

Action 3 Develop career awareness and systematic personnel training aimed at female managerial appointment from an early stage

Details of the Action

Career awareness

- Promote initiatives to enhance female awareness [from April 2016] (Hold female-oriented roundtable discussion, group exchange meetings)

Systematic personnel training

- Enhance programs for managerial level employees [from April 2016]

Action Plan Based on the Act on Advancement of Measures to Support Raising Next-generation Children

1. **Period** — April 1, 2018 to March 31, 2020
2. **Contents**

Aim 1 Promote understanding and publicize various systems/examples related to balancing work and childcare

Measures

- Continue to provide information through the TMC website (from May 2018)

Aim 2 Promote male employee's participation in childcare

Measures

- Send messages to male employees having a child, appealing to them to participate in childcare (October 2018)
- Hold a roundtable talk for male employees balancing work and Toyota has decided on the following plan to build an environment to promote women's participation childcare (from December 2017)

Administrative and Engineering Employees

		FY	2003	2013	**2019**
Female managers		(Persons)	7	76	**215**
Female assistant managers		(Persons)	67	297	**688**
Attrition rate		(%)	5.8	2.4	**2.2**
Percentage of positions held by women[1]	Administrative employees	(%)	33.1 (32.8)	24.7 (26.5)	**41.1 (47.6)**
	Engineering employees	(%)	8.4 (7.4)	7.0 (7.4)	**12.2 (12.7)**
Percentage of director positions held by women[2]		(%)	0.0 (0)	5.6 (1)	**13.0 (2)**

1 Excluding those hired into sports clubs; ( ) includes mid-career hires
2 ( ) indicates the number of people

Shop Floor Employees * Production sites only; excluding those hired from the Toyota Technical Skills Academy

	FY	2003	2013	**2019**
Female shop floor employees	(Persons)	727	1,443	**1,891**
Attrition rate	(%)	10.4	5.2	**2.6**
Percentage of positions held by women	(%)	24.9	11.9	**26.4**

Promotion of Women's Participation in the Workplace (Major Global Locations)

Toyota Motor Europe (Belgium)

- Networking to promote gender diversity

- Working mother support: Home-working policy, part-time working regimes, support in finding employment for spouses of employees sent to TME
- Female career development: Mentorship system, sponsorship system
- Active hiring of promising candidates into career positions
- Unconscious bias awareness training for managers

Toyota Motor (China) Investment Co., Ltd. (China)

- Breastfeeding break of up to one hour each day for lactating female employees

- Nursing room

Toyota Motor North America, Inc. (U.S.)

- Annual North American Women's Conference, to which all executive level women and many high-potential junior level women, as well as male directors and executives are invited to attend for networking and encouraging women's participation and advancement in the workplace
- Unconscious bias awareness training for managers

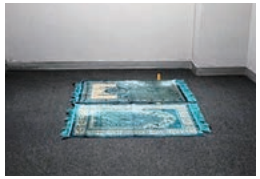
- Executive D&I scorecards have KPIs on managers making improvements in their areas to promote initiatives.
- The Outside Advisory Committee Focusing on Diversity was established, which is responsible for monitoring and reporting the progress of diversity promotion, including career development for women.
- Events sponsored by the Business Partnering Group (which provides networking and education opportunities to employees as an organization representing the interest of minority groups)

Toyota South Africa Motors (Pty) Ltd. (South Africa)

- Leadership management workshops to ensure acceptance of women and promote their participation and advancement in the workplace

Toyota Daihatsu Engineering &Manufacturing Co., Ltd. (Thailand)

- Nursing room



- Female prayer room
- Reserved parking area for pregnant employees

Toyota Motor Corporation Australia Ltd. (Australia)

- Annual Toyota Women's Conference Australia

- Special day when employees are allowed to bring their children to work
- Introduction of female voices in Executive Management Committee

Toyota Do Brasil Ltda. (Brazil)
Toyota Argentina S.A. (Argentina)

- Women's Day, which promotes an open conversation about the challenges women face in balancing their professional and personal lives

- Healthy pregnancy program for pregnant employees: Guidance and advice related to health conditions, as well as orientation on lactation and baby care
- Unconscious bias training for male employees
- Leadership training for female leaders

- Mother working from home

KPIs Related to Promotion of Women's Participation in the Workplace (Major Global Locations)

We are continuing initiatives that promote women's participation and advancement in the workplace so that the percentage of positions held by women, from initial hiring to executive positions, will consistently increase at many affiliates.

Percentage of Women Hired under Various Categories

* ( ) indicates the number of people

		Category	Full-time employees	People hired	Managerial positions	Director positions
TMNA	(U.S.)	(%)	23.8	29.9	24.9	28.6 (6)
TMCA	(Australia)		28.6	36.7	19.8	0.0
TDEM	(Thailand)		33.6	37.4	16.1	0.0
TMCI	(China)		46.4	56.5	33.6	5.6 (1)
TME	(Belgium)		34.9	33.8	18.6	0.0
TSAM	(South Africa)		21.6	31.4	29.8	20.0 (2)
TDB	(Brazil)		8.4	12.7	1.8	0.0

Initiatives Related to Persons with Disabilities

Initiatives in Japan

Based on the concept of harmonious society, in which all persons with or without disabilities work and live together in harmony, we provide various work opportunities to those with disabilities. We offer a variety of support to enable persons with disabilities to work energetically by fully utilizing their abilities.

For example, we have assigned a job consultant to each office, created a consultation hotline that ensures privacy, and introduced a special holiday system that can be used by employees for going to hospital or other clinics. Furthermore, to ensure that persons with disabilities are given fair opportunities, we send in sign language interpreters, provide a variety of support tools, and make workplace improvements as needed.

In terms of facility, we are creating workplaces with improved accessibility as needed by for example providing handicapped parking spaces and universally accessible toilets.

To those workplaces hiring employees with disabilities, we are distributing guidebooks to help other employees better understand disabilities and gain the knowledge necessary for providing support.

In addition, to cultivate a workplace-wide culture, we have implemented Emotional Barrier-free Training targeting a wide range of employees, from new employees to senior professional/senior management, to promote understanding of and empathy for people with disabilities.

As of June 2019, the number of persons with disabilities employed was 1,322 accounting for 2.33 percent of the entire workforce (including special-purpose subsidiaries) which is above the legal requirement of 2.2 percent.

Percentage of Positions Held by Persons with Disabilities (Japan)

	Year	2015	2016	2017	2018	**2019**
Employment rate	(%)	2.14	2.14	2.17	2.25	**2.33**
Legally mandated employment rate	(%)	2.0	2.0	2.0	2.2	**2.2**

* Numbers as of June in each year (including specified subsidiaries)

Creating an Environment Where the Disabled Can Work with Assurance

Toyota Loops Corporation began operation in April 2009 with 28 people with disabilities and received certification from the Minister of Health, Labour and Welfare as a special-purpose subsidiary of Toyota Motor Corporation in October of that year.

Toyota Loops primarily handles work that is outsourced from Toyota such as internal printing, mail services, enclosing catalogues and document digitization. It also performs a variety of office support tasks such as issuing visitor and employee identification cards, and shredding documents, as well as erasing data from unneeded PCs.

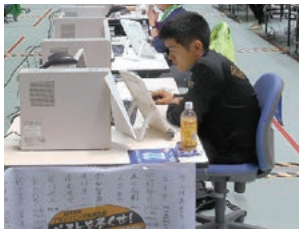
The company is also providing nursing assistance at Toyota Memorial Hospital and healthcare services (massage) that can be used by Toyota employees.

As of June 2019, Toyota Loops employed 256 persons with disabilities. The number of support staff has also been increased in order to eliminate or reduce anxieties that employees may have regarding their health or work. We are also reinforcing support by creating a consultation hotline and providing consultations with an industrial physician and counseling by a clinical psychologist and psychiatrist.

We actively exchange information with governmental bodies, local communities, and social welfare organizations to create working environments where each employee can work with reassurance.

We also have many employees who are active outside work.

Toyota Loops employees representing Aichi Prefecture participated in the Abilympics (a national technical skills competition for persons with disabilities) in Okinawa Prefecture held in November 2018, winning silver in the Database division and bronze in the Word Processor division.



Toyota Loops employees competing in the Abilympics

Toyota Loops Employees Support Toyota Memorial Hospital

Starting in November 2014, 10 Toyota Loops employees have been providing business support in the field of medicine. They provide support work for nursing assistants in five wings of the Toyota Memorial Hospital (ER, Internal Mixed, Orthopedics, Surgery Mixed, Stroke Center). Starting with preparing tea or moist towels for the patients, they make beds, check laundry for cleaning, and other jobs.

The nursing assistants note that “although it was hard for them to learn the work at first, now they do their work very diligently and carefully. This gives us more time with our patients and helps us provide better service.”


Toyota Loops employees making beds

Global Initiatives

We are striving to create a workplace environment that is friendly even to employees with disabilities by, for example, providing universally accessible toilets, handicapped parking spaces, and wheelchair ramps. We also conduct a variety of events, for example participating in campaigns and holding workshops, to promote understanding about people with disabilities.

[TDEM (Thailand)]

Together with organizations serving people with disabilities, we are carrying out activities to promote safe driving, such as holding seminars with the goal of increasing knowledge and awareness about safe driving.



Toyota Safe Driving Campaign

[TMCA (Australia)]

Held a disability awareness workshop titled “Champions of Change” by Dylan Alcott, a wheelchair tennis player.

“Champions of Change” workshop

LGBT-related Initiatives

Initiatives in Japan

Toyota has launched initiatives with the aim of creating workplaces with an appropriate understanding and acceptance of LGBT people.

Prohibition on discrimination or harassment of LGBT people has been incorporated into the employee behavioral guidelines, and we no longer require new graduates to fill in their sex on their job application sheets.

In our company training, we provide training to enlighten new graduate employees about human rights, and we also provide experience-based training by outside instructors (LGBT people) for mid-career employees. Furthermore, Toyota has established an internal harassment consultation hotline, and is making dedicated toilets for LGBT people in Head Office and Nagoya office.

Global Initiatives

[TMNA (U.S.)]

During the recruiting and hiring process, we provide a non-discrimination statement to everyone that submits a job application. That statement says that the company does not discriminate based on gender, ethnicity, and many other categories, including LGBT. We do not require a photo or gender identification on resumes. One of our business partner groups (organizations representing minority’s interest) is an LGBT group.


LGBT Pride Flag Raising Ceremony

[TMCA (Australia)]

Gender description is not required during the application process. We do not request photos.

Major Initiatives of Nursing Care (Japan)

As nursing care environments change, we have been expanding company measures on nursing care since 2009, in order to reduce employee burdens and anxiety, allowing them to devote themselves to work. For example, we hold lectures by outside experts such as licensed social welfare workers and nursing care workers since 2009.

Use of Childcare and Nursing Care Leave (Japan)

	(FY)	2015	2016	2017	2018	**2019**
Male	(Persons)	20	43	44	54	**111**
Female	(Persons)	469	577	602	582	**513**

Major Initiatives in Nursing Care (Japan)

Support for the Work-life Balance	● Nursing care leave and shortened working hours ● Increase flexibility in working hours system (1) Change the units of time for shortened working hours, etc. (2) Change the working hour for teleworking at home (3) Expand applicable periods for various work-life balance support (4) Establish a new nursing care leave program
Providing Information	● Create a consultation hotline at the Toyota Health Insurance Union ● Publish pamphlets on nursing care ● Hold nursing care lectures ● Hold hands-on nursing care seminars
Nursing Care Services	● Introduce a nursing care savings program ● Form a partnership with a major nursing care service provider ● Expand nursing care service providers ● Introduce home care workers services
Financial Support	● Introduce nursing care insurance ● Create parent nursing care insurance ● Introduce a nursing care financing program

Employment for Over-60s (Japan)

Following the introduction of the Internal Re-employment Program for Retired Professionals in 1991, an Optional Re-employment Application System was launched in 2001 to outplace applicants to external affiliates and other sites, providing a framework for helping over-60s to continue working.

Based on the revisions to the Law on Stabilization of Employment of Elderly Persons in 2006 and 2013, the support was revised to expand re-employment by taking surveys and interviews based on the needs of the employees.
In addition, starting from 2016, the Advanced Skilled Partner System was set up for shop floor employees to encourage and motivate employees to retire at 65 years old by maintaining their job rank and salary.

Employment of Fixed-term Contract Employees (Japan)

When hiring fixed-term contract employees, we ensure appropriate hiring and contract renewals, and also provide support for obtaining government certification to those who have fulfilled contracts exceeding one year, focusing maximum efforts on maintaining stable employment and improving their work capacity. With the full-time staff appointment system, fixed-term contract employees who have worked for TMC for at least one year have the chance to take an examination for employment by recommendation from their workplace. This leads to increased motivation and vitality. Fixed-term contract employees are also given the opportunity in their third year.
It is necessary to maintain strong workplace in order to achieve sustainable growth, and to this end, TMC continues to hire fixed-term contract employees as full-time employees.

Localization of Management at Overseas Facilities

Toyota is localizing management at overseas affiliates from a medium- to long-term perspective. The roles are defined so that the head office determines what needs to be done, and overseas affiliates decide how they will carry out those tasks. In principle, executives and chief officers responsible for overseas operations live at the respective overseas locations and create management systems close to operation. Toyota also actively hires local employees. Of six regional headquarters, two are currently headed by non-Japanese chief officers. As of April 2019, TMC has five non-Japanese executives (one of whom is an outside director).
We are working towards the localization of management posts as well. This should facilitate the timely understanding of customer and employee needs in each region, enabling us to make appropriate business decisions.

Creating an Affluent Society

Fundamental Approach

To help realize a mobility society of the future and affluent lifestyles, Toyota is working on a wide variety of initiatives beyond just automotive manufacturing, including building environmentally-friendly communities where people connect more freely, developing life-supporting robotics and sponsoring sport events such as the Olympic and Paralympic Games Tokyo 2020. Through collaboration with governments, local communities, other corporations and academics, Toyota is committed to realizing a sustainable society for the greater happiness of all.

Olympic Games, Paralympic Games

Competing in sports brings about “courage” and “inspiration.” The Olympic and Paralympic Games possess a “power” that enriches people and society through various activities that are centered on sports. Toyota shares the vision and philosophy that the Olympic and Paralympic Games strive to achieve, and entered into agreements to become an Official Worldwide Olympic Partner of the International Olympic Committee (IOC) and an Official Worldwide Paralympic Partner of the International Paralympic Committee (IPC) in 2015. By providing various activities and sustainable mobility, Toyota hopes to help create a better world, peaceful and equal society.

What Toyota Is Aiming for as a Partner

The agreement runs through the Olympic and Paralympic Games Tokyo 2020 and to the end of 2024 in the mobility category.
Through the Olympic and Paralympic Games, Toyota is aiming to achieve “Ever-better MOBILITY FOR ALL,” “Ever-better SOCIETY” and “Ever-better TOYOTA.” Toward the realization of a society in which everyone can participate and strive, Toyota will take initiatives in mobility, sports, and social issues.

Mobility	Solving Social Issues	Sports
Ever-better MOBILITY FOR ALL	Ever-better SOCIETY	Ever-better TOYOTA

For mobility, Toyota will provide mobility that will bring a smile to everyone involved in the Olympic and Paralympic Games. At the Olympic and Paralympic Games Tokyo 2020, Toyota will showcase forms of mobility that incorporate its latest and most advanced technologies, as well as future of social and transportation systems. Additionally, Toyota aims to provide safe, secure, and comfortable mobility to everyone, including people with disabilities and visitors from overseas.

Mobility Initiatives

Theme	Major Initiatives
Sustainability	• Lead the way toward a future hydrogen-based society by providing ultimate zero-emission vehicles as official event vehicles • Adopt the latest safety equipment toward realizing a zero-traffic-accident society
MOBILITY FOR ALL	• Strive to develop future fully autonomous driving technologies to demonstrate the ultimate “MOBILITY FOR ALL” • Utilize the e-Palette, a BEV specialized for mobility service, to help shuttle athletes in and around the Olympic Village • Ensure unrestricted and comfortable mobility for all people including those with disabilities, the elderly, and people accompanied by children, Toyota will provide enhanced accessible mobility such as the Welcab
Smooth operation management of event vehicles	• Utilize Toyota’s logistics expertise, represented by the Toyota Production System, as well as advanced information and communication technology (ICT) to help ensure safe, secure, and smooth transportation at the event
Contribution to the most innovative event in history	• Propose a future in which robots and humans harmoniously coexist, by pursing two-pronged approach of developing practical robots useful to people and robots that bring amazement to people

Toyota Olympic, Paralympic and sports page

e-Palette

Special Olympics Initiative

The Special Olympics (SO) is an international sports organization supporting people with intellectual disabilities to take part in society, providing various sports training opportunities, and holding events and competitions that give them opportunities to demonstrate their abilities. The Special Olympics provides training and athletic competition, giving athletes continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in the sharing of gifts, skills and friendship with other athletes, their families, and the community. Agreeing with this mission, Toyota is providing a variety of types of support, such as vehicles and volunteers, in order to help realize a society rich in diversity.
Toyota entered into an agreement to become a "National Partner" with the Special Olympics Nippon (SON) in January 2016.
In November 2017, Toyota entered into an agreement with Special Olympics International to become a Global Gold Partner. In addition, Toyota has agreed to support Special Olympics Unified Sports, which joins people with and without intellectual disabilities on the same team. Toyota was inspired by a simple principle: training together and playing together is a quick path to friendship and understanding. Beginning in 2018, Toyota has been supporting Special Olympics Unified Sports programming primarily in Japan and the United States.

Signing ceremony

The Role of Robots in Achieving Mobility for All

At Toyota, we use industrial robot technology for a variety of applications based on our dedication to "Supporting human life activities and living in harmony with people." Since 2004, we have developed partner robots focused on support for people unable to move on their own, including the aging population. Now, as we transform into a mobility company, we are expanding our robotics efforts to provide all people with the freedom to move. For Toyota, "Mobility for All" includes not only "physical" movement, but also people's "virtual" mobility, which provides further opportunities to be "moved" emotionally.
Toyota is working to create new values that will support all customers' desire to move and the "Mobility for All" that will make such dreams come true.

Expanding the Development Community through Supplying Human Support Robots (HSR)

Life support robot, Human Support Robot (HSR), is a compact robot intended to support customers' daily lives. For example, HSR can pick up and carry objects and the user can remotely control or converse via the Internet.
Starting in 2015, we supplied HSRs to universities and research institutes as platforms, forming a development community that promotes sharing results and mutual use. Up to now, HSR has been used in research and development at 49 organizations in 13 countries including Japan. One of the organizations, Preferred Networks, Inc. (PFN) and Toyota have agreed in the summer of 2019 to engage in joint research and development on HSR robotics platform. The two companies aim to develop service robots that cater to market needs at the earliest opportunity.
We will also provide HSR as a platform in the household task support event at the World Robot Summit 2020.

HSR utilization example by PFN, a community member

Third-generation Humanoid Robot, T-HR3, Combining Cleverness with Gentleness

T-HR3 is a third generation Humanoid Robot whose entire body can move smoothly by being synchronously linked with the movements of a remote operator. (Announced on November 2017)
In November 2018, Toyota and NTT DOCOMO, INC. started trials to control the T-HR3 using fifth-generation mobile communication technology (5G). Under a test environment with control from a remote location (a distance of approximately 10 kilometers), the T-HR3 successfully performed a task which requires low-latency through intervention from a 5G area.


T-HR3

Welwalk Rehabilitation Assist Robot

The Welwalk is designed to support rehabilitation such as walking training for people with lower limb paralysis due to strokes, etc. It features a range of rehabilitation support functions based on exercise learning theory, including an adjustment function that sets the movement level according to the patient's ability, as well as a function to provide feedback regarding the patient's gait characteristics.
In the autumn of 2017, we began a rental business for the Welwalk WW-1000 aimed at medical institutions, and rented out 75 units as of the end of July 2019. Then in June 2019, we announced the new technology which is scheduled to be installed on future Welwalk at an international academic conference on rehabilitation. The aim is for this design to be used in a more appropriate way at more facilities, for example by automatically detecting the patient's abnormal gait on a real-time basis and displaying the recommended assistance setting values. A game function based on exercise learning theory is under development to improve the patient's motivation for walking training.


June 2019, announced new technology planned to be introduced in future Welwalk

Column

Toyota Robots to Help People Experience Their Dream of Attending the Olympic and Paralympic Games Tokyo 2020

Toyota, as a worldwide partner of the Olympic and Paralympic Games, aims to provide mobility solutions that go beyond providing official vehicles for the Olympic and Paralympic Games Tokyo 2020 (Tokyo 2020).
For example, through robot-based communication and remote control, Toyota aims to enable customers at remote locations to interact with athletes and virtually experience the atmosphere of the event, as well as to use Field Support Robots to help operational staff achieve efficient operation of the event. Toyota will also provide Human Support Robots to help wheelchair-bound customers feel secure while they enjoy watching the games.
By actualizing dreams and delivering excitement through provision of robots that support all customers' desire to move, Toyota is committed to make Tokyo 2020 a great success.


Robots to be provided to Tokyo 2020

Click here for details

Assisted Mobility Vehicles

As Japan enters into a period of a super-aging society, government policy is shifting towards home-based medical treatment and nursing care. As a result, there is a growing need for assisted mobility that is easy to use at home. Toyota named its assisted mobility vehicles Welcab with the hope of contributing to the happy lives of customers.
Our goal is to make vehicles that are comfortable and safe as well as simple and easy-to-use, and that give people with disabilities and the elderly the freedom of mobility, while also accommodating the needs and wants of caregivers.

Organization and Structure

We plan and develop Welcab vehicles based on five development perspectives—ease of getting in and out of the vehicle, comfortable and smooth ride, ease of operation for drivers and caregivers, ease of communication inside the vehicle, and reasonable pricing—while pursuing market needs.
Customers can experience Welcab vehicles firsthand at Welcab stations established at dealers and Heartful Plazas, which are general Welcab exhibit sites, with Welcab consultants onsite to help customers choose the most appropriate vehicle.
As of May 2018, there are 242 Welcab Stations and nine Heartful Plazas in Japan.

242 Welcab Stations in Japan

9 Heartful Plazas in Japan

Heartful Plaza

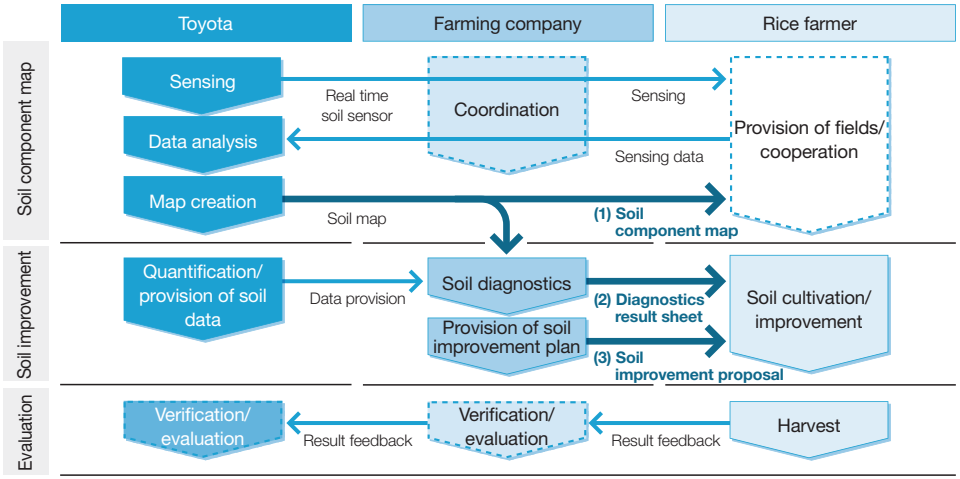
Agriculture and Biotechnology Business

To contribute to solving global problems such as global warming, energy issues and food shortages, Toyota believes in the need for new businesses that contribute to the environment, in addition to the automotive business. Therefore, we are establishing a structure to carry out R&D in a variety of fields and start new businesses.

Support to Agricultural and Food Production Industries

We are pursuing various ways of applying our automotive production management and process improvement know-how to address issues faced by agriculture, such as the aging of the farming population and declining food self-sufficiency. One example is the *Housaku-Keikaku* agricultural IT management tool launched by Toyota in 2014 as a cloud-based solutions service that adopts the principles of the Toyota Production System to improve agricultural efficiency.
In March 2019, we began field trials of a new support service that uses data from real-time visualization of soil components during agricultural land analysis to diagnose soil characteristics and propose improvements. The aim of this service is to rapidly identify variations in soil components within a tract of agricultural land, and to help improve agricultural productivity and lower environmental impacts by enabling precise soil cultivation through waste-free addition of fertilizers and other soil improvement agents. This field trial is being carried out on farmland in Mie Prefecture in cooperation with Tokai Trading Co., Ltd., which has a wide range of know-how related to agricultural machinery and fertilizers, as well as extensive contacts in the farming industry.

Outline of the Soil Diagnostics and Improvement Proposal Service Using Optical Sensors



Foundations

Toyota Foundation

Toyota Foundation was established in 1974. The Foundation views events from a global perspective as it works to support activities that bring broad, long-term benefits to society. It identifies issues in a wide range of areas including human and natural environments, social welfare, and education and culture, and provides grants for research and projects that address these issues.
Specifically, the foundation conducts a variety of support programs, including the Research Grant Program, International Grant Program, Grant Program in Japan, Communication with Society Program, and the Initiative Program.

Toyota Foundation

Toyota Mobility Foundation

The Toyota Mobility Foundation was established in August 2014 to create a truly mobile society and help overcome the barriers to mobility for all. The foundation seeks to make this possible by sharing Toyota's expertise and accumulating innovative visions and experiences from NPOs and research organizations worldwide.

Main Projects

Ueyama (Mimasaka City, Okayama Prefecture)

Building a sustainable mobility model in mountainous regions

Program length	From January 2016 to September 2019
Partner	Minnano Shuraku Kenkyusho Aida Ueyama Tanada-Dan

Akaiwa City (Okayama Prefecture)

Improving the efficiency of road maintenance management using connected vehicles

Program length	From July 2019 to March 2021
Partner	Councils thinking of new methods for road maintenance management

India

Enhancing access to metro (first and last mile connectivity)

Program length	From December 2016 to March 2018
Partner	World Resources Institute

Bangkok

Easing traffic congestion

Program length	From April 2015 to March 2017
Partner	Chulalongkorn University

Da Nang

Preventing traffic congestion

Program length	From April 2015 to March 2019
Partner	Da Nang City People's Committee

Japan

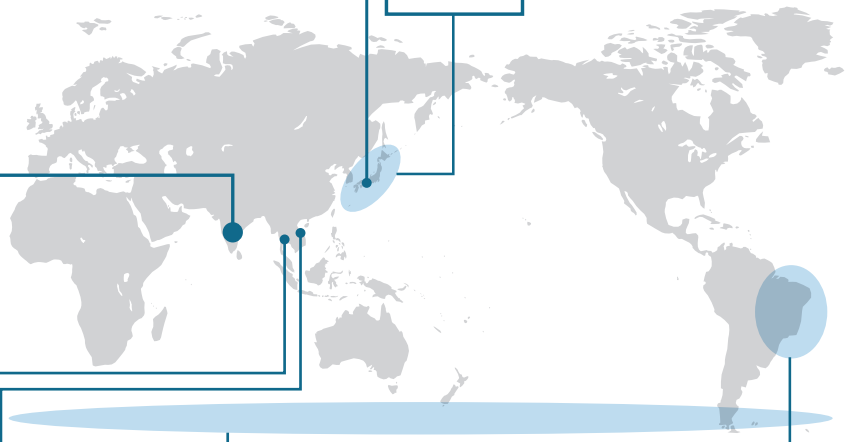
Soliciting grant applications supporting the development of sustainable mechanisms for regional mobility

Program length	Approximately two years of activities from April 2019
Partner	Local public organizations, NPOs, universities, companies, etc.

Japan

Began soliciting proposals to expand basic research on hydrogen at the end of July 2017

Program length	From July 2017
Partner	Universities and research organizations in Japan



Worldwide

Mobility Unlimited Challenge: Supporting idea discovery and development of assistive equipment to address a variety of needs of people with lower-limb paralysis

Program length	From November 2017 to September 2020
Target sectors	Individuals and organizations all over the world possessing innovative ideas

Brazil

Improving urban mobility especially the access to areas of intense flow of people

Program length	From January 2018 to December 2018
Partner	World Resources Institute

Toyota Mobility Foundation

Environment

Toyota Environmental Challenge 2050

—Going Beyond Zero Environmental Impact and Achieving a Net Positive Impact

We have formulated the Toyota Earth Charter based on the Guiding Principles at Toyota, considering environmental issues as a paramount importance, and have established its promotion structure to address such issues. In the course of perceiving public opinions or world trends and while considering our focus in the years to come, Toyota is working on this problem with new ideas and technologies ahead of future challenges. In October 2015, we formulated six challenges based on piles of environmental issues and we have been moving ahead, aiming to establish a future society in harmony with nature.

Six Environmental Challenges to Be Achieved by Toyota Toward 2050

Challenge 1

New Vehicle Zero CO_2 Emissions Challenge

Reduce global average CO_2 emissions during operation from new vehicles by 90% from Toyota's 2010 global level

Challenge 2

Life Cycle Zero CO_2 Emissions Challenge

Completely eliminate all CO_2 emissions from the entire vehicle life cycle

Challenge 3

Plant Zero CO_2 Emissions Challenge

Achieve zero CO_2 emissions at all plants worldwide by 2050

Challenge 4

Challenge of Minimizing and Optimizing Water Usage

Minimize water usage and implement water discharge management based on individual local conditions

Challenge 5

Challenge of Establishing a Recycling-based Society and Systems

Promote global deployment of End-of-life vehicle treatment and recycling technologies and systems developed in Japan

Challenge 6

Challenge of Establishing a Future Society in Harmony with Nature

Connect nature conservation activities beyond the Toyota Group and its business partners among communities, with the world, to the future

Toyota is contributing to achieving the goals and targets of the SDGs* through measures to realize the Toyota Environmental Challenge 2050. On the first page of each challenge, relevant goals and targets of the SDGs are described together with action plans and goals of the sixth Toyota Environmental Action Plan for achieving the SDGs.

* Sustainable Development Goals: International goals for the period from 2016 to 2030 set forth in the 2030 Agenda for Sustainable Development adopted at the United Nations General Assembly in September 2015. The SDGs consists of 17 goals and 169 targets.

SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD

Processes to Identify and Implement the Key Challenges (Materiality)

Environmental challenges may involve both business risks and opportunities. It is therefore essential to identify key challenges (materiality) from both risk and opportunity perspectives when formulating a long-term vision. In order to grasp the potential risks and business opportunities, Toyota has collected information, analyzing and identifying environmental challenges from the standpoints of the degree of relevance to stakeholder and the importance for our business.

STEP 1

Organize Medium- to Long-term Issues Based on the Business Environment

We examined a wide range of global trends in collecting and analyzing information. These include scientific predictions for the environment in 2050, global frameworks and policy trends, development in emerging countries, major index from external rating agencies, and world leaders' remarks on environmental issues at G7 Summits. This broad examination provided us with an understanding of macroeconomic trends and important needs of societies, enabling us to organize candidate challenges.

STEP 2

Extract Key Challenges (Materiality)

From the candidate challenges organized in Step 1, we extracted challenges that need to be addressed based on analyses of external affairs obtained through key indicators of ESG investors and research institutions, and communication with stakeholders including international organizations, NGOs, and consumers, while the analyses of internal affairs is based on the Guiding Principles at Toyota, the Toyota Earth Charter, and discussions among concerned internal divisions.

STEP 3

Evaluate and Identify Key Challenges (Materiality)

We conducted two-axis mapping of the challenges extracted in Step 2 from the perspectives of the level of relevance to stakeholders and the risks and potential for creation of new business within Toyota's business activities and prioritized them.

STEP 4

Toyota Environmental Challenge 2050 Formulation, Regular Review of Action Plans, and Information Disclosures

We formulated challenges that are of high relevance to stakeholders and are priorities for Toyota as the Toyota Environmental Challenge 2050 (Six Challenges) and approved by the Corporate Planning Meeting (current "Sustainability Meeting"), which deliberates on Toyota's medium- to long-term strategies. Steady implementation of our challenges requires top management's recognition of environmental initiatives as potential business opportunities and make effective investments, in addition to involving Toyota Group companies as well as strengthening collaboration with our business partners. Accordingly, we will review and evaluate our action plans on a regular basis.

2030 Milestone Set in Order to Achieve the Toyota Environmental Challenge 2050

In September 2018, Toyota announced the 2030 Milestones, indicating the status of the six challenges in 2030, which is one of the medium- to long-term initiatives to achieve the Toyota Environmental Challenge 2050. By setting quantitative and qualitative milestones for each of the challenges, we will be able to promote reductions of the environmental impacts and accelerate activities that have a net positive social impact.
And by establishing it in combination with the Toyota Environmental Action Plan which sets specific action plans and targets for every five-year period, we will clarify value-creation stories for achieving the Toyota Environmental Challenge 2050, further promote activities, and contribute to the realization of a sustainable society.

Toyota Environmental Challenge 2050		2030 Milestone
Challenge 1 New Vehicle Zero CO_2 Emissions Challenge		
Reduce global average CO_2 emissions during operation from new vehicles by 90 percent from Toyota's 2010 global level	Accelerate widespread use of next-generation vehicles to save energy and respond to diverse range of fuels • Accelerate global expansion of electrified vehicles • Joint development of electrified vehicles and establish networks to encourage their widespread adoption	• Make annual global sales of more than 5.5 million electrified vehicles, including more than 1 million zero-emission vehicles (BEVs and FCEVs) The estimate of global average CO_2 emissions reduction in g-CO_2/km from new vehicles will be 35 percent or more, which may vary depending on market conditions, compared to 2010 levels
Challenge 2 Life Cycle Zero CO_2 Emissions Challenge		
Completely eliminate all CO_2 emissions from the entire vehicle life cycle	Reduce CO_2 emissions along the entire vehicle life cycle, from materials production, parts and vehicle manufacturing to driving and disposal stage • Develop and expand use of low-CO_2 emission materials • Promote eco-friendly action throughout the entire value chain	• Reduce CO_2 emissions by 25 percent or more over the entire vehicle life cycle compared to 2013 levels by promoting activities for the milestones of Challenges 1 and 3, and with support from stakeholders such as suppliers, energy providers, infrastructure developers, governments and customers
Challenge 3 Plant Zero CO_2 Emissions Challenge		
Achieve zero CO_2 emissions at all plants by 2050	Promote both the development and introduction of low-CO_2 technologies and daily *kaizen* and the utilization of renewable energy and use of hydrogen, at all production plants • Reduce CO_2 emissions per unit at newly established plants by simplifying and streamlining production processes and taking innovative energy-saving measures • Use renewable energy at all plants	• Reduce CO_2 emissions from all plants by 35 percent compared to 2013 levels
Challenge 4 Challenge of Minimizing and Optimizing Water Usage		
Minimize water usage and implement water discharge management based on individual local conditions	Promote activities from the two perspectives of water volume and water quality • Reduce water usage in existing production processes as well as introducing technologies reducing industrial water usage through rainwater use and improving water recycling rates • Manage water discharge quality by complying with strict standards, improving the local environment by returning clean water for nature	• Implement measures, on a priority basis, in the regions where the water environment is considered to have a large impact <Water quantity> Complete measures at the four Challenge-focused plants in North America, Asia and Southern Africa <Water quality> Complete impact assessments and measures at all of the 22 plants where used water is discharged directly to river in North America, Asia and Europe • Disclose information appropriately and communicating actively with local communities and suppliers
Challenge 5 Challenge of Establishing a Recycling-based Society and Systems		
Promote global deployment of End-of-life vehicle treatment and recycling technologies and systems developed in Japan	Establish a recycling-based society with four key features: use eco-friendly materials; use auto parts longer; develop recycling technologies; and manufacture vehicles from End-of-life vehicles Two global projects started in 2016: • Toyota Global 100 Dismantlers* Project • Toyota Global Car-to-Car Recycle Project	• Complete establishment of battery collection and recycling systems globally • Complete set up of 30 model facilities for appropriate treatment and recycling of End-of-life vehicles
Challenge 6 Challenge of Establishing a Future Society in Harmony with Nature		
Connect nature conservation activities beyond the Toyota Group and its business partners among communities, with the world, to the future	Enhance Toyota's long-standing nature conservation activities promoting harmony with nature, environmental grants, and environmental educations Develop three "connecting" projects started in 2016, sharing our know-how and environmental experiences • Connecting communities: Toyota Green Wave Project • Connecting with the world: Toyota Today for Tomorrow Project • Connecting to the future: Toyota ESD Project	• Realize "Plant in Harmony with Nature"— 12 in Japan and 7 overseas —as well as implement activities promoting harmony with nature in all regions where Toyota is based in collaboration with local communities and companies • Contribute to biodiversity conservation activities in collaboration with NGOs and others • Expand initiatives both in-house and outside to foster environmentally conscious persons responsible for the future

* Dismantlers: Operates dismantling business for vehicles

Think About the Climate Change Effects in 2030 Using Scenario Analysis

The Scenario Analysis Process

To confirm that the 2030 Milestone is a valid and resilient strategy for addressing the effects that climate change will have on Toyota, we conducted scenario analysis by picturing multiple future images in 2030.

The climate scenarios mentioned above were developed by referencing scenarios equivalent to "2°C (2DS)" and "Beyond 2°C (B2DS)" in the International Energy Agency (IEA) reports and others.

STEP 1 Set Future Images Assuming Climate Change Effects

We pictured multiple images of the automobile industry and the mobility society in 2030, by referencing the IEA scenarios and assuming climate change effects.

STEP 2 Consider the Impacts on Toyota

We considered what impacts each of the future images as of 2030 will have on Toyota's business strategies and finances.

STEP 3 Confirm Measures under 2030 Milestone

Based on the impacts that Toyota will have, we confirmed that the 2030 Milestone has sufficient resilience under different climate change scenarios.

STEP 1 Set Future Images Assuming Climate Change Effects

As climate change measures proceeds, there is a possibility that the automobile industry and the entire mobility society will be exposed to substantial changes such as stricter policies including fuel efficiency regulations and the introduction of and increases in carbon pricing as well as advances in technology, and changes in customer awareness. In light of these climate change effects, based on the IEA scenarios and others, we developed multiple future images of 2030 as the external environment that will surround Toyota. With regard to the IEA scenarios, we put focus on the 2°C scenario (2DS) and pictured future images in cases where climate change measures do not progress and where climate change measures progress further (B2DS).

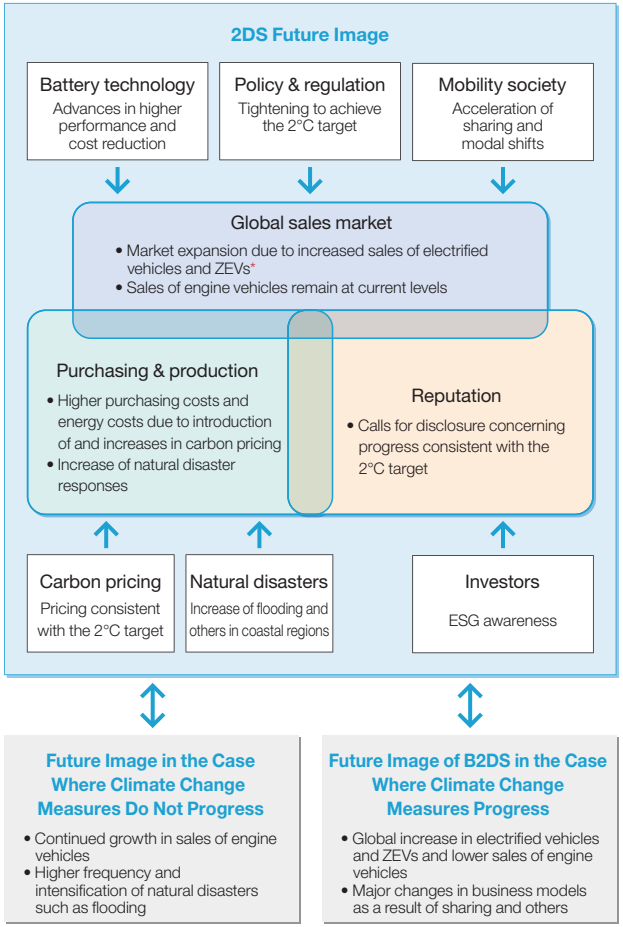
Consider the Impacts of Climate Change

Category	Climate Change Effect on Society
Policy & regulation	Tighter controls on fuel efficiency and ZEVs
	Introduction of and increases in carbon pricing
	Carbon emissions targets and policies in each country
	Subsidy policy for energy-saving, renewable energy, and others (eco-car and ZEV subsidies, reduced taxes)
	Fossil fuel subsidies
Technology	Advances in battery technology and lower prices
	Advances in information and communication technologies such as AI and IoT
	Changes in business models to sharing and others
	Enhance charging and hydrogen infrastructure
Energy	Changes in the energy mix
	Spread of low-cost renewable energy supply systems
	Changes in energy demand
Reputation	Changes in customer environmental awareness
	Changes in ESG awareness by investors
Chronic physical impacts	Sea level rise
	Changes in rainfall and weather patterns
	Increasing average temperatures
Acute physical impacts	Intensification of abnormal weather

↓

Set future images based on highly significant impacts

Future Image in 2030



* Zero Emission Vehicles: Vehicles that do not emit CO_2 at all during operation such as BEVs and FCEVs
* Created by referencing reports from IEA, IPCC and others

STEP 2 Consider the Impacts on Toyota

We considered the impacts on Toyota for each of the future images developed in STEP 1.
No matter what type of society develops in 2030, the global market for the new vehicles will expand, but in a society where climate change measures proceeds further, it is believed that changes to business models will accelerate as a result of sharing and others.
We believe that in such a society, it will be possible to expand CO_2 reduction effects as a result of the use of hybrid electric vehicles (HEVs) and other electrified vehicles including ZEVs in sharing businesses, which are expected to have higher utilization rates compared to private ownership of vehicles. This in turn will lead to increased business opportunities.
With regard to effects on production and purchasing, introduction of and increases in carbon pricing is anticipated in accordance with the global advance of climate change measures, leading to the possibility of higher purchasing and production costs.
On the other hand, in the case where climate change measures are not adequate throughout society, production interruptions and supply chain disruptions are likely to increase as a result of higher frequency and intensification of natural disasters such as flooding.

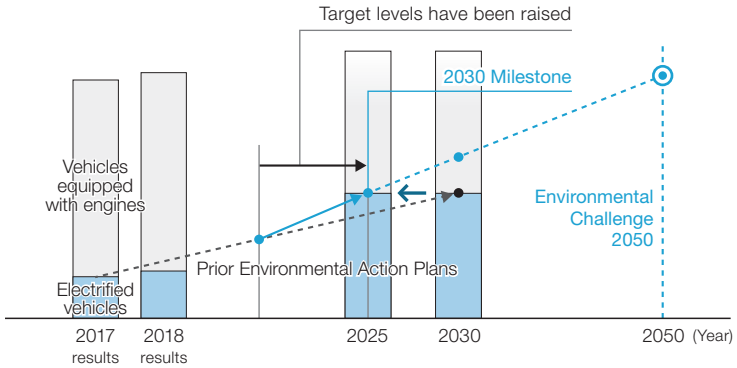
STEP 3 Confirm Measures Under 2030 Milestone

Milestone		
Challenge 1	**Challenge 2**	**Challenge 3**
Electrified vehicle sales: 5.5 million units ZEV sales: 1 million units	Reduce CO_2 emissions by 25% over the entire vehicle life cycle compared to 2013	Reduce CO_2 emission from plants by 35%

The percentages of electrified vehicles and ZEVs in global sales of new vehicles vary considerably depending on the scenario, and in anticipation of these circumstances, it will be important to flexibly consider powertrain lineups and development of mobility businesses.
Under the 2030 Milestone, the percentage of ZEVs will exceed the 2DS level, but will not reach the level necessary to achieve B2DS. However, through the development of HEVs, Toyota has been establishing a mass production base by cultivating the component technologies essential to electrified vehicles. These technologies can also be utilized in ZEVs, and Toyota is capable of making flexible and strategic changes to powertrain lineups according to demand changes. Therefore, Toyota will be able to respond to changes in social demand through advances in its electrified vehicle technologies.

Specific measures relating to electrified vehicle sales targets include the announcement that the projection for achieving the electrified vehicle sales target in the 2030 Milestone has been moved up by approximately five years. Also, Toyota invested in Uber which develops a large sharing business in North America, and is steadily proceeding correspondence to the development of new mobility business including developing automated driving ridesharing.

Raising Action Levels



With regard to the effects on purchasing and production as a result of the introduction of and increases in carbon pricing, we determined that we will be able to respond to the risks of cost increases by steadily implementing initiatives under Challenges 2 and 3.
Going forward, we will continuously confirm that initiatives are adequate based on the progress of Challenges 2 and 3 while confirming trends relating to carbon pricing.
Furthermore, in the case where climate change measures throughout society are not adequate, there may be negative effects on production and purchasing as a result of natural disasters, but we will contribute to climate change measures through our environmental challenge initiatives and consider means of minimizing the impacts on purchasing and production from climate change.
With regard to the ongoing confirmations of the suitability and progress of the 2030 Milestone, we believe that we will have opportunities for stable funding and increase corporate value by enhancing responses to dialogues with institutional investors and other stakeholders as well as various ESG evaluation indicators through appropriate information disclosures.

Summary: FY2019 Review of the Sixth Toyota Environmental Action Plan

Area	FY2019 Results Overview
Low Carbon (Climate Change, CO_2)	**Challenge 1:** By improving environmental performance and expanding vehicle lineups, we reduced global average CO_2 emissions from new vehicles during operation by 14.9 percent compared to 2010. We sold 1.63 million hybrid electric vehicles (HEVs) globally, surpassing our target (1.5 million units per year). Additionally, we began selling two plug-in hybrid electric vehicle (PHEV) models in China, and premiered the CH-R and IZOA battery electric vehicle (BEV) models, planned for launch in 2020, at Auto Shanghai. As for fuel cell electric vehicles (FCEVs), we enhanced our production facility in preparation for increased sales.
	Challenge 2: In the area of product development, we conducted life cycle assessment using Eco-VAS of six vehicle models sold in Japan. In all models, we achieved CO_2 emission levels equivalent to or lower than those of reference vehicles. In the area of logistics, we reduced CO_2 emissions through steady *kaizen* activities (loading efficiency improvement, shortening of logistics routes, and modal shifts).
	Challenge 3: To reduce CO_2 emissions in production, we continued to introduce innovative production technologies into processes that consume a lot of energy, such as painting processes. Furthermore, we are expanding reduction effects globally through *yokoten* of measures especially on adoption of steamless and airless processes and on a shift to LED lighting, as well as best practices in daily *kaizen* activities. We also accelerated global introduction of renewable energy, especially with the goal of achieving 100 percent usage in 2019 in Europe and 2020 in South America.
Recycling (Resources, Water)	**Challenge 4:** To reduce water usage, we comprehensively promoted introduction of reduction technologies and daily water-saving efforts, such as water recycling and reducing the amount of steam used in painting processes. At Challenge-focus plants on reducing water usage, we formulated activity road maps toward the next Environmental Action Plan and began taking actions proactively.
	Challenge 5: In the area of resource recycling, we set up a model facility for properly processing End-of-life vehicles in Vietnam. We also prepared a video manual on large lithium-ion battery removal for PHEVs and distributed it to countries where we have been selling HEVs. In addition, we established battery 3R promotion organizations in four regions (North America, Europe, China, and Asia). In order to further promote plastic recycling, we began studying ways to utilize more recycled plastic first in Europe where the recycled plastic market is large. In the area of production, we are continuing to implement daily waste-reduction measures, such as converting grinding dust into a valuable material by reducing its water content. In the area of logistics, we introduced simplified and returnable packaging and wrapping materials, steadily reducing the waste generated and the material used in packaging and wrapping.
Harmony with Nature	**Challenge 6:** In the Toyota Green Wave Project, as the first step of the Plant in Harmony with Nature, we opened a new biotope at the Tsutsumi Plant under cooperation from the local residents and experts, and established an activity structure based on an indicator species survey. In the Toyota Today for Tomorrow Project, we continued collaboration toward biodiversity conservation by jointly hosting a side event with the International Union for Conservation of Nature (IUCN) at an UN conference, and donating vehicles to NGOs involved in survey and conservation initiatives for endangered species. In the Toyota ESD Project, in addition to activities in the existing Toyota Global Environment Month, we introduced a new internal education campaign featuring wildlife and water with the aim of enhancing employee awareness about the environment.
Management	**Environmental Management:** Six minor environmental non-compliance issues occurred. In response to these incidents, we developed preventive measures and implemented comprehensive *yokoten* of these measures. In the area of sales and service, we created and distributed an Environmental Guidebook to dealers in Japan. We also strengthened our environmental initiatives overseas based on regional environmental guidelines. Toyota's Environmental Report 2018 won the Grand Prize in the Environmental Reporting Category at the 22nd Environmental Communication Awards. The investigation of climate-related risks and opportunities based on the 2°C and beyond 2°C scenarios, the logic of the 2030 Milestone to realize the Toyota Environmental Challenge 2050, and other elements were highly evaluated.

FY2019 Review of the Sixth Toyota Environmental Action Plan

✓✓ : Steady progress toward FY2021 target
✓ : Issues exist, but FY2021 target is expected to be met
— : FY2021 target is not expected to be met

	Action Items	Specific Actions and Goals	FY2019 Results	Evaluation	Page
Low Carbon (Climate Change, CO_2)	(1) New Vehicle Zero CO_2 Emissions Challenge				
	1. Develop technologies to achieve the best fuel efficiency performance	• Reduce rate in average CO_2 emissions from new vehicles globally by over 22% from 2010 global level as of 2020 – Develop high-performance powertrain through TNGA and introduce it in steps – Achieve further high-performance development of HEVs and expand their deployment	• Reduced 14.9% in global average CO_2 emissions from new vehicles (Japan, United States, Europe, and China) in 2018 compared to 2010 Development of low-CO_2-emitting engines and transmissions through TNGA made contributions Further improved the environmental performance of HEVs and expanded the product lineup	✓✓	63
	2. Promote development of next-generation vehicles using electric power and widespread adoption according to their features	• HEV: Promote higher performance and expand the lineup to broaden consumer adoption of HEVs, aim to reach annual HEV sales of 1.5 million units and cumulative sales of 15 million units by 2020 • PHEV: Establish PHEV as core electrified vehicle in support of fuel diversification and develop higher-performance PHEVs and promote widespread adoption • BEV: Promote technology development for short-distance purposes in combination with low-carbon traffic systems • FCEV: Promote activities to further reduce cost, achieve greater compactness and durability, and strengthen product appeal toward effective use of hydrogen as an important future energy source	• HEV: Sales in 2018 were 1.63 million units, and cumulative sales reached 13.53 million units (including PHEV) • PHEV: Launched Corolla/Levin PHEV models in China • BEV: Accelerated development for the full-scale introduction of mass production BEVs developed in-house, initially in China in 2020 The lineup will be expanded to more than 10 vehicle models in the first half of the 2020s • FCEV: Expanded and improved fuel cell stack and high-pressure hydrogen tank production facilities in preparation for FCEV sales expansion starting around 2020	✓✓	61
	(2) Life Cycle Zero CO_2 Emissions Challenge				
	3. Promote environmental management for product development (Eco-VAS)	• Steadily promote environmental target management using vehicle environmental assessment (Eco-VAS) at the development stage – Reduce life cycle environmental impact or both fully redesigned models and new models compared with previous models – Disclose assessment results properly to customers on website and in product catalogues	• Conducted assessment using Eco-VAS for five new and redesigned models and one partially redesigned model in Japan Life cycle CO_2 emissions of all assessed models were equivalent to or lower than their reference vehicles (CO_2 emissions from the Corolla Sport HEV models were cut by 6% compared to the 2016 HEV models of the same class)	✓✓	64
	4. Study practical use development of catalyst technology-based CO_2 absorption and new material creation (artificial photosynthesis, etc.)	• Develop artificial photosynthesis technologies from CO_2, water, and solar power – Complete basic verification tests for creation of primary CO_2-absorbing material (material or fuel) using the world's most efficient photosynthetic unit in 2020	• Technology for artificial photosynthesis that uses low-cost iron, silicon, and manganese as catalysts achieved conversion efficiency equal to that of conventional technology using precious metals	✓✓	—
	5. Pursuing Transportation Efficiency and Reducing CO_2 Emissions in Logistics Activities	• Promote CO_2 reduction activities by further improving transportation efficiency (take comprehensive measures to reduce total distance travelled and promote further modal shift) Region: Japan; Item: Total emissions; Base year: FY1991; Target (FY2021): 25% reduction Region: Japan; Item: Emissions per transportation volume; Base year: FY2007; Target (FY2021): 14% reduction (1% reduction per year) Region: Overseas; Measured performance	• Conducted *kaizen* activities (loading efficiency improvement, shortened transportation routes, and modal shifts) and reduced CO_2 as indicated below: Region: Japan; Item: Total emissions; Base year: FY1991; FY2019 results: 35% reduction Region: Japan; Item: Emissions per transportation volume; Base year: FY2007; FY2019 results: 20% reduction Region: Overseas; Measured performance	✓✓	66
	6. Contribute to local communities through the expansion of local grid energy management technologies	• Establish micro-grid (F-grid) and regional optimal energy management technology and promote domestic and overseas rollout – Verify the tests in Ohira-mura project in Tohoku and Motomachi Plant project in Toyota City – Deploy technologies at other plants in Japan and countries in Asia, etc.	• Promoted all projects as planned – Ohira-mura project in Tohoku (F-grid): 21% energy saving and 25% CO_2 reduction after introduction of the technology – Motomachi Plant project in Toyota City: Completed NEDO demonstration project Continuously develop practical application of chemical thermal storage technology – Investigation of *yokoten* in both Japan and overseas: Continued the collection of information (on installation conditions, laws and regulations, etc.)	✓✓	—
	7. Promote an integrated approach to reduce CO_2 emissions in road traffic sectors	• Contribute to realization of smart mobility society through IT and ITS technologies – Based on the verification tests results of next-generation transportation system Ha:mo in Japan and France, which we use ultra-compact BEVs, aim to deploy technologies in other regions and establish business models, considering the Olympic and Paralympic Games Tokyo 2020	• Continued verification tests of Ha:mo in Tokyo, Toyota City, and Okinawa Prefecture with a viewpoint of business feasibility, and started verification tests in Bangkok, Hagi City, and Izumo City	✓✓	—
		• Actively participate in integrated traffic flow improvement project for establishment of a low-carbon mobility society – Establish WBCSD/SMP 2.0 Sathorn Model and formulate roadmap for Bangkok rollout	• Continued discussions with relevant Thai ministries and agencies for rollout of the Sathorn Model in Bangkok	✓✓	
		• Promote adoption of eco-driving globally – Promote eco-driving globally among customers and employees	• Provided a self-diagnosis service for eco-driving to drivers of vehicles equipped with T-Connect • In conjunction with Eco Driving Month in November designated by the Japanese government, created posters featuring Toyota athletes for internal education to address the key points of eco-driving in an impressive manner	✓✓	65

	Action Items	Specific Actions and Goals	FY2019 Results	Evaluation	Page
Low Carbon (Climate Change, CO_2)	(3) Plant Zero CO_2 Emissions Challenge				
	8. Reduce CO_2 Emissions in Production Activities	• Promote activities to reduce CO_2 emissions through the development and deployment of low-CO_2 production technologies and daily *kaizen* – Pursue further productivity and include offices and other sites in rollout of activities • Utilize clean energies in accordance with the particular conditions of each country and region – Promote introduction in stages toward FY2021 • Manage greenhouse gases from sources other than energy sources <table><tr><th>Region</th><th>Item</th><th>Base year</th><th>Target (FY2021)</th></tr><tr><td>Global*</td><td>Emissions per vehicle</td><td>FY2002</td><td>39% reduction</td></tr><tr><td>TMC</td><td>Emissions per vehicle</td><td>FY2002</td><td>48% reduction</td></tr><tr><td>TMC</td><td>Total emissions</td><td>1990</td><td>28% reduction</td></tr><tr><td>Overseas</td><td colspan="3">Promote regional No. 1 reduction activities</td></tr></table>* TMC + worldwide consolidated subsidiaries (manufacturing)	• Promoted development of low-CO_2 production technologies and steadily introduced developed technologies • Globally conducted *yokoten* of daily *kaizen* practices through shop-oriented environmental activities and accelerated CO_2 reduction activities • Purchased renewable energy and increased in-house power generation by installing solar panels <table><tr><th>Region</th><th>Item</th><th>Base year</th><th>FY2019 results</th></tr><tr><td>Global</td><td>Emissions per vehicle</td><td>FY2002</td><td>37% reduction</td></tr><tr><td>TMC</td><td>Emissions per vehicle</td><td>FY2002</td><td>46% reduction</td></tr><tr><td>TMC</td><td>Total emissions</td><td>1990</td><td>47% reduction</td></tr><tr><td>Overseas</td><td colspan="3">Implemented reduction scenarios that match local situations</td></tr></table>	✓✓	68
Recycling (Resources, Water)	(4) Challenge of Minimizing and Optimizing Water Usage				
	9. Reduce water usage in production activities	• Promote continual activities to reduce water usage in consideration of water environment in each country and region – Introduce innovative initiatives linked with planning of new plants and production line reforms – Reduce water usage through daily *kaizen* and other activities <table><tr><th>Region</th><th>Item</th><th>Base year</th><th>Target (FY2021)</th></tr><tr><td>TMC (vehicle plants)</td><td>Usage per vehicle</td><td>FY2002</td><td>12% reduction</td></tr><tr><td>Overseas</td><td colspan="3">Promote regional No. 1 reduction activities</td></tr></table>	• Reduced water usage by reusing wastewater used in painting processes and over-achieved the goals <table><tr><th>Region</th><th>Item</th><th>Base year</th><th>FY2019 results</th></tr><tr><td>TMC (vehicle plants)</td><td>Usage per vehicle</td><td>FY2002</td><td>23% reduction</td></tr><tr><td>Overseas</td><td colspan="3">Implemented reduction activities according to local water conditions</td></tr></table>	✓✓	76
	(5) Challenge of Establishing a Recycling-based Society and Systems				
	10. Reduce consumption of dwindling natural resources through use of renewable resources and recycled materials	• Reduce the use of petroleum-derived plastics – Develop technology for recycled plastics and eco-plastics meeting quality and performance requirements – Establish collection systems for used plastics • Promote reuse of rare resources and use of recycled materials – Develop CFRP recycling technologies – Develop technologies for recycling and reducing use of rare earth materials	• Reduced the usage of petroleum-derived plastics – Studied ways to utilize more recycled plastic first in Europe where the recycled plastic market is large – Continued to collect and recycle End-of-life bumpers generated through repair work at Toyota dealers; efforts to enhance the efficiency of the scheme in order to reduce costs are underway • Promoted reuse of rare resources and use of recycled materials – Continued developing technologies for recycling CFRP materials (carbon fiber separation, recovery, and resinification) Joint development partners displayed carbon fiber separation and recovery technologies at exhibitions – Continued developing technologies that can reduce the amount of rare earth metals used in HEV motor magnets while maintaining motor performance	✓	77
	11. Achieve industry-leading levels in easy-to-dismantle design for effective resource recycling	• Maintain and improve industry-leading levels for easy-to-dismantle design – Integrate reliable easy-to-dismantle designs into all models including next-generation vehicles (BEV, FCEV) and smart mobility vehicles – Develop and integrate easy-to-dismantle designs into new technologies and new materials parts	• Took the following initiatives: – Continued to apply easy-to-dismantle designs to newly developed vehicles such as the Century, Crown, Corolla Sport, and Lexus ES and UX – Developed techniques for the efficient extraction of hydrogen gas from FCEVs and conducted demonstrations for dismantling operators Developed low-cost gas extraction tools and currently preparing for market launch	✓✓	79
	12. Contribute worldwide through End-of-life vehicle treatment and recycling technology developed in Japan	• Deploy proper End-of-life vehicles treatment technology overseas in accordance with conditions in each country and region – Conduct proper End-of-life vehicle treatment in accordance with local End-of-life recycling laws, while enhance initiatives in countries and regions where laws are expected to be introduced, based on the guidance – Establish 100 of proper model End-of-life vehicle treatment facilities (7 sites by 2020)	• Prepared a video manual on large lithium-ion battery removal for PHEVs • Completed a model facility in Vietnam	✓✓	80
	13. Expand original recycling systems for End-of-life vehicles worldwide	• Promote advanced development of Toyota's original recycling technologies and provide support overseas Japan – Enhance technologies for remanufacturing and recycling nickel-metal-hydride batteries (lowering cost) and provide support overseas – Establish technologies for remanufacturing and recycling lithium-ion batteries and provide support overseas – Practical use of recycling wiring harnesses in Japan (expand scale of operations) – Practical use of recycling magnets in Japan (expand scale of operations) – Develop power generation and storage systems using HEV units – Study and set goals for bumper collection and recycling technologies in major regions overseas	• Took the following initiatives: – Since the launch of the first-generation Prius in FY1998, collected a cumulative total of 132,000 batteries from End-of-life vehicles for reuse and recycling – Continued high-priority promotion of remanufacturing and reuse of batteries, including stationary storage use – Established battery 3R promotion organizations in North America, Europe, China, and Thailand, focusing on activities in Asia (Thailand) and Europe, with plans to expand to other countries and regions in the future – Continued to extract rare earths from collected magnets for recycling and reuse as magnetic materials and so on; since FY2013, collected and recycled a cumulative 41 tons of magnets – Continued investigation of large-capacity storage battery systems in cooperation with an electric power company and began investigation of storage battery systems for stores in cooperation with a major convenience store operator	✓✓	81

<table>
<tr><th></th><th>Action Items</th><th>Specific Actions and Goals</th><th>FY2019 Results</th><th>Evaluation</th><th>Page</th></tr>
<tr><td rowspan="3">Recycling (Resources, Water)</td><td colspan="5">(5) Challenge of Establishing a Recycling-based Society and Systems</td></tr>
<tr><td>14. Reduce waste and use resources efficiently in production activities</td><td>• Promote activities to reduce waste through development and deployment of waste reduction-oriented production technologies and daily kaizen
– Promote waste reduction and efficient use of resources through improving yields and other source-oriented measures
– Promote activities to reduce resources loss by reducing amounts of valuables and waste generated
• Promote activities to reduce metal scrap generation and implement All-Toyota campaigns to effectively use resources internally
<table><tr><th colspan="2">Scope</th><th>Region</th><th>Item</th><th>Base year</th><th>Target (FY2021)</th></tr><tr><td rowspan="5">Waste</td><td>Valuables</td><td>Japan[2]</td><td>Total volume generated</td><td colspan="2">Promote activities to reduce metal scrap generation and implement All-Toyota campaigns to effectively use resources internally</td></tr><tr><td rowspan="4">Waste[1]</td><td rowspan="2">Japan</td><td>Waste volume generated per vehicle</td><td>FY2002</td><td>35% reduction</td></tr><tr><td colspan="3">Zero landfill waste[3]</td></tr><tr><td>TMC</td><td>Waste volume generated per vehicle</td><td>FY2002</td><td>63% reduction</td></tr><tr><td colspan="2">Overseas</td><td colspan="3">Promote regional No. 1 reduction activities</td></tr></table>
1 Waste at cost, incinerated waste, and landfill waste
2 TMC + worldwide consolidated subsidiaries (manufacturing)
3 Zero means direct landfill waste equal to 1% or less the amount generated in FY1996</td><td>• Converted valuable material by reducing the water content of grinding dust and reduced the volume of waste steadily
<table><tr><th colspan="2">Scope</th><th>Region</th><th>Item</th><th>Base year</th><th>FY2019 results</th></tr><tr><td rowspan="5">Waste</td><td>Valuables</td><td>Japan</td><td>Total volume generated</td><td colspan="2">Promoted yield improvement and reliably collected scrap materials</td></tr><tr><td rowspan="4">Waste</td><td rowspan="2">Japan</td><td>Waste volume generated per vehicle</td><td>FY2002</td><td>33% reduction</td></tr><tr><td colspan="3">Zero landfill waste</td></tr><tr><td>TMC</td><td>Waste volume generated per vehicle</td><td>FY2002</td><td>62% reduction</td></tr><tr><td colspan="2">Overseas</td><td colspan="3">Promoted various activities, such as reuse</td></tr></table></td><td>✓✓</td><td>81</td></tr>
<tr><td>15. Reduce packaging and wrapping materials and using resources efficiently in logistics activities</td><td>• Promote kaizen with a focus on increasing use of returnable containers and reducing the amount of wrapping material
(Japan) Continue kaizen at conventional level (down 14% from FY2007)
(Overseas) Assess best practices</td><td>• Took the following initiatives:
(Japan) Reduced 35% compared to 2006 by continuously reducing wrapping materials
(Overseas) Assessed best practices</td><td>✓✓</td><td>82</td></tr>
<tr><td rowspan="3">Harmony with Nature</td><td colspan="5">(6) Challenge of Establishing a Future Society in Harmony with Nature</td></tr>
<tr><td>16. Promote expansion of nature conservation activities Connecting Communities</td><td>• Toyota Green Wave Project—an initiative to connect with local communities through the various activities undertaken by all Toyota companies and their global affiliates to conserve the natural environment
– Continue the currently sustainable plant activity and simultaneously expand the various activities of all Toyota Group companies to overseas subsidiaries, affiliates and local communities and expand the reach of activities in partnership with stakeholders</td><td>• Continued activities by All-Toyota Harmony with Nature Working Groups at group and other companies (22 companies)
(Activities to Connect Communities)
– The number of activities by participating companies were expanded to 248 (up 14% year on year) and the cumulative number of participants exceeded to 135,000
– Held a joint event in May 2018 and a biotope joint study in September, strengthening group collaboration
– Two new projects were started (Kinuura Bay little tern conservation and maintenance of Izunuma walking trail in the Northeast Japan area)
(Enhancement of awareness)
– Launched a dedicated website for public in June 2018 to raise further awareness
• Commenced “Plant in Harmony with Nature” activities
– Established an implementation organization for indicator species surveys conducted by employees at a model plant in Japan (Tsutsumi Plant)
Opened a new biotope in October 2018 and won the Biotope Grand Prize at the 11th Biotope Recognition Event
– Started ecosystem monitoring at the Teiho Plant in cooperation with local residents and various experts
• A Thailand-based affiliate launched a Harmony with Nature Working Group with Toyota Group companies in Thailand and conducted tree-planting events and others</td><td>✓✓</td><td>83</td></tr>
<tr><td>17. Boost grant for environmental activities Connecting with the World</td><td>• Connect environmental and biodiversity conservation activities to the world through grants for those activities
– Toyota Today for Tomorrow Project –
– Strengthen grants for projects helping to solve environmental issues as a means to prioritize the area of environment among social contribution activities. Collaborate with global organizations and stakeholders to provide new value and extend the circle of activities globally</td><td>• Built cooperative relationships with international organizations and NGOs as described below and received positive feedback, in particular from government officials, experts, and NGOs
– Conducted the following activities in collaboration with the International Union for Conservation of Nature (IUCN):
• Improved the IUCN website, increasing data on the status of biodiversity conservation
• Jointly organized a side event at the Convention on Biological Diversity’s 14th Conference of the Parties (COP14) (held in November 2018)
– As a part of its support for the Red List Project, donated vehicles to BirdLife International and Conservation International and held a presentation ceremony at COP14
– Took measures to protect endangered wildlife and conducted patrols to prevent illegal logging as a part of the WWF Living Asian Forest Project
• Continued the Toyota Environmental Activities Grant Program to support small- and medium-size NGOs and NPOs</td><td>✓✓</td><td>86</td></tr>
</table>

	Action Items	Specific Actions and Goals	FY2019 Results	Evaluation	Page
Harmony with Nature	(6) Challenge of Establishing a Future Society in Harmony with Nature				
	18. Boost contribution to environmental education "Connecting environmental activities to the future"	• Toyota ESD Project—an initiative to strengthen environmental education using regional work sites and company property, and thereby connect environmental conservation activities to the future – Globally expand education of local residents and children utilizing forests and green biotopes at plants, and so on – Promote development of educational programs taking advantage of the special characteristics of company-owned land (The Toyota Shirakawa-Go Eco-Institute, Forest of Toyota, Miyagawa Forest in Mie Prefecture, etc.) and promote human resources development to connect to the future	• Took the following initiatives: (Employee education) – Same as No. 25 (Forest of Toyota) – Held hands-on nature programs for local elementary school children (5,155 children in FY2019) – In July 2018, hosted an education event to plan and implement an observation tour featuring dragonflies as a part of a series of programs to learn about the living creatures of satoyama (Toyota Shirakawa-Go Eco-Institute) – Provided hands-on nature programs for children and adults; the total number of people staying at Shirakawa-Go in FY2019 was 15,480, and 10,113 people participated in institute programs during the year. – The SDGs Education Forum in Toyota Shirakawa-Go Eco-Institute was held in November 2018 as an activity to enhance the value of the eco-institute	✓✓	88
	19. Promote environmental contributions through biotechnology and afforestation business automotive peripheral technologies, and forest conservation activities	• Respond to environmental issues with biotechnology – Promote cellulose ethanol development by further improvement of yeast ferment capacity – Contribute natural capital creation by applying to the area of agriculture and farming biomass business • Contribute to "Adaptation" in climate change through urban greening business and group owned technology – Respond to heat island (dissemination of wall greening; high efficient shading paint)	• Promoted initiatives in the area of biomass – Promoted development of yeast with the world's leading ethanol productivity and biomass (Napier grass and sugarcane) that is resistant to environment changes such as climate change. – Using the above, promoted ethanol production from biomass that does not compete with food and feed supply in North America and Indonesia • Promoted initiatives in the area of urban greening – Promoted installation of green building materials (smart green walls) mainly at TMC plants* * Business was transferred to Oshima Landscape Construction Co., Ltd. in July 2019	✓✓	89
		• Establish a model to use resources effectively in Forestry in Miyagawa, Mie Prefecture • Realize a sustainable technical center in harmony with nature and local communities at the new research and development facility currently in the planning stage	• Toyota Mie Miyagawa Mountain Forest – For the "Forest Challenge and Development Project", which seeks to create new utilization of trees and forests, the selected projects started activities in April 2018 to promote reinvigoration of local communities and forests • New Toyota R&D Center – Continued steady environmental conservation activities and surveys at the development site and reported the results to the Environment Monitoring Committee (twice annually) – Worked with experts to continue activities to conserve wild birds, which are declining in number in Aichi Prefecture Since the start of site preparation, nesting by Japanese night herons was confirmed at the business site for the first time	✓✓	
Management	Environmental Management				
	20. Strengthen consolidated environmental management	• Enhance activities of various environmental committees to improve environmental management activities and ensure superior environmental performance (CO_2, water, etc.) across all business activities in countries and regions around the world	• Took the following initiatives: (Japan) – Held the "All-Toyota Production Environment Conference and Liaison Committee (Executives' Meeting)" to discuss Toyota Group initiatives in the area of production and logistics (Overseas) – Held the "Global Environment Meeting" with those responsible for environmental matters (general manager level) from all six overseas regions, and discussed the promotion of challenges 3 and 4 in 2018 – Held the "Environment Strategy Meeting" with those responsible for environmental matters (executive level) from the four major regions (North America, Europe, China, Asia) and TMC and discussed medium- to long-term global environmental strategies – Held the seventh Global ECO. Awards to promote environmental *kaizen* activities in the area of production and logistics and conducted *yokoten* of best *kaizen* practices	✓✓	92
		• Thoroughly comply with environmental laws and regulations and strengthen proactive prevention measures for environmental risks	• Took the following initiatives: – Held seminars targeting those responsible for environmental initiatives at Toyota Group companies in Japan – Six environmental non-compliance issues among the environmental management companies (five in Japan and one overseas) All were minor non-compliance issues and complaints, and corrective measures and *yokoten* were completed	✓	
		• Improve chemical substance management by carefully monitoring legal trends in each country and region	• Deployed chemical substance management globally – Complied with Toyota internal rules – Evaluated and improved chemical substance management systems by auditing and investigating suppliers' processes	✓✓	

	Action Items	Specific Actions and Goals	FY2019 Results	Evaluation	Page
Management	Environmental Management				
	21. Reduce vehicle exhaust emissions to improve urban air quality in each country and region	• Steadily introduce low-emissions vehicles to improve urban air quality in each country and region • Contribute to air quality improvement through air quality research in collaboration with research organizations in each country	• In response to stricter emissions regulations intended to improve the urban environment in various countries and regions, steadily introduced vehicles that satisfy those regulations	✓✓	93
	22. Reduce VOC emissions in production activities	• Develop and deploy VOC emissions reduction technologies through reduced usage of paint and thinners in painting processes – Promote continual reduction in VOC emissions through initiatives linked to painting equipment upgrade plans as well as daily *kaizen* Scope / Region / Item / Target (FY2021) Vehicle body painting / Japan* / Emissions volume per area painted / 26 g/m² or less (average for all lines) Vehicle body painting / TMC / Emissions volume per area painted / 19 g/m² or less (average for all lines) Vehicle body painting / Overseas / Promote regional No. 1 reduction activities Bumper painting / TMC / Emissions volume per area painted / 310 g/m² or less (average for all lines) Other painting / Japan/overseas / Promote VOC emissions reduction activities * TMC + consolidated subsidiaries in Japan (manufacturing)	• Continued efforts to reduce the use of cleaning solvents and to increase the percentage of waste solvent recovery Scope / Region / Item / FY2019 results Vehicle body painting / Japan / Emissions volume per area painted / 21.5 g/m² Vehicle body painting / TMC / Emissions volume per area painted / 15.0 g/m² Vehicle body painting / Overseas / Promoted coating efficiency improvement and others Bumper painting / TMC / Emissions volume per area painted / 176 g/m² Other painting / Japan/overseas / Promoted painting condition optimization and others	✓✓	
	23. Promote environmental activities in cooperation with business partners (suppliers)	• Reinforce cooperation with suppliers to further promote environmental activities globally – Ensure compliance with each country's laws and regulations while steadily promoting chemical substance management – Pursue cooperative environmental activities in a broad range of areas, including CO_2 emissions reduction, resource recycling, water impact reductions, and the establishment of societies in harmony with nature	• Took the following initiatives: – Continued to request activities based on the revised TOYOTA Green Purchasing Guidelines (at 36 affiliates in 15 countries) – Updated self-assessment check list for domestic suppliers to ensure thorough chemical substance management Promoted measures to utilize the self-assessment results in future activities Conducted *yokoten* of such activities to major overseas affiliates – Engaged in interactive communications through the CDP Supply Chain Program (climate change and water) such as briefing sessions for participating suppliers – Started study sessions on environment topics at Kyohokai (a supplier organization) – Continued commendation of suppliers that made substantial contributions to environmental initiatives	✓✓	
	24. Promote environmental activities in cooperation with business partners (dealers and distributors)	• Promote environmental management in cooperation with dealers and distributors (Japan) – Promote environmental activities by adhering closely to the Toyota Dealer CSR Checklist and promote CO_2 emissions reduction, etc., by improving environmental management (Overseas) – Promote and strengthen environmental activities led by each regional headquarters and distributor in each country (CO_2 reduction, etc.) – Promote and strengthen Dealer Environmental Risk Audit Program	• Took the following initiatives: (Japan) – Promoted enhancement of environmental management of dealers including reduction of CO_2 emissions by updating the check items under the Toyota Dealer CSR Checklist – Prepared the environmental guidebook in May 2019 to expand the policy for environmental activities to dealers (Overseas) – Reinforced environmental initiatives including CO_2 reductions based on environmental guidelines prepared in each region – 99 distributors and 4,506 dealers from 96 countries worldwide participated in the Dealer Environmental Risk Audit Program, and 96% of participating dealers satisfied all 5 audit requirements (up 1% year on year)	✓✓	94
	25. Bolster global employee education and awareness activities	• Raise awareness of environmental conservation through global environmental education among employees – Systemize environmental education programs conducted in cooperation with consolidated affiliates – Conduct environmental education in accordance with situations in each country and region	• Took the following initiatives: – Conducted environmental educations for employees around the world, during the Toyota Global Environmental Month Conducted education using internal digital signage and the intranet, reimbursed Eco Test fees, and others in Japan – Conducted Toyota Saves the Wildlife Campaign (September 2018) and the Water Week Campaign (March 2019) other than the Toyota Environment Month to raise environmental awareness throughout the year – Continued environmental lectures conducted by outside speakers, environmental seminars for employees, and environmental education for new employees	✓✓	95
	26. Enhance active disclosure of environmental information and communication	• Enhance environmental information disclosures – Expand business organizations subject to collection of environmental information, and creation of the system – Further enhance "Environmental Report" contents • Further enhance environmental communications activities in each country and region globally	• Took the following initiatives: – Our Environmental Report 2018 won the Grand Prize in the Environmental Reporting Category of the 22nd Environmental Communication Awards by high evaluation of the logic of the 2030 Milestone indicating the suitability of the Toyota Environmental Challenge 2050, investigation of climate-related risks and opportunities based on the 2°C and beyond 2°C scenarios, and others – Continued to produce and publicly release "econohito" videos effectively spotlighting employees who are working on the Toyota Environmental Challenge 2050 – Produced videos introducing the Environmental Challenge 2050 and the Toyota Global Today for Tomorrow Project, posted them on websites and social media, and shared them with overseas affiliates – Became signatory to the Task Force on Climate-related Financial Disclosures recommendations for appropriate climate-related information disclosures (April 2019)	✓✓	96

Challenge 1 New Vehicle Zero CO_2 Emissions Challenge

Fundamental Approach

Extreme weather phenomena around the world are wreaking havoc on society, attesting to the reality of global warming. If adequate measures are not taken, the harm will become even more severe, and the risks of global-scale damage have been pointed out. Under these circumstances, the Paris Agreement, which came into effect in 2016, sets long-term goals to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

As the world is moving toward the realization of the beyond 2°C scenario, Toyota sees this situation as both a risk and an opportunity and announced the "New Vehicle Zero CO_2 Challenge." Toyota will strive to slash average CO_2 emissions per vehicle by 90 percent in comparison with 2010 levels, by 2050.

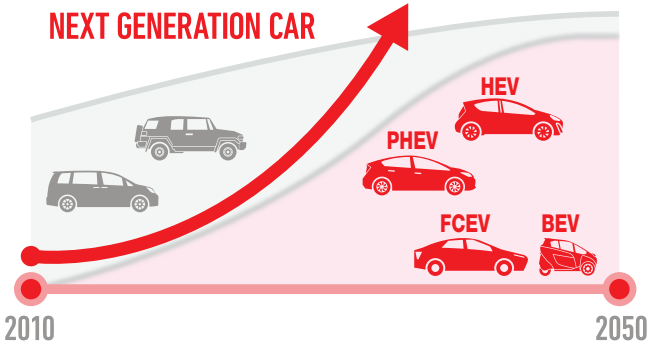
Based on the idea that eco-friendly vehicles contribute to society only when they come into widespread use, we are not only deploying technologies for conventional engine vehicles, but also accelerating advances in technology and its widespread adoption for the electrified vehicles that Toyota has been developing (including hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs), battery electric vehicles (BEVs), and fuel cell electric vehicles (FCEVs)).

Toyota is committed to continue working hand in hand with stakeholders to build the necessary infrastructure that supports the widespread adoption of these vehicles.

Through these initiatives, we will contribute to achieving SDG 7.3 (improvement in energy efficiency) and 13.1 (reduction of CO_2).

Related SDGs

Target	7.3 (improvement in energy efficiency)	13.1 (reduction of CO_2)
Sixth plan targets and progress	No. 1, 2 (p.56)	No. 1, 2 (p.56)



Promoting Development of Next-generation Vehicles Using Electric Power, and Widespread Use According to Their Features

In order to curb greenhouse gases, we believe that effective vehicle electrification is essential for the efficient use of energy, and encouraging the use of alternative fuels. Since the launch of the Prius, a pioneering electrified vehicle, Toyota has taken the initiative in developing and promoting the widespread use of electrified vehicles based on the belief that eco-friendly vehicles can contribute to the environment only when they come into widespread use.

In December 2017, we announced the challenges toward the popularization of electrified vehicles, which is one of the medium- to long-term initiatives. We aim to achieve global sales of more than 5.5 million electrified vehicles including more than 1 million BEVs and FCEVs, which are ZEVs*, by 2030. We will expand dedicated electrified models and electric options through about 2025 and will have no vehicles available only as an engine model globally.

Starting in 2020, we will accelerate the introduction of BEVs, initially in China, and will expand BEV models to more than 10 in the first half of the decade worldwide.

We will also expand the lineup of FCEVs and PHEVs throughout the 2020s.

With regard to HEVs, we will raise the efficiency of the 2.0-liter Toyota Hybrid System (THS II) while developing various types of hybrid systems such as high-power and simplified versions, expanding the product line-up to meet customer needs.

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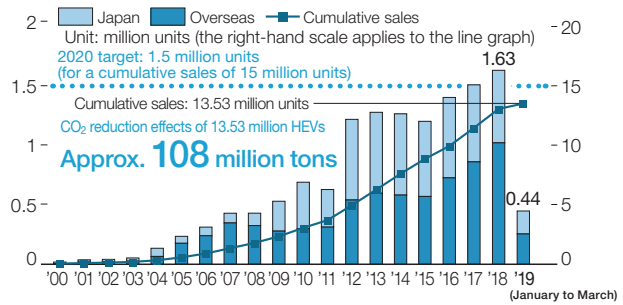
* Zero Emission Vehicles: Vehicles that do not emit CO_2 at all during operation such as BEVs and FCEVs

Annual HEV Sales and Cumulative Sales (Global) Third Party Assurance



Column Accelerating the Widespread Use of Electrified Vehicles (China)

Toyota is reinforcing local development and production systems for electrified vehicle powertrains in China to accelerate the electrification of vehicles.
In April 2019, Toyota premiered the C-HR and IZOA BEV models at Auto Shanghai in China. The C-HR and IZOA BEV models will be the first Toyota brand BEVs to launch in China. Sales are slated to start from 2020.
Also, Toyota's other booth exhibited a variety of electrified vehicles, such as HEV variants for the RAV4 and the Alphard/Vellfire, as well as the Corolla/Levin PHEV models, and the RHOMBUS, a BEV concept car.
Sales of the Corolla and Levin PHEV models started in March 2019.
And, by further promoting local production of electric motors, batteries, inverters, and other electrified vehicle core technologies, Toyota aims to further accelerate its vehicle electrification efforts.
As for FCEVs, Toyota has been conducting verification tests with the MIRAI since 2017, and is considering the local introduction of other fuel cell vehicles such as the FC Coaster.

Top: C-HR (BEV); bottom: RHOMBUS

Column Grant Royalty-Free Licenses for Vehicle Electrification Technology Accumulated Through HEV Development

Since 2015, Toyota granted royalty-free licenses based on their belief that it is important to give priority to spurring more widespread use of FCEVs, and therefore believed concerted initiatives with energy companies that are looking to expand hydrogen station infrastructure, and automobile manufacturers that are looking to move forward with FCEV development and market introduction, will be vital.
In April 2019, Toyota decided to grant royalty-free licenses (Toyota holds approximately 23,740 patents worldwide including pending applications) for vehicle electrification-related technologies such as motors, power control units (PCUs), and system controls as a part of its initiative to promote the widespread use of electrified vehicles.
Toyota will also provide technical support to other manufacturers developing and manufacturing electrified vehicles when they utilize Toyota's powertrain systems.
Toyota believes that this new initiative will spur the development and market launch of electrified vehicles globally, contributing to curb global warming by reducing CO_2 emissions.

Motor

PCU

Column Supporting the Olympic and Paralympic Games Tokyo 2020 with Eco-Cars

As a worldwide partner of the Olympic and Paralympic Games Tokyo 2020, Toyota aims to contribute by providing the latest mobility (over 3,000 passenger vehicles for official use), mainly eco-cars, to help achieve low environmental impact Games compared to the recent past Games.

Main Initiatives

- Support transportation services for athletes and affiliated guests around the Athletes' Village with e-Palette, the next-generation BEV, and its driving system
- Provide personal mobility solutions such as the Toyota i-ROAD as well as a standing-riding device to support working staff at the Games, such as security officers
- Toyota will support the Games by providing vehicles for official use, such as Mirai FCEVs, as well as Fuel Cell forklifts made and sold by Toyota Industries Corporation

Top: e-Palette; bottom: Toyota i-ROAD

Column

Expanded and Improved Fuel Cell (FC) Stack and High-Pressure Hydrogen Tank Production Facilities in Preparation for Increased Sales of FCEVs Starting After 2020

Toyota aims global sales of FCEVs, at least 30,000 per year after 2020. Annual sales today is 3,000, and to prepare for this production level toward ten-fold increase, Toyota is expanding production facilities for FC stacks, the core units of FCEVs, and the high-pressure hydrogen tanks that store the hydrogen fuel.
For FC stack production facility, we are constructing a brand-new building at the Honsha Plant. The production of high-pressure hydrogen tanks will be handled by a new, dedicated line added inside the Shimoyama Plant. The new facilities are expected to pursue comprehensive reductions in CO_2 emissions from the production stage as one measure for achieving the Plant Zero CO_2 Emissions Challenge.
Going forward, Toyota will strengthen its FCEVs and FCEV buses product appeal, and also keep working with Toyota Group companies to develop a hydrogen supply infrastructure and construct a low-carbon hydrogen. Through these and other initiatives, company is actively contributing to the realization of a hydrogen-based society.



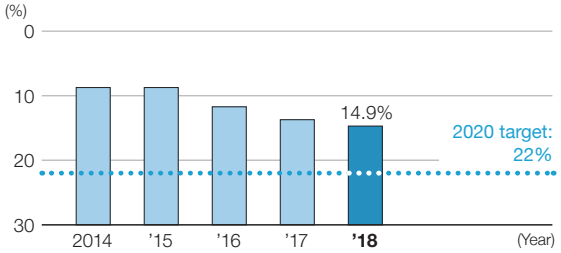
Left: The FC stack production building under construction within the Honsha Plant premises;
right top: FC stack; right bottom: High-pressure hydrogen tank

Developing Technologies to Achieve the Leading Fuel Efficiency Performance

Toyota is committed to reducing the global average CO_2 emissions from new vehicles more than 22 percent by 2020 from the 2010 level to steadily proceed with our challenge. As specific initiatives, we plan to further improve the environmental performance of electrified vehicles and expand their use in line with developing and deploying powertrains with high environmental performance, based on our next-generation platform strategy known as TNGA*.
The Crown was launched in June 2018. The 2.5-liter and 3.5-liter models are dedicated HEV models. The Corolla Sport 1.8-liter model, released on the same month, is also a dedicated HEV model, and the 1.2-liter model with a downsized engine provides exceptional fuel efficiency by adopting an advanced fuel injection system that achieves optimal combustion efficiency.

* Toyota New Global Architecture: Toyota's company-wide global program to structurally transform automobile design. The goal of TNGA is to dramatically improve the basic performance and marketability of Toyota vehicles by reforming and integrally redesigning powertrain components and vehicle platforms.

Global Average CO_2 Emissions from New Vehicles Reduction Rate Versus 2010 (Japan, U.S., Europe, China) Third Party Assurance



- The average CO_2 emissions (g/km) of new vehicles in each year, based on the fuel efficiency value (CO_2 emissions) certified by each national authority

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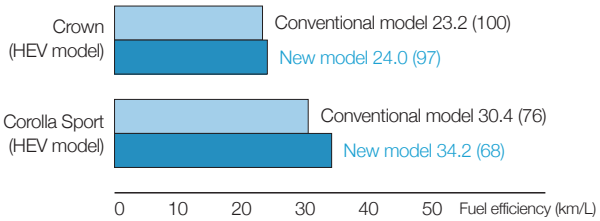
Fuel Efficiency Comparison Between Selected New Models Introduced in FY2019 (in Japan) and Conventional Models



- Fuel efficiency values are based on JC08 test cycle verified by (Ministry of Land, Infrastructure, Transport and Tourism of Japan)
- CO_2 emissions (g/km) in brackets

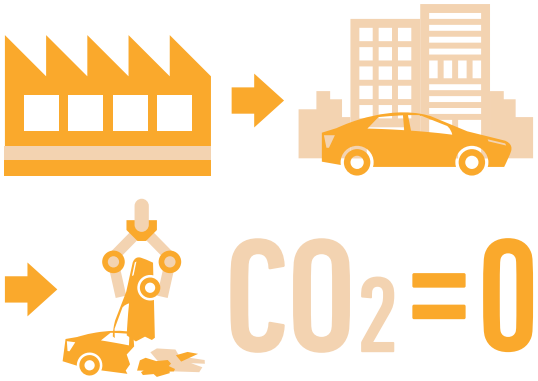
Challenge 2 Life Cycle Zero CO_2 Emissions Challenge

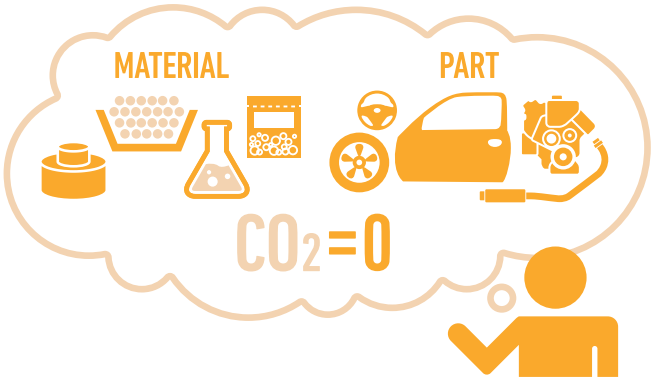
Fundamental Approach

To mitigate the various risks posed by climate change, the "Life Cycle Zero CO_2 Emissions Challenge" seeks to completely eliminate CO_2 emissions not only while driving vehicles, but throughout the entire vehicle life cycle including materials and parts manufacturing and vehicle assembly, maintenance, disposal, and recycling.
Some electrified vehicles may have materials and parts that increase CO_2 emissions in the processes of manufacturing. Possible means of reducing this include adopting low CO_2 emitting materials during manufacturing as well as reducing material usage and the number of parts used. It is possible to reduce CO_2 emissions in the disposal and recycling stages by expanding use of recycled materials and designs that make it easier to dismantle vehicles.
We will accelerate eco-friendly designs as we pursue "ever-better cars."
We will also promote reductions in CO_2 through the efficient use of mobility by providing mobility services and supporting the widespread adoption of eco-driving.
Through these initiatives, we will contribute to achieving SDG 12.8 (sustainable lifestyle) and 13.1 (reduction of CO_2).

Related SDGs

	12	13
Target	12.8 (sustainable lifestyle)	13.1 (reduction of CO_2)
Sixth plan targets and progress	No. 7 (p. 56)	No. 3, 4, 5, 6, 7 (p. 56)





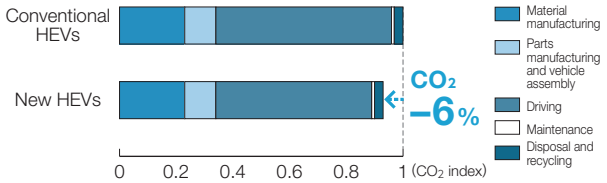
Promoting Environmental Management in Product Development (Eco-VAS)

Steady Promotion of Environmental Target Management

To reduce the environmental impact of its vehicles, Toyota has introduced the Eco-Vehicle Assessment System (Eco-VAS) to set and achieve environmental targets such as life cycle CO_2 and recyclability, under the guidance of the chief engineer, including at the development stage.
In this system, we conduct LCA* which assesses the impact of the vehicle life cycle on the environment at all stages including materials and parts manufacturing, vehicle assembly, driving, maintenance, disposal, and recycling.
In FY2019, we conducted LCA for five new and redesigned models (Century, Corolla Sport, Crown, and Lexus ES and UX) and one partially redesigned model (Probox/Succeed).

* Life Cycle Assessment: A comprehensive technique to assess vehicle's impact on the environment over the entire life cycle from resource mining through to disposal and recycling, by quantifying the impact of each stage

LCA Results of Corolla Sport HEV Models



- Evaluations are based on driving a vehicle in JC08 test cycle (Ministry of Land, Infrastructure, Transport and Tourism of Japan) for a lifetime mileage of 100,000 km (Toyota data)
- LCA assessment results are shown as an index

The LCA that Toyota conducts on its passenger vehicles has been tested and certified by German third-party organization TUV Rheinland based on ISO 14040/14044 standards

Response to Scope 3

Scope 3 is a standard established to measure CO_2 emissions at all stages of a company's business activities and identify areas for future reductions. Scope 3 accounts for not only CO_2 emissions from their activities and those of their consolidated subsidiaries (Scope 1 and Scope 2), but emissions from other stages of the life cycle, such as procured materials and parts, transportation, employee commuting and business travel, along with the driving, maintenance, and disposal of customer vehicles.

The calculation results for FY2019 are overall Scope 3 CO_2 emissions of 414.91 million tons-CO_2, with category 1 and category 11 combined accounting for the bulk of the total, approximately 97 percent. Category 1 covers emissions from materials and parts at the manufacturing stage, while category 11 covers emissions from vehicles driven by customers. Therefore, use of lightweight parts, materials selection, development of fuel efficiency improvement technologies, and next-generation eco-friendly vehicles are important measures that will lead to CO_2 emissions reduction.

Moving forward, we will continue to monitor Scope 3 emissions and utilize the findings to take measures for developing technologies.

CO_2 Emissions Ratio of 15 Categories in Scope 3 (FY2019 Global Basis)

Third Party Assurance

Category	Emissions volume (million tons-CO_2)	Emissions ratio (%)
1. Purchased goods and services	**63.29**	15.3
2. Capital goods	**4.54**	1.1
3. Fuel- and energy-related activities (not included in Scope 1 or 2)	**0.93**	0.2
4. Upstream transportation and distribution	**0.89**	0.2
5. Waste generated in operations	**0.12**	0.0
6. Business travel	**0.15**	0.0
7. Employee commuting	**0.64**	0.2
8. Upstream leased assets	**—**	—
9. Downstream transportation and distribution	**0.01**	0.0
10. Processing of sold products	**1.17**	0.3
11. Use of sold products	**339.25**	81.8
12. End-of-life treatment of sold products	**3.84**	0.9
13. Downstream leased assets	**—**	—
14. Franchises	**—**	—
15. Investments	**0.08**	0.0
Total for categories 1 through 15	**414.91**	100

- The calculation range mainly covers financial consolidated automotive business
- CO_2 emissions from the use of sold products are calculated from the average fuel efficiency and estimated lifetime mileage of vehicles in Japan, U.S., Europe, China; the consolidated number of vehicles sold in FY2019; and the CO_2 emission factor
- Upstream and downstream leased assets are included in the other category, and franchises are not included

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Column

Eco-Driving Supported Through Diagnosis of Driving Tendencies and the Provision of Advice by the Car

The Corolla Sport is a connected car that comes with data communication modules as standard on all grades. By linking the vehicle with the Toyota Smart Center, drivers can receive 24-hour support, and by equipping the T-Connect navigation system, enhanced services can be used. MyTOYOTA for T-Connect is an application used to coordinate with Toyota vehicles equipped with T-Connect/G-BOOK to check the status and driving data of the registered vehicle. The driving diagnosis function makes automatic diagnoses based on customer's driving tendencies, and displays the results from the perspectives of safe driving and eco-driving.

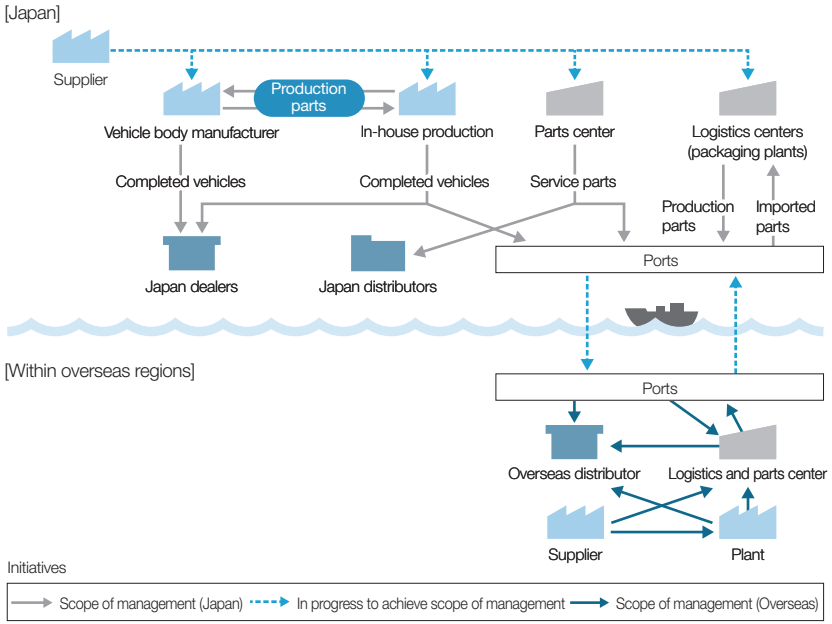
Eco-driving is numerically scored based on four items: accelerator work, brake work, speed maintenance, and idling. Monthly reports provide driving advice and indicate fuel efficiency rankings among users in Japan.

MyTOYOTA for T-Connect eco-diagnosis function

Pursuing Transportation Efficiency and Reducing CO_2 Emissions in Logistics Activities

To reduce CO_2 emissions in its logistics activities, Toyota Motor Corporation (TMC) is taking measures to improve the transportation efficiency of production parts, completed vehicles, and spare parts.
In FY2019, we continued fuel efficiency initiatives, including loading efficiency improvement, shortening logistics routes, modal shifts, and so on, maintaining CO_2 emissions per unit of workload (transportation volume) at 104.2 g-CO_2/tkm (same as the previous year).
CO_2 emissions from logistics operations totaled 0.289 million tons (up 1.0 percent year on year), due largely to an increase in volume in Japan.
At the global level, Toyota began assessing CO_2 emissions in each country and region in FY2008, and indicated global target guidelines starting in FY2014. Based on these guidelines, each country and region set a goal toward which they have been carrying out reduction activities.
As a result, Toyota's global CO_2 emissions in FY2019 totaled 2.20 million tons. We will make a full analysis of results and continuously strive to further improve transportation efficiency and reduce CO_2 emissions per transportation volume.

Scope of Assessment of CO_2 Emissions in Logistics Activities



Trends in CO_2 Emissions per Ton-kilometer (Transportation Volume) from TMC Logistics Operations (Japan)

FY	2015	2016	2017	2018	**2019**
CO_2 emissions from logistics (million tons)	0.278	0.275	0.282	0.286	**0.289**
CO_2 emissions per ton-kilometer (g-CO_2/tkm)	109.6	108.4	105.2	104.2	**104.2**

- CO_2 conversion factors: The CO_2 conversion factors were calculated based on guidelines such as the "Guidelines on Disclosure of CO_2 Emissions from Transportation & Distribution (version 3.0)" issued by Ministry of Economy, Trade and Industry and Ministry of Land, Infrastructure, Transport and Tourism of Japan

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Results of TMC *Kaizen* Initiatives to Reduce CO_2 Emissions (Japan)

Products	Main *kaizen* initiatives	Reduction volume (thousand tons)
Completed vehicles	Increased the use of maritime transportation, reviewed transportation routes, and improved loading efficiency by changing stopover points	2.8
Production parts	Consolidation, elimination, and reorganization of transportation routes	1.1
Service parts	Increased packing efficiency in shipping containers and shortened transportation distances by reviewing stopping points	0.5
Total		4.4

Global Logistics CO_2 Emissions

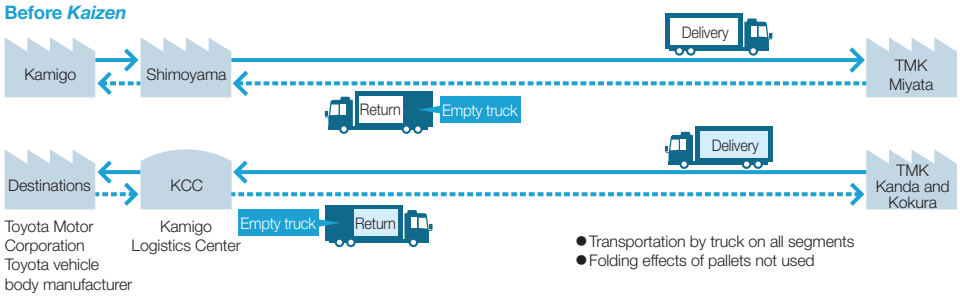
FY	2017	2018	**2019**
CO_2 emissions from logistics (million tons)	2.14	2.17	**2.20**

- Total CO_2 emissions from business that handle logistics in each region (seven regions: North America, Europe, China, Southeast Asia, South Africa, South America, Japan) from delivery of production parts, service parts, and completed vehicles
- Transportation between regions (e.g., Japan to North America) has been excluded from the scope of calculations
- Some production and sales businesses (different to businesses that handle logistics) that directly handle deliveries in North America, China, and Southeast Asia have been excluded from the scope of calculations
- CO_2 emissions have been calculated according to the calculation methods of each business

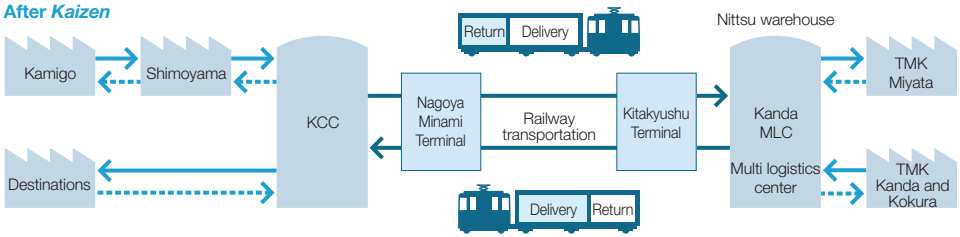
Column Reduction in CO_2 Emissions by Changing the Structure of Kyushu Route

For logistics to Kyushu, engines produced at the Kamigo Plant and Shimoyama Plant in the Toyota Motor Corporation (TMC) Honsha region were transported overland by truck to the Toyota Motor Kyushu, Inc. (TMK) Miyata Plant, but empty pallets were transported on the return trip. Moreover, engines and transaxles produced at TMK's Kanda Plant and Kokura Plant were transported to various TMC plants, and similarly, empty pallets were transported on the return trips.
By focusing on these two examples and reducing the total number of trips made by both companies, CO_2 during transportation was reduced. In addition, previously all transportation was made by truck, but by implementing a modal shift to railway transportation between the Nagoya Minami Terminal and the Kitakyushu Terminal, CO_2 during transportation was reduced even further. Furthermore, the folding effects of pallets were utilized to reduce the total number of transportation trucks from 18 to 13 per day.
As a result of these measures, CO_2 emissions were reduced from 10,052 tons-CO_2 per year to 1,495 tons-CO_2 per year.

Before *Kaizen*



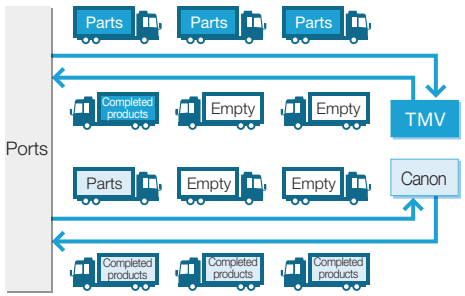
After *Kaizen*



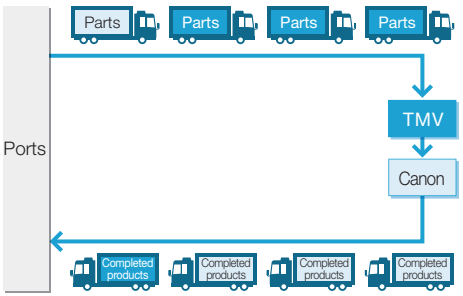
Column CO_2 Emissions Reduction Through Joint Transportation (Vietnam)

TMV, a Vietnam-based affiliate, produces the Corolla, Camry, and other vehicles. Many production parts are transported from overseas by ship and then transported by truck from the port in Vietnam to TMV. Conversely, the completed vehicles produced by TMV are transported by truck to the port and then sent overseas by ship. The number of transportation trucks to transport the parts is greater than that of completed vehicles, resulting in empty space on trucks from TMV to the port.
Meanwhile, Canon Inc. has a nearby plant. Unlike TMV, Canon has few imports but a large volume of exports, and as a result, has empty space on trucks going from the port to the plant. By adjusting their trucking schedules and transporting each other's products in the empty space, TMV and Canon were both able to reduce the number of transportation trucks and cut CO_2 emissions.
As a result of these measures, the distance travelled by trucks was reduced from 205,590 km to 174,630 km per month and monthly CO_2 emissions fell from 125 tons to 106 tons, a reduction of about 15 percent.

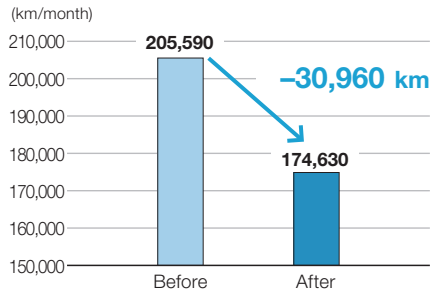
Before *Kaizen*



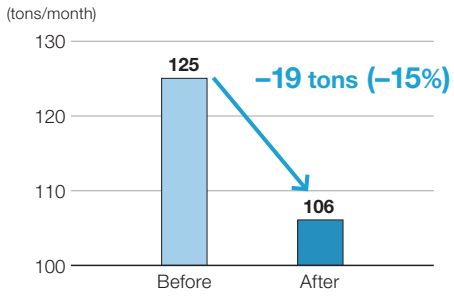
After *Kaizen*



Comparison of travel distances



Comparison of CO_2 Emissions



Challenge 3 Plant Zero CO_2 Emissions Challenge

Fundamental Approach

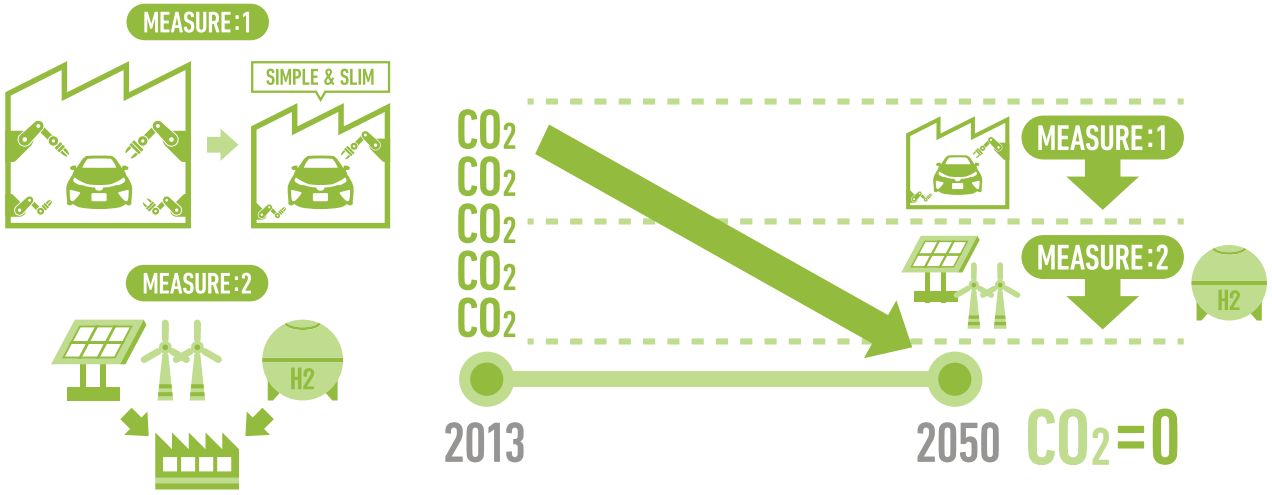
The Plant Zero CO_2 Emissions Challenge seeks zero CO_2 emissions in the vehicle manufacturing process. To achieve this, Toyota will work on both the introduction of innovative technologies and daily *kaizen* and the introduction of renewable energy and utilization of hydrogen.

First of all, processes and the time required were reduced by simplifying and streamlining manufacturing processes, which made an improvement to energy use efficiency, including equipment optimization and the use of waste heat. Furthermore, we use every possible means to reduce CO_2 emissions including introducing an innovative process called *karakuri* that does not consume any energy source at all. In addition, we will effectively utilize renewable energy such as solar power and wind power along with hydrogen energy, and we are committed to continuing working hand in hand with stakeholders to build the necessary infrastructure to support the widespread use of these energy sources.

Through these initiatives, we will contribute to achieving SDG 7.2 (introduction of renewable energy), 7.3 (improvement in energy efficiency), 9.1 (infrastructure development), 9.4 (sustainable production processes), and 13.1 (reduction of CO_2).

Related SDGs

Target	7.2 (introduction of renewable energy) 7.3 (improvement in energy efficiency)	9.1 (infrastructure development) 9.4 (sustainable production processes)	13.1 (reduction of CO_2)
Sixth plan targets and progress	No. 8 (p. 57) No. 8 (p. 57)	— No. 8 (p. 57)	No. 8 (p. 57)



Reduce CO_2 Emissions in Production Activities

Introduction of Innovative Technologies and Daily *Kaizen*

In our production activities, we have been developing and introducing low-CO_2 production technologies along with taking daily improvement measures to achieve our reduction targets.

In FY2019, Toyota Motor Corporation (TMC) plant manufacturing divisions worked with production engineering and drive force personnel to conduct energy diagnoses at production sites, propose improvements, implement measures, and undertake energy-saving activities (internal ESCO activities). In addition, TMC continuously undertook *yokoten** of best practices.

Also, energy-saving effects were achieved by starting to introduce innovative technologies with a focus on painting processes as well as adopting steamless and airless processes and shifting to LED lighting. As a result, we reduced total CO_2 emissions to 1.11 million tons (down 2.9 percent year on year), and CO_2 emissions per unit produced to 0.387 tons (down 1.8 percent year on year).

Globally, there were some overseas affiliates with higher CO_2 emissions as a result of increase in production volumes in conjunction with the installation of new production lines, but CO_2 reductions were accelerated by adopting TMC best-practice in their own business operations. Affiliated companies in Japan conducted study sessions to share know-how on energy-saving activities with vehicle manufacturing companies and parts manufacturers, and that information was reflected in improvements at each company. We also observed other industries and worked to discover new ideas of *kaizen*.

Moreover, CO_2 emissions reduction effects were achieved by actively purchasing renewable energy from regions where an environment for the introduction of renewable energy has been developed, and by installing solar panels to generate in-house power for internal consumption. As a result of these measures, total CO_2 emissions were 7.65 million tons (down 1.8 percent year on year), and CO_2 emissions per unit produced were 0.712 tons (down 3.8 percent year on year).

In order to further reduce CO_2 emissions from production activities, we will continue our energy-saving activities, such as internal ESCO activities and accelerate introduction of innovative technologies.

* *Yokoten* refers to sharing of improvement practices, know-how, non-compliance and other information within the All-Toyota Group

Trends in Total CO_2 Emissions (from Energy Consumption at Stationary Emission Sources) and CO_2 Emissions per Unit Produced at TMC

Third Party Assurance

FY	2015	2016	2017	2018	**2019**
Total CO_2 emissions (million tons)	1.18	1.15	1.16	1.14	**1.11**
CO_2 emissions per unit produced (tons/unit)	0.413	0.408	0.398	0.394	**0.387**

- Scope of coverage: Production and non-production divisions (excluding employee benefit facilities)
- Conversion factors: CO_2 emissions were calculated using the Nippon Keidanren's 1990 conversion factors

Environmental Data p. 102-V

Plant and Work Site Environmental Data

Trends in Global Total CO_2 Emissions (from Energy Consumption at Stationary Emission Sources) and CO_2 Emissions per Unit Produced

Third Party Assurance

FY	2015	2016	2017	2018	**2019**
Total CO_2 emissions (million tons)					
Japan (TMC)	1.25	1.21	1.20	1.19	**1.16**
Japan (consolidated EMS and its subsidiaries)	3.66	3.55	3.57	3.61	**3.62**
North America	1.17	1.13	1.21	1.19	**1.20**
China	0.65	0.69	0.70	0.73	**0.80**
Europe	0.29	0.27	0.30	0.30	**0.24**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	0.77	0.72	0.83	0.77	**0.63**
Total	7.79	7.57	7.81	7.79	**7.65**
Direct emissions (Scope 1) (million tons)	2.72	2.49	2.55	2.55	**2.50**
Indirect emissions (Scope 2) (million tons)	5.07	5.08	5.26	5.24	**5.15**
CO_2 emissions per unit produced (tons/unit)	0.753	0.744	0.741	0.740	**0.712**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 120 companies

Environmental Data p. 101-R

- GHG Protocol was used to calculate emissions
- Conversion factors: Environmental Data p. 102-W

Introduction of Renewable Energy and Utilization of Hydrogen

Toyota is promoting the introduction of renewable energy, taking into consideration the characteristics of each country and region.

When introducing renewable energy, we place the highest priority on in-house generating facilities (such as solar power generation) and in-house consumption at Toyota plants and other facilities.

In FY2019, we generated 39,528 MWh of renewable electricity globally.

* See "Effective Use of Renewable Energy for Creating a Decarbonized Society in 2050" (pp. 73–74) and "Toward Realizing a Decarbonized Society in 2050: Use of Hydrogen Energy" (pp. 70–72).

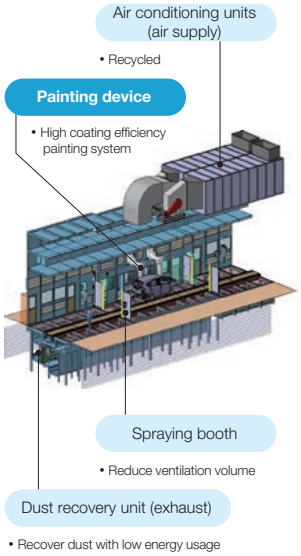
Column Introduction of Innovative Technologies in Painting Processes

Painting processes involve robots equipped with paint spray devices installed in large painting booths. The vicinity needs equipment such as air conditioning units for venting large volumes of air, and paint ovens. As a result, large amounts of CO_2 are emitted.

To reduce CO_2 emissions, attention was focused on cutting the amount of paint wasted by paint spray devices as a result of paint rebounding from vehicle bodies.

By switching to electrostatic adhesion technology that does not rely on the air used in the past, coating efficiency was increased 20 percent and the amount of air used was slashed by 75 percent. This also resulted in a reduction in the amount of ventilation. As a synergy effect of the improvement in coating efficiency and reduction in ventilation volume, the spray dust recovery method used in painting booths was changed from water recovery to absorption by dry filters, reducing water usage and waste, and cutting air conditioning energy use.

These innovative technologies were introduced at the Tsutsumi Plant, and we plan to expand introduction at other plants including overseas plants.



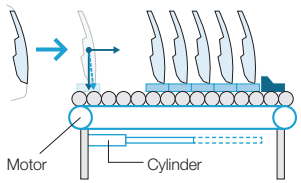
Column *Karakuri* Method Introduced to Reduce Energy Usage (Thailand)

TMT, a Thailand-based affiliate, took measures to reduce energy consumption by introducing a *karakuri* method to facilities at its Ban Pho Plant.

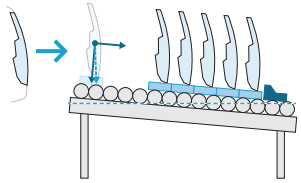
Previously, 12 motors and 38 cylinders were used on each line to transport doors to the assembly location during the vehicle assembly process. After implementation of this *kaizen*, the production line was inclined so that the doors move under their own weight. The incline angle was determined by conducting repeated trials to ensure that there is no impact on product quality during transportation. By having workers press on a pedal to lift the doors and transport them to the next line, the energy used by motors, cylinders, and so on has been reduced to zero.

As a result of this *kaizen*, energy consumption per unit produced is down 0.065 kWh, annual energy consumption is down 12,082 kWh, and annual CO_2 emissions have been reduced by 6,500 kg.

Before *Kaizen*



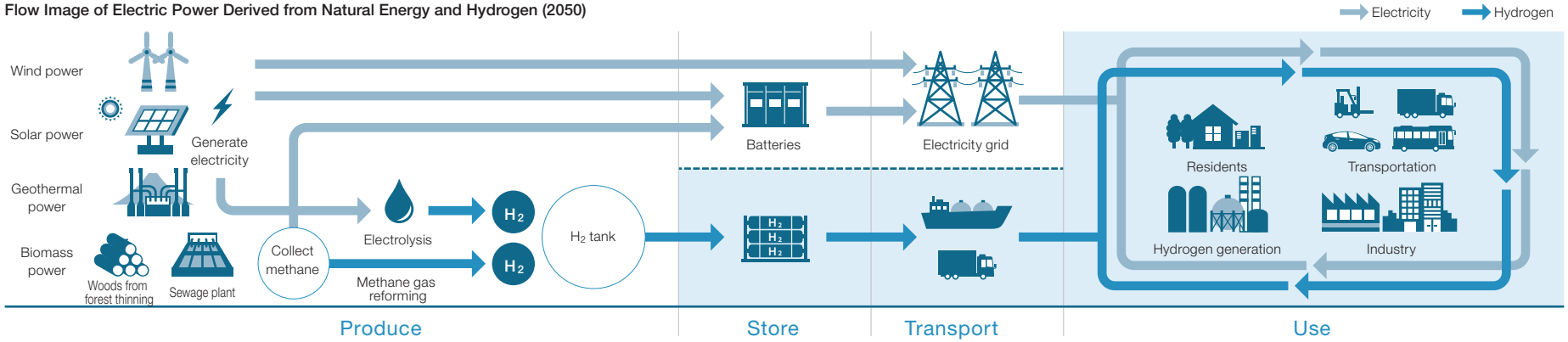
After *Kaizen*



Toward Realizing a Decarbonized Society in 2050: Use of Hydrogen Energy

In conjunction with the rising use of electricity derived from natural energy in recent years, hydrogen holds great promise as a means of absorbing fluctuations and surpluses in renewable energy and for energy storage and transportation.
Toyota is participating in the creation of mechanisms for the use of hydrogen energy throughout society and is contributing to the realization of a decarbonized society.

Flow Image of Electric Power Derived from Natural Energy and Hydrogen (2050)



Strategies and Steps

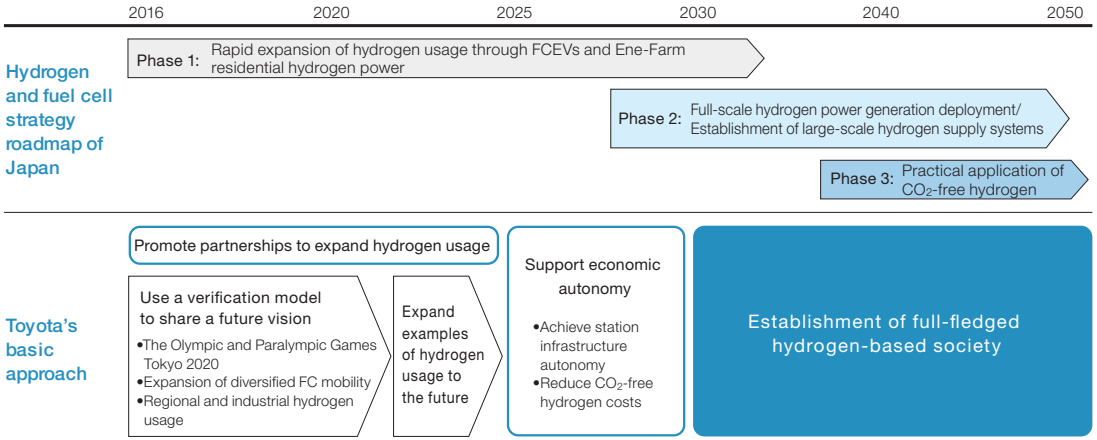
Building infrastructure and making hydrogen widespread as a new energy are major challenges to realizing a hydrogen-based society. Toyota is promoting the widespread use of fuel cell electric vehicles (FCEVs) and actively collaborating with national and local governments, local communities, and industries. We will strive to expand the use of hydrogen and make it economically viable.

Toyota's Current Mission

(1) Achieve a hydrogen-based society through the widespread use of FCEVs

(2) Collaborate with government, local communities, and the energy industry to build structures and perform verification tests

Aligning Toyota's Strategies and Steps with National Policies of Japan (Examples in Japan)



Main Projects in Japan (Collaboration with Local Communities: Since FY2019)

Toyota's FCEV sales target for around 2020 is at least 30,000 units annually on a global basis, including at least 10,000 units in Japan.

Plants

Expanded and improved fuel cell stack and high-pressure hydrogen tank production facilities in preparation for sales expansion starting in 2020
(Aichi Prefecture, since May 2018)
Fuel cell stacks: Honsha Plant
High-pressure hydrogen tanks: Shimoyama Plant

Toyota's role
Pursuing comprehensive reductions in CO_2 during FCEV production as one measure for achieving the 2050 Plant Zero CO_2 Emissions Challenge

Plants

Development of low-carbon hydrogen supply chain in Aichi Prefecture starts
(Aichi Prefecture, since April 2018)
Aichi Prefecture, Chita City, Toyota City, Chubu Electric Power Co., Ltd., Toho Gas Co., Ltd., Toyota Motor Corporation, and Toyota Industries Corporation established an organization to promote collaboration among industry, academia, and government 2030 vision and roadmap formulated

Toyota's role
Reform city gas derived from biogas; produce, compress, and store low-carbon hydrogen
Start a project to utilize low-carbon hydrogen for fueling FC forklifts at the Motomachi Plant

Energy creation

Japan H_2 Mobility, LLC established
(Tokyo, since March 2018)
Established by Toyota Motor Corporation, Nissan Motor Co., Ltd., Honda Motor Co., Ltd., JXTG Nippon Oil & Energy Corporation, Idemitsu Kosan Co., Ltd., Iwatani Corporation, Tokyo Gas Co., Ltd., Toho Gas Co., Ltd., Air Liquide Japan Ltd., Toyota Tsusho Corporation, and Development Bank of Japan Inc.

Toyota's role
Participate in the LLC and operate hydrogen stations through collaboration with parties located throughout Japan

Community

The Olympic and Paralympic Games Tokyo 2020 demonstrate models of the next-generation mobility society and a clean, hydrogen-based society to the world
(Tokyo, through 2020)

Toyota's role
Support as a Worldwide partner of the IOC, as well as providing mobility means such as FCEVs and FCEV buses, and initiatives for the next-generation mobility society

Energy creation

Hydrogen-based mobility partnership between railways and automobiles
(Kanto, since September 2018)
East Japan Railway Company and Toyota

Toyota's role
Develop FCEVs and FCEV buses using advanced FC technology, and expand hydrogen supply infrastructure

Plants

Solar water electrolysis hydrogen station project at Motomachi Plant
In April 2019, we introduced SimpleFuel™ to its Motomachi Plant. SimpleFuel™ is a hydrogen station that uses electricity from solar panels to produce hydrogen from the electrolysis of water, which is then supplied to FC forklifts after it is compressed and pressurized. It can produce up to 99 Nm^3/day of hydrogen, enough to fuel seven or eight FC forklifts. Its compact size means it can be installed in small spaces, making it suitable for refueling FC forklifts within the plant.

Plants

Toyota develops world's first general-purpose hydrogen burner for industrial use
Toyota developed the world's first general-purpose hydrogen burner for industrial use in collaboration with Chugai Ro Co., Ltd. and introduced it into the forging line in Toyota's Honsha Plant.
In conventional hydrogen burners, a high flame temperature leads to environmentally hazardous NOx emissions, making the practical use of hydrogen burners challenging. In the case of the newly developed burner, hydrogen and oxygen are ignited without being fully mixed, leading to slow combustion, and by reducing oxygen concentration to a proper value NOx emissions are greatly reduced.

Community

FCEV buses adopted as shuttle bus from the Chubu Centrair International Airport
The Chubu Centrair International Airport has been working on building a hydrogen utilization model, utilizing FC forklifts and FCEV buses.
A new hydrogen station opened at the airport in March 2019, enabling high-capacity refueling to FCEV buses. Taking advantage of this new hydrogen station, FCEV buses were introduced as shuttle bus connecting Aeon Mall Tokoname and the airport from June 2019.

Main Projects Overseas (Partnerships for the Widespread Use of FCEVs and Hydrogen Usage)

Toward realization of a hydrogen-based society, we are accelerating a variety of initiatives, including the widespread use of FCEVs, in cooperation with partners worldwide.

Membership in Hydrogen Council Quadruples Size in 18 Months

In January 2017, the Hydrogen Council was established in Davos, Switzerland as the first global hydrogen initiative. The Council is represented by leaders from global companies including Toyota striving to promote hydrogen usage as a means to achieve climate change goals. In November 2017, the Council announced the world's first concrete vision for the use of hydrogen. Due to advances in hydrogen-related technologies, hydrogen is expected to account for 18 percent of final energy demand by the middle of the 21st century, reducing CO_2 emissions by 6.0 billion tons, generating 2.5 trillion U.S. dollars in business annually, and creating jobs for 30 million people.
By welcoming additional 14 members in September 2018, the Hydrogen Council now brings together an impressive group of 53 leading companies, accounting for more than 3.8 million jobs and 2.5 trillion euros in revenue from across 11 different countries (based on FY2018 data from the member companies). The group has more than quadrupled in size since launching just 18 months ago, and this rapid expansion reflects surging interest in hydrogen deployment.

Forecast of the Effects of Hydrogen-related Technologies

Percentage of final energy accounted for:

18%

Converted amount of annual business:

US$2.5 trillion

CO_2 emissions:

6.0 billion tons

Projected employment creation effects:

30 million jobs

Wide-spread use of FCEVs

Portugal
Supply its fuel cell system to CaetanoBus, which manufactures and sells buses in Portugal
(September 2018)
Aiming for autumn 2019, CaetanoBus started driving verification tests by developing, manufacturing, and launching city buses equipped with FC systems in Europe

Wide-spread use of FCEVs

China
Started driving experiment by launching MIRAI on a test basis
(January 2017)

Wide-spread use of FCEVs

China
Started supplying parts of FC units for buses to Beiqi Foton Motor, a commercial vehicle manufacturer in China
(April 2019)

Wide-spread use of FCEVs

Canada
Started driving experiment by launching MIRAI on a test basis
(February 2017)

Wide-spread use of FCEVs

U.S.
Shell and Toyota collaborate on building a hydrogen station network in California
(February 2017)

Hydrogen usage

U.S.
TMNA, a North America-based affiliate, builds Tri-Gen to produce hydrogen and electricity from biomass
(December 2017)

Wide-spread use of FCEVs

U.S.
Started verification tests for large-scale FC trucks at the Port of Los Angeles in April 2017
Toyota took the next great leap towards commercialization based on the verification tests, unveiling the first of Toyota and Kenworth's jointly developed heavy-duty commercial FC truck (April 2019)

Hydrogen usage

UAE
Participated in joint research for realizing a hydrogen-based society
(January 2017)

Wide-spread use of FCEVs

Australia
MIRAI test launch
(July 2016)

Effective Use of Renewable Energy Toward Creating a Decarbonized Society by 2050

In recent years, one means of decarbonization that holds particular promise is the use of renewable energy. Toyota is working to reduce CO_2 through comprehensive energy-saving activities by daily *kaizen* and introduction of innovative technologies at manufacturing sites. In addition, to decarbonize the energy needed, Toyota is promoting both the introduction of renewable energy and the utilization of hydrogen.
The utilization of renewable energy is an issue that needs to be addressed throughout society, and accordingly, we are collaborating with many parties including the national and local governments as well as local communities and other businesses. Our objective is to achieve zero CO_2 emissions at our plants all over the world by 2050.

STEP 1
Daily *kaizen* and introduction of innovative technologies
Thorough energy-saving activities

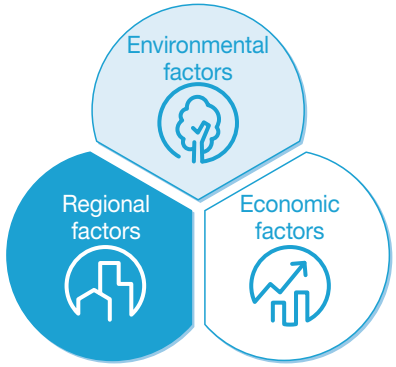
STEP 2
Introduction of renewable energy and utilization of hydrogen
Make the energy decarbonized

↓

Plant CO_2 Emissions Reduced to Zero in Two Steps

Three Perspectives on the Expanding Use of Renewable Energy

Toyota is expanding the use of renewable energy while taking into consideration the perspectives of environmental, regional, and economic factors. At Toyota plants, we are introducing in-house renewable energy for internal consumption and promoting the use of renewable energy through Group-wide efforts in collaboration with local communities tailored to the systems and social trends in each region of the world. We are also selecting options that lead to the widespread use of renewable energy throughout society such as the Certificate of Green Power.
Toyota actively participates in creating systems and mechanisms that lead to the widespread use of renewable energy and is working to expand the use of renewable energy throughout society.



Main Projects in Japan

Participation in Local Production and Local Consumption Model for Renewable Energy

We are participating in the SDGs Toyota Renewable Energy Challenge, a demonstration project launched by Toyota City in 2019 to locally produce renewable energy for local consumption. Under this initiative, locally produced renewable energy including solar power and biomass energy as well as its environmental value are utilized at local public facilities, plants, and so on. As a part of this initiative, Toyota is challenging to make battery electric vehicles (BEVs) carbon free throughout their entire product life cycle. Specifically, utilizing the environmental value of renewable energy through the Certificate of Green Power with "Ha:mo," car-sharing ultra-compact BEVs, we seek to reduce carbon throughout the product lifecycle. In addition, the demonstration project will create new value and contribute to the creation of a sustainable society.


Ha:mo COMS

Purchase of the Certificate of Green Power

Since April 2018, we are working to expand the use of renewable energy utilizing the Certificate of Green Power to achieve its environmental challenges.
The Green Power Certificate system is a mechanism to trade the environmental added value of electric power generated from wind power, solar power, biomass, and other renewable energy; certificate issuers receive third party certification in the form of the Certificate of Green Power. The fees paid by companies, local governments, and others that purchase the Certificate of Green Power are used to maintain and expand power generating facilities through the certificate issuers.

The Certificate of Green Power: **40,000 MWh**
The Certificate of Green Heat: **56,000 GJ**

Main Projects Overseas

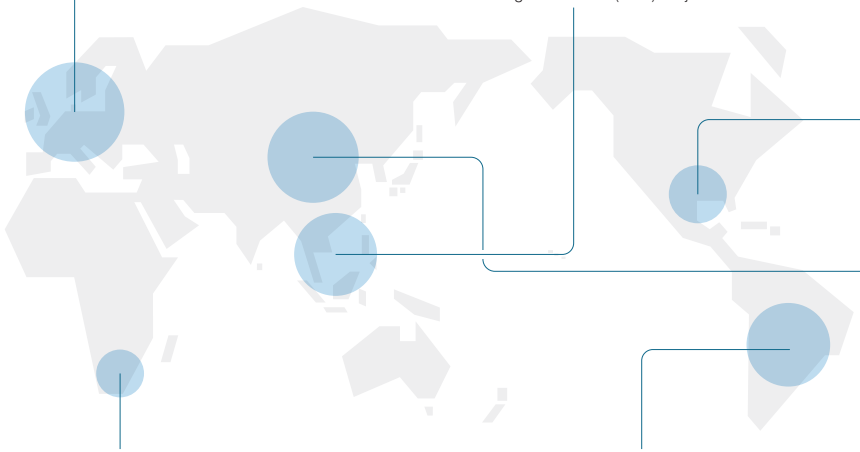
Europe: 100 Percent Renewable Electricity Used at 4 Plants

Europe is a region suited to the introduction of renewable energy, and we are actively utilizing renewable electricity tailored to local characteristics. TMMT, a Turkey-based affiliate, TMUK-D, an U.K.-based affiliate, TMMP, a Poland-based affiliate, and TMR, a Russia-based affiliate, began purchasing 100 percent renewable electricity in 2018. We will continue to expand the utilization of renewable electricity.

Asia-Pacific: Solar Power Generation Introduced in Southeast Asia, India, and Taiwan

TMP, a Philippine-based affiliate, began generating a capacity of 1 MW of solar power*, and TMT and TDEM, a Thailand-based affiliates, began generating a capacity of 2.5 MW and 3.4 MW*. TMT and STM, Thailand-based affiliates, are implementing a three-year plan to introduce approximately 37 MW of solar power generating facility starting in 2019. In addition, TKM and TKAP, an India-based affiliate, introduced 26 MW and 3 MW of solar power generating facilities, ASSB, a Malaysia-based affiliate, introduced 2 MW facilities, and Kuozui Motors Ltd. in Taiwan introduced 1.5 MW facilities.

* Joint Crediting Mechanism (JCM) Project



North America: Renewable Electricity Covers All Electric Power at North American Headquarters Campus

The new head office of TMNA, a North America-based affiliate, was designed to maximize the utilization of natural light by adopting exterior walls made predominantly from glass. Also, southern exposures have generous roof overhangs to control sunlight to appropriate levels. Moreover, the buildings and parking facility have more than 20,000 solar panels installed, providing more than 30 percent of the electric power used in the buildings. Electricity is also purchased from wind power generated in Texas, and as a result, renewable electricity covers all electric power usage.

The new head office of TMNA, North America

China: Solar Power Generation Being Introduced at Plants

The introduction of on-site solar power generating facilities is being considered for all plants, and installation on building rooftops and parking facilities is being conducted at plants where installable. Approximately 10 MW of solar power generating facilities have been installed at the new plants of GTMC and TFTM, so far. In addition, installation is already completed at TFAP, TFTD, GTE, and other sites, bringing the total solar power generating capacity at the plants of all China-based affiliates to 28 MW.

Solar panels at GTMC

South Africa: Continue Introduction of Solar Power Generation

At TSAM, a South Africa-based affiliate, additional solar panels with a capacity of 1.3 MW were installed on the rooftop, reducing reliance on fossil fuels. The company plans continuous activities for the utilization of renewable electricity.

South America: 100 Percent Renewable Electricity by 2020

Electric power generated from renewable energy is being introduced starting in areas that are highly suitable for renewable energy in terms of their economic and regional factors.

TDB, a Brazil-based affiliate, utilizes electric power generated from hydroelectric power, wind power, and biomass, and has achieved 100 percent renewable electricity.

The use of electric power generated from renewable electricity by TASA, an Argentina-based affiliate, is currently approximately 25 percent, but the company is introducing additional renewable electricity with a target of reaching 100 percent by 2020. As a result, CO_2 emissions will be reduced by approximately 40,000 tons.

Challenge 4 Challenge of Minimizing and Optimizing Water Usage

Fundamental Approach

According to forecasts, the world's population will grow to 9.1 billion by 2050, water demand will increase 55 percent from current levels, and 40 percent of the world's population is therefore expected to suffer water shortages*.

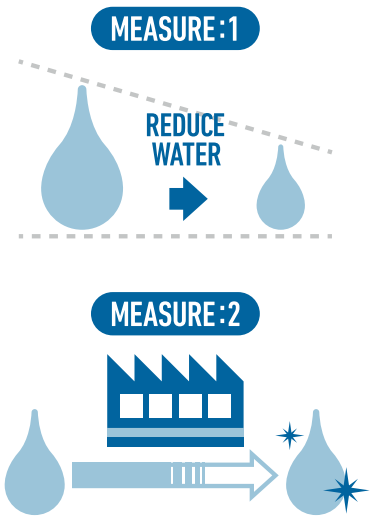
Water problems such as increases in water stress in conjunction with rising populations and stricter regulations in response to deterioration of water quality in rivers and other water sources are important issues from the perspective of risks in corporate activities. Water is used in painting and other car manufacturing processes. This makes it imperative to reduce the impact on the water environment, to whatever degree possible.

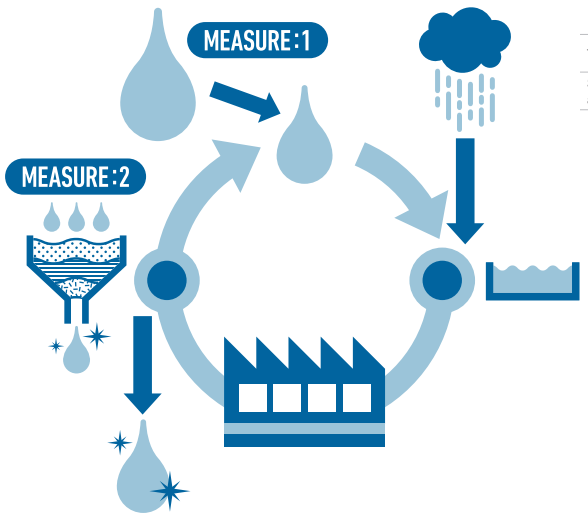
There are significant differences in the characteristics of the water environment depending on the region, but we have two main strategies: thoroughly reduce the amount of water usage and purify wastewater thoroughly and return. Toyota has implemented various initiatives such as collecting rainwater to reduce industrial water usage, cutting water usage in production processes, recycling wastewater to reduce amounts withdrawn from water sources, and returning high-quality water to local environments.

In the future, we will undertake measures that have a positive impact on local water environments, taking into consideration the local requests and water issues.

Through these initiatives, we will contribute to achieving SDG 6.3 (improve water quality) and 6.4 (secure water resources).

* According to Toyota data





Related SDGs

Target	6.3 (improve water quality) 6.4 (secure water resources)
Sixth plan targets and progress	— No. 9 (p. 57)

Measures Undertaken in Accordance with the Toyota Water Environment Policy

Although water-related issues and measures differ depending on the region, Toyota established the Toyota Water Environment Policy and takes action in order to achieve the goals of our water environment Challenge on a global level.

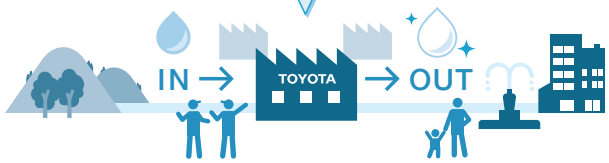
Under the Toyota Water Environment Policy, we are assessing our impact on water environments and working to minimize those impacts from two perspectives: the input side, where we thoroughly reduce the amount of water usage, and the output side, where we purify wastewater thoroughly and return.

We take action from three directions—the pursuit of environmental technologies, community-rooted operations, and cooperation with society—and strive to become the No. 1 regional plant leading to prosperity throughout the entire society.

Toyota Water Environment Policy

Striving to consider the importance of water sustainability, Toyota will aim for realizing prosperous societies that will share a sound water environment to the future.

Become No. 1 regional plant
leading to prosperity throughout the entire society



Thoroughly reduce the amount of water usage

Minimize the impact on regional water resources by minimizing water withdrawal and utilizing rainwater

Purify wastewater thoroughly and return

Have a net positive impact on the environment by returning clean water in the local water environment

Reduce Water Usage in Production Activities

To reduce water usage in our production activities, we have been working to introduce innovative technologies alongside planned upgrades to our production lines, and to conduct daily measures to reduce water usage.
In FY2019, Toyota Motor Corporation (TMC) continued measures such as reducing the amount of steam used in production processes. Total water usage was 10.1 million m³ (down 2.2 percent year on year). The production volume decreased, but a uniform amount of water is used regardless of the number of units, and consequently, water usage per unit produced was 4.1 m³ (up 4.4 percent year on year). Globally, Toyota is steadily implementing measures to reduce water usage according to the actual water environment in each country and region. Measures were implemented to recycle wastewater and more affiliates decreased their water usage. However, as a result of an increase in the number of units produced due to the creation of new production lines and other factors, total water usage was 33.7 million m³ (up 2.3 percent year on year). Due to implementation of water quality measures, an increase in the number of washings, and other factors, water usage per unit produced was 3.2 m³ (up 0.4 percent year on year). Moving ahead, we will continue striving to minimize impacts on the water environment through the promotion of water-saving and water recycling.

Trends in Total Water Usage and Usage per Unit Produced at TMC

Third Party Assurance

FY	2015	2016	2017	2018	**2019**
Total water usage (million m³)	11.5	10.9	10.7	10.3	**10.1**
Water usage per unit produced (m³/unit)	4.9	4.7	4.3	4.0	**4.1**

- Scope of coverage: Production and non-production divisions (excluding employee benefit facilities)
- Water usage per unit produced indicates the amount of water consumed per unit produced at vehicle assembly plants

Trends in Global Total Water Usage and Usage per Unit Produced

Third Party Assurance

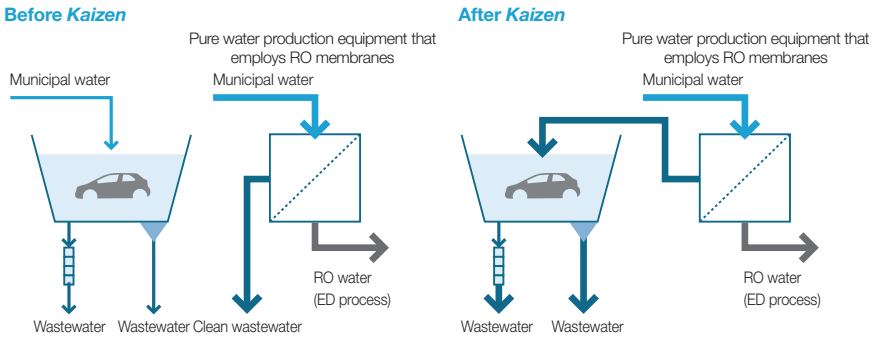
FY	2015	2016	2017	2018	**2019**
Total water usage (million m³)					
Japan (TMC)	5.2	4.9	4.7	4.5	**4.5**
Japan (consolidated EMS and its subsidiaries)	11.9	11.3	12.6	13.1	**13.8**
North America	5.3	5.0	6.0	5.7	**5.7**
China	2.5	2.5	2.6	2.7	**3.4**
Europe	1.2	1.1	1.4	1.6	**1.5**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	4.9	4.5	5.5	5.3	**4.8**
Total	31.0	29.3	32.8	32.9	**33.7**
Water usage per unit produced (m³/unit)	3.0	2.9	3.1	3.1	**3.2**

- Scope of coverage: Vehicle assembly plants of TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 36 companies

Column Water Reduction by Using RO Wastewater (South Africa)

TSAM, a South Africa-based affiliate, reduced its water usage in the Body Paint Plant (an area that uses large volumes of water) by reusing the wastewater generated from the RO process*.
Prior to the change, TSAM used municipal water in the body washing process. *Kaizen* measures were implemented in accordance with policies to substantially reduce water usage and reuse wastewater to reduce water intake.
First, TSAM comprehensively investigated the flow rates, quality, and volumes of municipal water and wastewater generated to determine which processes could use recycled wastewater. The company also examined the risks associated with reusing wastewater. Based on the results, TSAM identified that it could reuse the wastewater generated from the RO process.
Municipal water and wastewater generated from the RO process differ only in their conductivity and are equivalent in other measures of water quality, indicating that the reuse of this wastewater would not present any problems. Based on this, TSAM decided to use recycled wastewater for the washing process prior to undercoat painting. As a result, usage of municipal water was reduced while maintaining the same high level of painting quality.
Due to this *kaizen*, water usage per unit produced was reduced by 23.6 liters, and annual water usage reduced by 3,285 m³.

* Reverse Osmosis process: A water purification process that utilizes membranes to remove impurities from the water



Challenge 5 Challenge of Establishing a Recycling-based Society and Systems

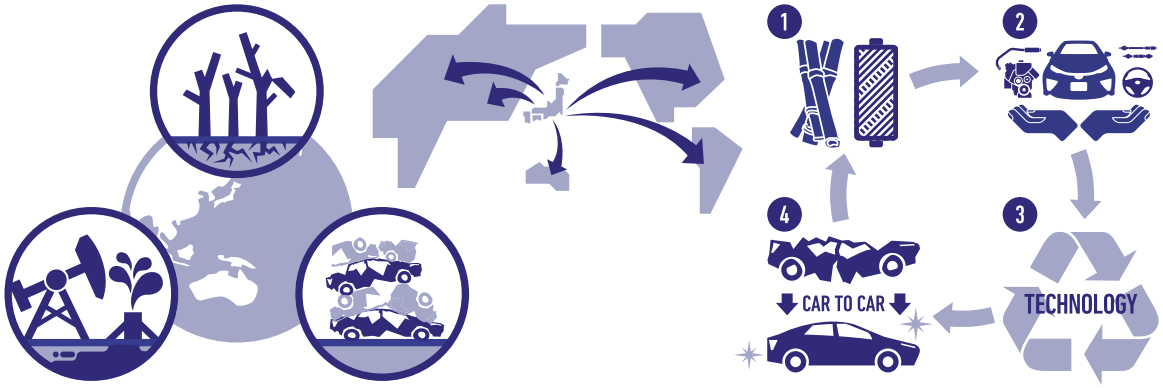
Fundamental Approach

Due to global population increase along with the pressure for economic growth and convenient lifestyles, the pace of resource consumption is accelerating. If large-scale exploitation continues as it is, natural resources will be depleted, and if waste increases due to mass consumption, appropriate disposal will be unable to keep pace, resulting in risks of environmental pollution.
To prevent the environmental impact caused by End-of-life vehicles, Toyota launched the Toyota Global 100 Dismantlers* Project, to establish social systems for End-of-life vehicle proper treatment.
In order to realize an ideal resource-recycling based society, it is necessary to grasp the risks of resource depletion and the possibility of creating business opportunities, and initiatives are needed in four key areas: (1) use eco-friendly materials, (2) use auto parts longer, (3) develop recycling technologies, and (4) manufacture vehicles from End-of-life vehicles.
Toyota aims to realize the ultimate recycling-based society, and promotes the Toyota Global Car-to-Car Recycle Project so that we can utilize resources from End-of-life vehicles for manufacturing new vehicles.
Through these initiatives, we will contribute to achieving SDG 9.1 (infrastructure development), 9.4 (sustainable industrial processes), 11.6 (reduction of environmental impact of cities), 12.2 (sustainable management and efficient use of natural resources), 12.4 (management of waste), and 12.5 (reduction of waste).

* Dismantlers: Operates dismantling business for vehicles

Related SDGs

Target	9.1 (infrastructure development) 9.4 (sustainable production processes)	11.6 (reduction of environmental impact of cities)	12.2 (sustainable management and efficient use of natural resources) 12.4 (management of waste) 12.5 (reduction of waste)
Sixth plan targets and progress	No. 12, 13 (pp. 57, 58) No. 10, 11, 12, 13, 14 (pp. 57, 58)	No. 14 (p. 58)	No. 10, 11, 12, 13 (pp. 57, 58) No. 14 (p. 58) No. 10, 11, 12, 13, 14 (pp. 57, 58)



Reduce Consumption of Dwindling Natural Resources Through Utilization of Renewable Resources and Recycled Materials

Reduce the Usage of Petroleum-derived Plastics

Since the early 1990s, Toyota has been collecting and recycling bumpers replaced at dealers as a way to reduce the usage of petroleum-derived plastics. Some plastic parts collected from End-of-life vehicles are reused for energy as a heat source except using for used parts. Others are recycled into plastics for non-automobile use after going through a machine-automated sorting process.
Amid the growing need to further promote plastic recycling, we will encourage even greater utilization of recycled plastics and continue to study new technologies for collecting and recycling plastics from End-of-life vehicles to support sustainable economic growth globally.
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Promote the Reuse of Rare Resources and Recycled Materials

Hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs), fuel cell electric vehicles (FCEVs), and other electrified vehicles use significant amounts of rare resources compared to conventional gasoline vehicles. Some of these resources often carry risks such as resource depletion or uneven supply among regions. In order to promote the reuse of rare resources and recycled materials, we are collaborating with partner companies to establish a framework for collecting and recycling HEV batteries and automobile motor parts, along with cemented carbide tools used in production. HEV batteries, for example, contain rare metals such as nickel and cobalt. Since launching the first-generation Prius in 1997, we have built our own recovery network to collect End-of-life HEV batteries for recycling and reuse. As of March 2019, we collected a cumulative total of 132,000 End-of-life HEV batteries.

The collected batteries undergo inspection to determine which parts can be reused as stationary storage batteries or vehicle replacement batteries. Parts not suitable for reuse are recycled as raw metal materials.

Toyota began recycling automobile motor magnets in 2012. As of March 2019, we collected a cumulative 41 tons of magnets, recycling rare earth.

For cemented carbide tools, we launched a system to extract and recycle tungsten* in 2010. As of March 2019, we recycled a cumulative total of approximately 196 tons of cemented carbide tools.

The use of Carbon Fiber Reinforced Plastics (CFRP) is expected to increase in the future to support the design of light-weight vehicles. Development of technologies for material recycling of CFRP is ongoing.

As electrified vehicles become increasingly widespread, the amounts of End-of-life parts, such as batteries and motors that contain rare resources, are expected to increase.

We will continue material recycling activities.

* Tungsten: Japan imports all of its demand for tungsten, which is used in the cutting edges of 80 percent of cemented carbide tools

Cumulative amount of automobile motor magnets recycled **41 tons**

Cumulative amount of End-of-life batteries collected **132,000 units**

Column Operating HEVs with Reused Batteries in Ayutthaya and 3R (Rebuilt, Reuse, and Recycle) Measures (Thailand)

TMT, a Thailand-based affiliate, is implementing a variety of initiatives to achieve the Toyota Environmental Challenge 2050.

In November 2018, TMT opened Toyota Ayutthaya Green Town, an embodiment of the six challenges of the Toyota Environmental Challenge 2050, at Ayutthaya, a famous World Heritage site.

At the facility, visitors can use Ha:mo, ultra-compact BEVs, which are also available for tourism use at Ayutthaya. The vehicles are largely powered with carbon-free renewable electricity generated from solar panels installed on the roof of the parking facility. To store charging electricity, a battery station that reuses End-of-life batteries from HEVs is also installed, enabling excess power to be effectively utilized.

In response to the increased use of electrified vehicles, in May 2019 TMT began production of onboard batteries at its Gateway Plant in Chachoengsao Province and establishing a 3R (Rebuild, Reuse, Recycle) scheme for End-of-life batteries.

TMT is creating a resource recycling scheme whereby the modules that can be reused will be employed in stationary battery stations to store power in plants and homes, while modules that cannot be reused will be sent to a newly established recycling plant for use as materials in new batteries and stainless steel.

This is the first such 3R measure for HEV batteries outside of Japan. It will contribute to reducing waste and the development of a recycling-based economy in Thailand and is expected to promote the effective use of renewable energy.

A Ha:mo vehicle being charged with carbon-free renewable electricity generated from solar panels installed on the roof of the parking facility

A power storage system that reuses End-of-life HEV batteries

Achieve Industry-leading Levels in Easy-to-dismantle Design for Effective Resource Recycling

To promote material recycling of End-of-life vehicles, Toyota directly visits dismantling companies in Japan and overseas to investigate actual conditions and gain insight into the development of vehicle structure that makes it easy to dismantle and separate parts. We have actively adopted these designs for new models since 2003 with the launch of the Raum passenger car.

The new Century, Corolla Sport, Crown, and Lexus ES and UX launched in FY2019 adopt the TNGA[1], a new concept for car manufacturing. These vehicles continue to incorporate easy-to-dismantle designs to ensure safe and speedy dismantling operations.

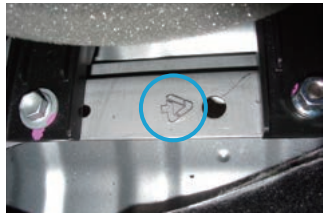
In other areas where we adopt new structures, parts, and other technologies, we will continue to ensure easy-to-dismantle designs in order to maintain and enhance the capability to dismantle vehicles.

1 Toyota New Global Architecture: Toyota's company-wide global program to structurally transform automobile design. TNGA aims to dramatically improve the basic performance and marketability of Toyota vehicles by reforming and integrally redeveloping powertrain components and platforms.

Vehicle Structure for Easy Dismantling

Removal of heavy battery components from hybrid electric vehicle

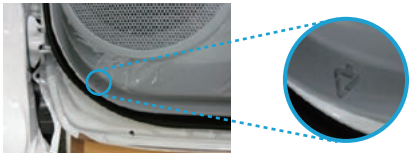
"Easy-to-dismantle marks" are added to show points where parts can be hoisted with good balance.



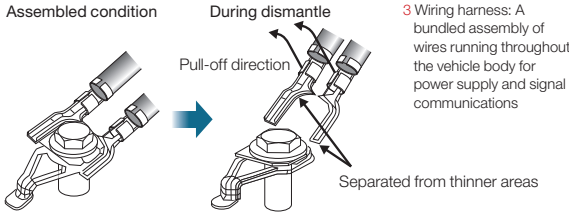
Removal of door trim[2]

"Easy-to-dismantle marks" are added to indicate places where the load required for removing the door trim can be reduced.

2 Door trim: The panels lining the inner part of the door



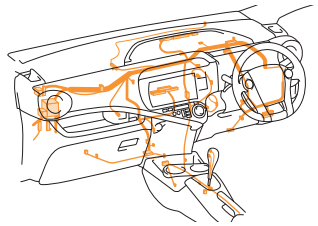
Wiring harness[3]
Use of pull-tab type ground terminal for wiring harness



3 Wiring harness: A bundled assembly of wires running throughout the vehicle body for power supply and signal communications

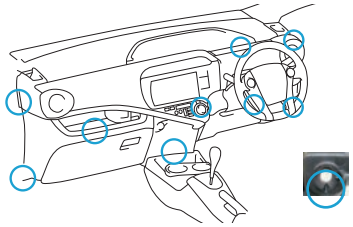
Wiring harness layout innovation

The wiring harness can be stripped out without interfering with other components.



Removal of instrument panel

The positioning of the V-grooves makes it easy to remove the instrument panel by pulling it strongly.



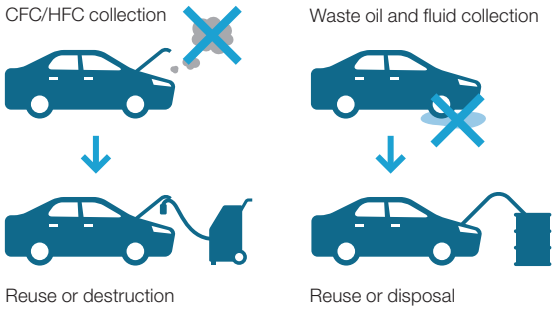
Use of "Easy-to-dismantle mark"

"Easy-to-dismantle marks" are added to show key points for disassembly tasks

Contribute Worldwide Through Appropriate End-of-life Vehicle Treatment and Recycling Technology Developed in Japan

When End-of-life vehicles are not properly disposed or dismantled, this may not only affect regional environments, but also cause risks to the health and safety of local residents. To prevent these problems, we promote the Toyota Global 100 Dismantlers Project. Through this project, we aim to establish social systems for properly treating of End-of-life vehicles without imposing regional environmental impact.
By using our long-established technologies and know-how, we contribute to the establishment of social systems for appropriate End-of-life vehicle treatment. In FY2019, in addition to surveys conducted in the Asia region, we started surveys on End-of-life vehicle treatment in the Africa region. On the other hand, in developed countries, we prepared a video manual on large battery removal for PHEVs and began preparing a video manual on hydrogen gas removal for FCEVs, which is expected to occur in the future.
We will continuously research the flow of End-of-life vehicles, setting treatment levels according to the conditions of national and regional infrastructures and work to establish model facilities in cooperation with local affiliates.
Through the Toyota Global 100 Dismantlers Project, we will strive to establish recycling-based societies that enable efficient resource recycling with proper treatment of waste oil, fluids, and CFC/HFC gas at model facilities and take measures such as calling on national governments to ensure that such measures take root as social systems.

Image of Appropriate End-of-life Vehicle Treatment



Column Prepare Video Manual on Battery Removal for PHEV

As PHEVs and FCEVs become more common, proper removal of batteries and hydrogen tanks and release of hydrogen gas will become issues that need to be addressed. Since batteries are high-voltage and hydrogen tanks are under high pressure, it is important to ensure safety during the dismantling process.
To respond to these issues, we prepared a video manual on how to remove large-sized batteries as reference material for proper battery removal not only in Japan, but in each country and region. The videos cover six topics: (1) How to identify between PHEV, BEV, and HEV; (2) Precautions for removing; (3) Procedures for removing and storage ; (4) Check for any abnormality in damaged batteries; (5) Storage of vehicles submerged or damaged by accidents; and (6) Inspection and preparation prior to transportation. Detailed explanations are also provided on the tools to be used and methods of ensuring safety during removal of heavy, high-voltage batteries. There is no narration in this prepared video, but English subtitles are inserted.
This video will be used as master for localization of narration and subtitles for each country and region to support battery removal.

Column Model Vehicle Dismantling Facility Established (Vietnam)

In April 2019, TMV, a Vietnam-based affiliate, set up a model End-of-life vehicle dismantling facility* in Phuc Yen City, Vinh Phuc Province. Under the support of TDEM, the Asian regional headquarters in Thailand, this facility was set up by referring to the preceding model in Thailand and as the second model facility in Southeast Asia supporting the Toyota Global 100 Dismantlers Project.
Infrastructure for the proper treatment of End-of-life vehicles has not been established in Vietnam, and operations that have negative impacts on the environment such as dumping waste oil and fluids and releasing CFC/HFC gas into the atmosphere are conducted. This model facility finally reached establishment, by securing proper treatment of End-of-life vehicles through the guidance of dismantling methods to the existing recycling company by TMV environmental team. Setting up such a model facility is expected to prevent water and soil contamination through the proper treatment of waste oil and fluids and prevent global warming through collection and thermal treatment of CFC/HFC gas.
We plan to make further efforts to incorporate proper treatment of End-of-life vehicles into the social system in Vietnam in collaboration with the government and other involved parties.
In Vietnam, a regulation on establishment of collection sites for End-of-life vehicles and motorcycles took effect in January 2018, and it is expected to further accelerate the proper treatment of End-of-life vehicles.

* Green Industrial Environment Company

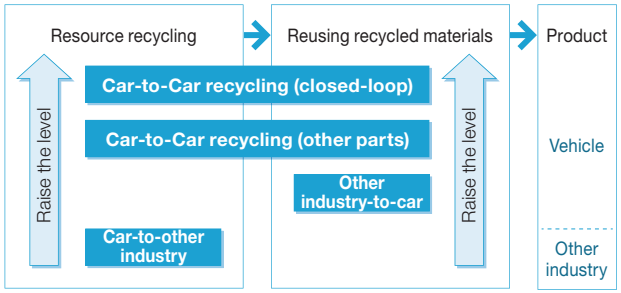

Model dismantling facility


Oil removal

Expand Original Recycling Systems for End-of-life Vehicles Worldwide

In order to realize an ultimate recycling-based society, we promote the Toyota Car-to-Car Recycle Project that is based on the concepts of reduce, reuse, and recycle, aiming specifically at elimination of resource-related risks and global warming.
In FY2019, we revalidated systems for the collection and proper treatment of HEV batteries globally. We also reinforced information sharing with a focus on the main regions where electrified vehicles have already been introduced and identified issues in each region.
The ultimate goal of this project is closed-loop recycling, the concept that the vehicles parts and materials are recycled into identical parts. We will continue promoting "Car-to-Car Recycling" through gradual progress in both aspects of this system, namely the first phase of resource recycling in which vehicle parts and materials are turned into raw materials for new parts, and the second phase of fully reusing recycled materials in new vehicles.

Image of "Car-to-Car Recycling"



Reduce Waste and Use Resources Efficiently in Production Activities

Toyota strives to reduce the waste volume from production activities by developing and deploying new production technologies while taking continual daily measures in terms of the sources of waste (design and production method innovations), resource recycling, resulting cost reductions, and so forth.
In FY2019, Toyota Motor Corporation (TMC) shifted from paying for recycling to selling recycling materials as valuable goods and so on, by reducing the water content of grinding dust. The total waste volume, as a result, was 32.2 thousand tons (down 1.5 percent year on year), and the waste volume per unit produced was 11.2 kg (down 0.4 percent year on year).
Globally, the waste volume increased in some areas due to increases in production in conjunction with the establishment of new lines. On the other hand, by reducing the amount of water in paint sludge and by the changes in recycling markets, corrugated boards and scrap woods were converted into valuable materials and the waste volume was reduced in some areas. The total waste volume, as a result, was 496 thousand tons (down 0.6 percent year on year), and the waste volume per unit produced was 46.2 kg (down 2.7 percent year on year).

Trends in Total Waste Volume and Waste Volume per Unit Produced at TMC (Japan) Third Party Assurance

FY	2015	2016	2017	2018	**2019**
Total waste volume (thousand tons)	35.9	35.2	33.8	32.7	**32.2**
Waste volume per unit produced (kg/unit)	12.5	12.5	11.6	11.3	**11.2**

- Scope of coverage: Production and non-production divisions (excluding employee benefit facilities)
- The total waste volume in production divisions consists of waste generated through production activities
- Waste volume: Waste at cost + incineration + landfill
- Waste at cost: Waste that is recycled for a fee

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Trends in Global Total Waste Volumes and Waste Volume per Unit Produced Third Party Assurance

FY	2015	2016	2017	2018	**2019**
Total waste volume (thousand tons)					
Japan (TMC)	36	35	34	33	**32**
Japan (consolidated EMS and its subsidiaries)	353	348	359	383	**381**
North America	29	29	30	29	**31**
China	17	17	17	18	**20**
Europe	14	11	12	14	**11**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	26	21	22	22	**21**
Total	475	461	474	499	**496**
Waste volume per unit (kg/unit)	46.0	45.3	45.0	47.4	**46.2**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 120 companies
- Waste volume: Waste at cost + incineration + landfill

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Reduce Packaging and Wrapping Materials and Use Resources Efficiently in Logistics Activities

Toyota Motor Corporation (TMC) is taking a broad range of initiatives to reduce the amount of packaging and wrapping materials used in logistics. These include increasing packaging efficiency in shipping containers, using returnable containers* to reduce the amount of unrecyclable materials used, and making packaging and wrapping materials simplified and lighter.

In FY2019, TMC succeeded in reducing the usage of packaging and wrapping material per shipment unit to 6.21 kg/m^3 (same as the previous year) by making packaging and wrapping materials smaller and adopting returnable shipping containers. The total usage of packaging and wrapping materials amounted to 46.4 thousand tons (up 1.3 percent year on year).

On a global basis, Toyota continued efforts to gather and share information on best practices at each affiliate.

Moving forward, we will promote the efficient use of resources when shipping goods, while striving to reduce the usage of packaging and wrapping materials.

* Returnable containers: To enable used packaging materials to be returned to original shipping points for reuse

Trends in Usage of Packaging and Wrapping Materials at TMC (Japan) and Packaging and Wrapping Materials per Shipment Unit at TMC (Japan)

FY	2015	2016	2017	2018	2019
Usage of packaging and wrapping materials (thousand tons)	51.7	50.9	51.4	45.8	**46.4**
Usage of packaging and wrapping materials per shipment unit (kg/m^3)	6.98	7.36	6.87	6.21	**6.21**

Results of Activities to Reduce Usage of Packaging and Wrapping Materials at TMC (FY2019, Japan)

Products	Main improvement activities	Reduction volume (thousand tons)
Production parts	Review and improvement of packaging specifications	**0.3**
Service parts	Review packaging materials and reduce the amount of cushioning materials	**0.7**
Total		**1.0**

Challenge 6 Challenge of Establishing a Future Society in Harmony with Nature

Fundamental Approach

It is critical for humans to conserve forests and other natural environments in all regions for coexistence in harmony with nature. However, deforestation is progressing across the world, resulting in the fragmentation of diverse living creature habitats, as well as the continuing loss of biodiversity. This entails a number of issues including the loss of biological resources that are essential for society, causing natural disasters, and spurring global warming, and we believe that it poses a risk to the potential for the sustainability of the entire society.
In light of this risk, Toyota launched Harmony with Nature projects and is taking action to expand "Connecting Communities" activities in various regions of Japan and overseas in order to "enrich the lives of communities" in each region.
Toyota is also developing "Connecting with the World" environmental activities in collaboration with NGOs in Japan and overseas, as well as "Connecting to the Future" environmental education activities targeting Toyota employees and the next generation. We aim for a future where people and nature live in harmony by these three "connecting" activities.
Through these initiatives, we will contribute to achieving SDG 12.8 (sustainable lifestyle), 15.1 (conservation of terrestrial ecosystem), and 15.a (secure financial resources).

Related SDGs

Target	12.8 (sustainable lifestyle)	15.1 (conservation of terrestrial ecosystem) 15.a (secure financial resources)
Sixth plan targets and progress	No. 18 (p. 59)	No. 16 (p. 58) No. 17 (p. 58)

- **Toyota Green Wave Project**
  Connecting Communities
- **Toyota Today for Tomorrow Project**
  Connecting with the World
- **Toyota ESD Project**
  Connecting to the Future

Promote Expansion of Nature Conservation Activities Connecting Communities —Toyota Green Wave Project

Toyota Group companies have conducted afforestation activities at their respective plants and undertaken environmental conservation activities in their surrounding areas. The Toyota Green Wave Project is an initiative to connect communities through these diverse activities promoting harmony with nature.
By extending Toyota Group activities to promote harmony with nature in Japan and overseas, we aim to expand living creature habitats and help create a sustainable society, benefitting biodiversity.
Specific programs include the Plant in Harmony with Nature Project, which creates environments that foster nature and living creatures, and the All-Toyota Green Wave Project, which fosters ties between local communities and the Group.

Community-based Plant in Harmony with Nature

Afforestation activities have been conducted since 2007 with the theme of creation of forests at plant sites. The Tsutsumi Plant, where the Prius is produced, serves as a model plant for this project. Having developed our activities as a "Plant in Harmony with Nature" since FY2018, we have expanded on our work to include the management of various living creature habitats.

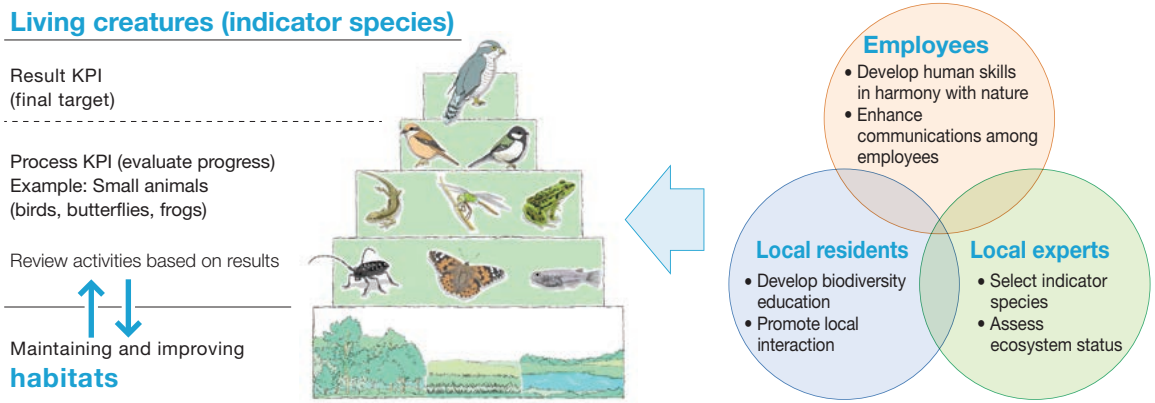
In October 2018, as part of this initiative, we opened Biotope Tsutsumi, in order to help conserve the original local ecosystem. Based on the concept of a traditional Japanese broad-leaved *satoyama* forest consisting primarily of the *konara* oak, the Biotope Tsutsumi environment integrates waterside, grassland, forest, and other natural areas. Representative animal and plant species have been selected as indicator species to provide quantitative measurements that will allow objective evaluations and a regular cycle of reviews of the project details. Furthermore, the project is also introducing fish species compatible with the local ecosystem (*ginbuna*) and conserving rare fish species (*minami medaka* and *ushimotsugo*).

These activities are being pursued as a collaborative and unified effort with local residents, under the guidance of the city of Toyota and various experts. Recognized for these activities, the project won the Biotope Grand Prize at the 11th Biotope Recognition Event (FY2019).

We will use the Tsutsumi Plant as a model project, to actively promote environmental conservation activities rooted in the local ecosystem, by assessing suitable initiatives at Toyota's other production plants worldwide.

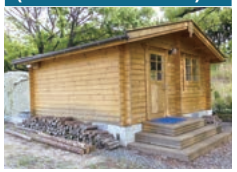
Release of fish

Plant in Harmony with Nature Project Leads the Way to the Better Environment



Biotope Tsutsumi

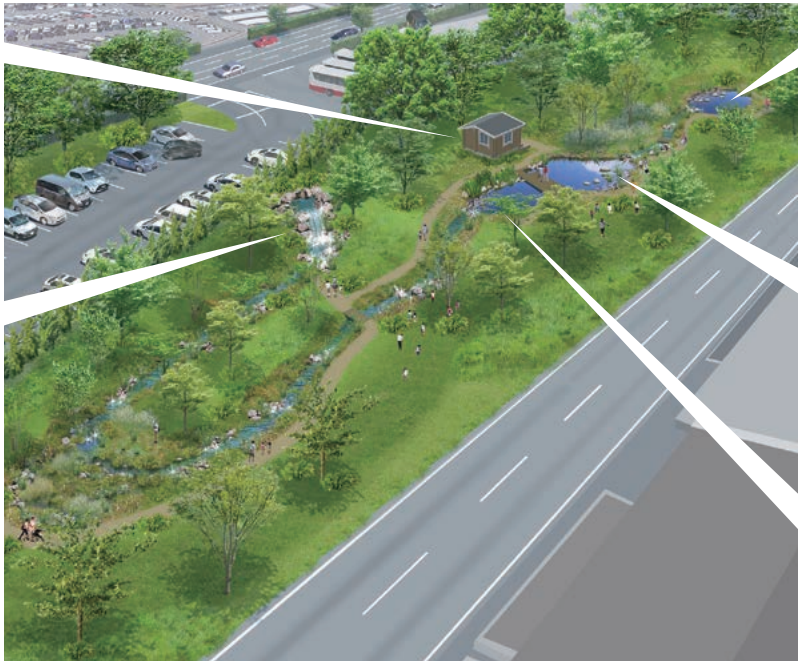
Log house (administrative office)



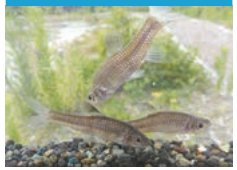
Conducting fish stock conservation

Neo-natural river reconstruction method

Creating hiding places for living creatures

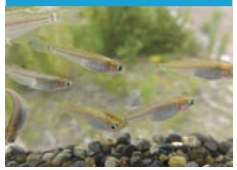


Ushimotsugo



Ginbuna

Minami medaka



Column Conduct Ecosystem Surveys at the Teiho Plant with Local High School Students —MORIBITO Project of Waterside and Greenery

The Teiho Plant is undertaking biodiversity conservation activities that take advantage of the plant's environment, as MORIBITO Project of Waterside and Greenery. As the first step, local ecosystem surveys were conducted four times starting in May 2018.
The surveys were conducted under the supervision of experts from Aichi Gakusen University, Aichi University of Education, and Toyota Yahagi River Institute, and were attended by employees as well as students from the local Toyota Nishi High School. A total of 120 people surveyed the plants and animals in the rivers, ponds, and rice paddies in and around the Teiho Plant.
These activities have begun to paint a clearer picture of the ecosystems in the area where the Teiho Plant is located. In the future, we plan to use the acquired knowledge in order to continue maintaining and improving the living creature's habitats that take advantage of the plant's environment (reservoir and forest).


Survey of aquatic life


Survey of birds


Survey of old bird nests


Survey of frogs

All-Toyota Harmony with Nature Working Group Activities —All-Toyota Green Wave Project

Toyota Green Wave Project Working Groups were established by 23 affiliated companies in May 2015 (22 affiliates participating in 2019) to expand initiatives in harmony with nature, enhance the dissemination of information, and strengthen cooperation by participating companies.
In FY2019, 248 activities were carried out in Japan. In May 2018, collaborative activities were conducted as the fifth All-Toyota unified activities. A total of 265 people, including 43 people from 19 working group member companies, carried out activities to eradicate lanceleaf tickseed, which has been designated by Aichi Prefecture as one of 30 non-native species requiring measures. All-Toyota programs will be implemented, "connecting" to locations all over Japan, to eradicate the non-native species that have become a major problem in various areas.


The Fifth "Connecting" Activity: Eradicating lanceleaf tickseed

FY2017–FY2019 Cumulative Total (All-Toyota Results in Japan)

Number of participants	129,046
Number of trees planted	130,021
Cumulative total number of trees planted since 2005	12,230,021
Forest area thinned and conserved	4,846 ha (approximately 1,000 Tokyo Domes)
Number of participants in environmental education	80,140

Initiative to Improve Recognition of Biodiversity

In June 2018, the All-Toyota Green Wave Project volume 3 was published and distributed to employees of all Toyota affiliates. The dedicated website sends out information about each company's activities in a timely fashion and is enhancing the sharing of activities both in and outside of the company.

Projects featured on the website

Column Afforestation Project in Fengning to Prevent Yellow Sand (China)

In Fengning Manchu Autonomous County, Hebei Province, where advancing desertification has become a serious problem, Toyota started an afforestation project in 2001, which has been continued by Toyota Motor (China) Investment Co., Ltd. (TMCI) since 2011.
Fengning Manchu Autonomous County is located approximately 180 km northwest of Beijing and acts as a passage for the yellow sand from the deserts in Inner Mongolia. Back when the afforestation project was started, the yellow sand clouded the sky in Beijing in spring, blocking the sun for many days in a row. The afforestation project, which has continued for the past 18 years, has planted about 5.55 million trees in approximately 3,430 ha of land. The land that was once being desertified became green and the amount of yellow sand blown into Beijing has also been significantly reduced, helping improve its environment. In the future, nature classes and other activities will be added to the project.


Before afforestation (2000)


After afforestation (2015)

Boost Grant for Environmental Activities Connecting with the World—Toyota Today for Tomorrow Project

We have established the Toyota Today for Tomorrow Project to bolster our long-standing Toyota Environmental Activities Grant Program and afforestation projects in China and the Philippines on a global basis. With the aim of contributing to society, we will work together with organizations engaged in nature conservation around the world by establishing projects to solve issues in the areas of living in harmony with nature and biodiversity.

Toyota Collaborates with IUCN to Enhance Species Conservation Data

Toyota began a five-year partnership with IUCN[1] in May 2016 to promote scientific understanding of the biodiversity crisis.
Under the partnership, we provide annual grants of approximately 1.2 million U.S. dollars, supporting the IUCN to enhance the IUCN Red List[2].
With this support, the IUCN will conduct assessments of extinction risk for more than 28,000 species, accounting for 35 percent of species requiring assessment. This represents a major step forward in the IUCN's goal of gaining more comprehensive view of the conservation status of biodiversity on the Earth.
The support also enabled the IUCN to enhance its Red List website, which can now immediately display photo, habitat, and other information on the species when its name is entered, improving the website's ease of viewing and usability.

IUCN Red List website
(https://www.iucnredlist.org/ja)

1 International Union for Conservation of Nature: Founded in 1948, IUCN is a membership Union uniquely composed of both government and civil society organizations
2 The IUCN Red List of Threatened Species™: A list of threatened species in the world managed by the international organization IUCN

FY2019 Activities: Introduced Toyota's Biodiversity Conservation Initiatives at COP14

In November 2018, the Convention on Biological Diversity's 14th Conference of the Parties (COP14) was held in Sharm El Sheikh, Egypt. A Toyota side event jointly hosted with IUCN explained the progress in partnership activities for biodiversity conservation being carried out jointly with IUCN and environmental NGOs, and communicated to the participants that successful case examples can be shared. Dr. Jane Smart of IUCN, who chaired the event, mentioned how Toyota's support is enhancing the IUCN Red List, which forms the basis for global conservation activities, and is leading the private sector's biodiversity initiatives in Thailand. The event received favorable comments from many government officials, including a high-ranking officer in the Secretariat of the Convention on Biological Diversity.

Number of Species that Have Been Assessed, Thanks to Toyota's Support

April 2016–March 2017	1,333
April 2017–March 2018	3,717
April 2018–March 2019	4,034
2016–2019 (3-year total)	9,084


Photo by IISD/Kiara Worth (enb.iisd.org/biodiv/cop14/side-events/20nov.html)
After the side event with Dr. Jane Smart of IUCN (far right)

FY2019 Activities: Presenting Vehicles to Environmental NGOs at COP14

Environmental NGOs BirdLife International (BL) and Conservation International (CI) have conducted surveys and conservation activities of species listed as threatened on the IUCN Red List.
Toyota has been supporting important activities for expanding the Red List and has provided vehicles to the two organizations since 2016. In FY2019, on the occasion of COP14 in Egypt, Toyota donated vehicles for their field surveys in two African countries (Zimbabwe and Kenya) and two Asian countries (the Philippines and Indonesia).

Photo by IISD/Kiara Worth (enb.iisd.org/biodiv/cop14/side-events/20nov.html)
Presentation ceremony

Donated Hilux

FY2019 Activities: Improved Mountain Gorilla Habitat

IUCN uses new surveys of threatened species to provide updated versions of the IUCN Red List.
The November 2018 update reported that the number of mountain gorillas, an Endangered species, was beginning to recover as a result of cross-border conservation activities and community involvement. The species' status had improved from Critically Endangered (CR) to Endangered (EN), and the IUCN Red List was used to communicate this positive conservation message to the world.


Photo: Ludovic Hirlimann (CC BY 2.0)
Mountain gorillas

Continuing its Five-year Partnership with WWF on Living Asian Forest Project

Toyota is continuing its five-year partnership with World Wide Fund for Nature (WWF) aiming at accelerating the globe's transition to sustainability. Toyota is the first car company and the first Japanese company to sign a Global Corporate Partnership agreement with WWF. To promote biodiversity conservation under the partnership, Toyota has made annual one million U.S. dollar grants to WWF since 2016 to support the Living Asian Forest Project. The Living Asian Forest Project aims to strengthen existing WWF activities to conserve tropical forests and wildlife in Southeast Asia and launch new conservation activities.

FY2019 Activities:
Protected Sumatran Rhinoceros, a Designated Endangered Species

The population of the Sumatran rhinoceros has declined to the point where continued breeding in the wild might be difficult, leading to concern about their extinction. Therefore, urgent conservation actions were required.

Beginning in 2013, WWF Japan and WWF Indonesia have been carrying out conservation activities in forests inhabited by Sumatran rhinoceroses. And, in November 2018, these organizations successfully rescued a Sumatran rhinoceros on the island of Borneo and immediately transferred it to a safe protective facility.

Safely capturing an animal living in a high-risk area was hailed as a very positive event by interested parties. Additionally, continued patrol of the Tesso Nilo National Park has significantly reduced illegal logging of the forest.

Rescued Sumatran rhinoceros


Transporting the rhinoceros

Toyota Environmental Activities Grant Program

In 1999, Toyota was honored with the Global 500 Award from the United Nations Environment Programme. To commemorate receipt of this award, in FY2001, we launched the Toyota Environmental Activities Grant Program to support the environmental activities of NPOs and other groups. The main themes of the grant program are biodiversity and climate change. Grants are offered to support projects overseas (up to seven million yen per project) and projects in Japan (up to three million yen or one million yen per project). Over the 19 years since the program was established, we have supported 387 projects in 54 countries and regions worldwide.

Scan QR code for details

Environmental Data p. 100-O

FY2019 Activities (Project in Japan):
Nature-based Solutions by Urban Green Infrastructure

The Toshima Green Infrastructure Network (TGIN), based in Toyoshima Ward, is seeking ideal forms of urban green infrastructures* that address issues presented in local communities, and then promotes and implements such infrastructures. Green infrastructures are being implemented in collaboration with local store associations, local residents, local governments, NPOs, and Taisho University students. For example, TGIN has created a rooftop farm and a rain garden at the Taisho University Nishisugamo campus, where TGIN is based, and is searching for ways to use green infrastructures to solve various societal challenges, such as the heat and heavy rain caused by climate change, earthquakes that directly hit the capital, and biodiversity loss.

Additionally, TGIN is communicating ideal forms of urban green infrastructures to society at large. It is trying to increase the scale of its activities through collaboration with initiatives in other regions inside and outside Japan, as well as mutual learning.

* Urban green infrastructure is an initiative that promotes wise utilization of nature's functions within urban areas in order to promote sustainable communities, such as growing a variety of crops in rooftop farms at Taisho University (The Gamall Farm) and having children in the neighboring communities come on a tour or experience harvesting


Harvesting sweet potatoes at a rooftop farm with children from the neighboring communities

FY2019 Activities (Project overseas):
Future Creation Project Through Local Knowledge and Traditional Knowledge of the Karen Tribe

Conference of Earth Environment from Akita is working on conserving the ecosystem services in the very biologically diverse Kaeng Krachan Forest Complex (KKFC) in Thailand, as well as on building an effective and balanced resource management system.

The goal of this project is to create villages in which people's livelihood and nature conservation can coexist by utilizing the inherited local knowledge and traditions of the Karen tribe living in KKFC that contribute to sustainable utilization of natural and cultural resources. Specific initiatives included supporting introduction of sustainable organic farming, and developing teaching materials for building a sustainable community, targeted at elementary and junior high school students. Furthermore, since many similar issues are found throughout Asia, the project is also taking actions to spread the initiative to other regions, for example, holding workshops that cover a wide area in order to develop the human resources necessary for continuing activities and build consensus.

The project has helped people deepen their understanding about the value of natural resources and continue to autonomously manage the systems that have been built.


Hand weaving, representing the Karen tribe's traditional culture

Boost Contributions to Environmental Education Connecting to the Future —Toyota ESD Project

Human resources development is crucial for expanding environmental conservation activities to the future. Consequently, the Toyota Education for Sustainable Development Project promotes sustainable human resource development suited to local communities. Our corporate training approach is to nurture environmentally conscious employees and leverage their awareness to make it better for business. Additionally, we are connecting our training activities to the future by making the best use of the features of business sites and company-owned fields to provide environmental education for children, who will be responsible for sustainable societies in the future.

Toyota Shirakawa-Go Eco-Institute

In 2015, to commemorate the institute's 10th anniversary, we enhanced the hands-on nature programs. The institute emphasis on a "children's camp" that nurtures children's environmental awareness, self-reliance, and ability to take action, through shared education as a new theme, that enhances growing and learning together toward living in harmony with nature.
The total number of people staying overnight at Shirakawa-Go in FY2019 was 15,480, and 10,113 people participated in institute programs during the year. Toyota Shirakawa-Go Eco-Institute will continue to develop new hands-on nature programs to nurture an awareness of living in harmony with nature among a growing number of adults and children.

FY2019 Activities: SDGs Education Forum in Toyota Shirakawa-Go Eco-Institute*

In November 2018, as a development of the Toyota ESD Project, Toyota Shirakawa-Go Eco-Institute supported and cosponsored the three-day, two-night forum, held with the goal to research SDGs education and deepen exchanges among young researchers. A total of 30 people attended the forum, including students, researchers, and people from the private sector, educational institutions, local governments, and NPOs.
Three lecturers conducted lectures and discussions entitled "Biodiversity from the SDGs perspective," "Education at Toyota Shirakawa-Go Eco-Institute for nurturing people who bear the future," and "Methodology for communicating SDGs." The participants also experienced the programs being implemented at the institute.
Some of the participants commented, "Now I understand the global flow surrounding SDGs," "The forum helped me realize what I need to do to switch to thinking that these problems are mine, not someone else's," and "I learned the joy of observing nature."
The Forum's results are posted on the institute's website.
With the goal of helping enhance the value of hands-on nature education in Japan, SDGs Education Forum will continue planning a variety of initiatives.

* Hosted by SDGs Education Research Society
Cosponsored by the "SDGs Education" Research Group of the Japanese Society for Environmental Education and the ESD Research Center of Rikkyo University
Supported by Toyota Shirakawa-Go Eco-Institute


SDGs Education Forum


Experiencing local culture and nature activities

Forest of Toyota

Forest of Toyota in Toyota City is a company-owned forest near the urban areas. It has been maintained based on the environment of *satoyama*, which was once part of our lives, creating a forest where living creatures can naturally inhabit.
Forest of Toyota was opened to the public in 1997, and anyone can walk freely through it and take part in various events to experience the *satoyama* environment and learn about nature through their five senses. Since 2001, we have also provided hands-on learning events for local elementary school children. In FY2019, these events were attended by 5,155 children.

FY2019 Activities: Planned and Implemented Dragonfly Observation Tour

In 2017, we hosted the "Future of Harmony between People and Nature as Learned from Dragonflies," held in the Forest of Toyota featuring the living creatures of *satoyama*. As a follow-on activity, in July 2018, we held an event in which participants themselves planned and implemented a dragonfly-based environmental education program. Dragonflies are familiar creatures that make use of the waterside environments that people create in their lives. They can be easily adopted as an environmental education theme because their egg-laying and hatching behaviors can be observed.
An expert provided basic knowledge about dragonflies, including the roles they play in the ecosystem and the current status of marshes they inhabit, and the forest interpreter explained the detailed ecology and key points in planning an observation tour. The participants considered the impact people have on nature and the need for living in harmony with nature. After planning an observation tour designed to convey these types of information, they utilized handmade goods modeled after dragonflies to convey the importance of natural environment conservation to parent-child members collected by Japan Agricultural Cooperatives (JA) Aichi Toyota.
Comments were received such as, "I learned that it is necessary to protect the natural environment in order to also protect dragonflies" (from one parent-child pair) and "I learned the secrets for planning observation tours, which will be very useful in my future activities" (from a planning participant).
We plan to continue holding environmental programs that will take advantage of familiar creatures to teach people about nature and encourage them to take action.


Planning of observation tour


Dragonfly observation tour

Promoting Environmental Contributions Through Biotechnology and Afforestation Business, Automotive Peripheral Technologies, and Forest Conservation Activities

Toyota Mie Miyagawa Mountain Forest

Planted Japanese cedar and Japanese cypress trees account for approximately 80 percent of the 1,702 ha of forest Toyota has owned in Odai Town, Taki District of Mie Prefecture since 2007. Although this region has the history of timber industry, a decline in domestic forestry had left much of the forest unmaintained. Over the last 10 years, we have been thinning the forest, and as well as providing other functions which benefit the public, such as soil and water conservation, we have also been extracting and utilizing logs that can be used as lumber. Furthermore, by introducing automobile manufacturing expertise to forest management, we are achieving efficient management.

FY2019 Activities:
Forest Challenge and Development Project

In FY2018, we started a new project, the Forest Challenge and Development, aiming for new utilization of trees and spaces. Business plans were widely collected from the public, and participants selected through screening started their projects in April 2018.
One of the participants, a woodworking artist, is collaborating with a local, nationally renowned frame maker to develop carefully designed wooden products for daily life. He is also promoting a project that connects items produced from forests with consumers who use those items, while deepening his connection with the local community, for example, by holding a woodworking workshop at local Subaru Gakuen High School, Mie Prefecture.


Woodworking workshop


Hand-carved butter knives

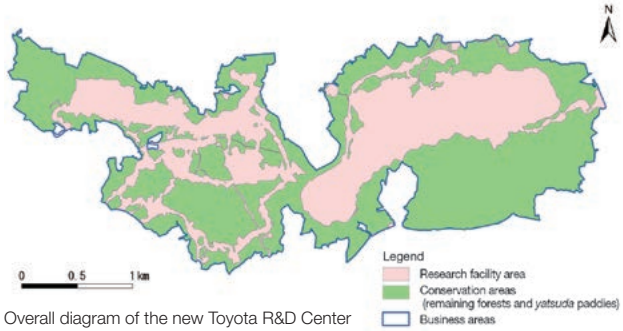
As one of the new projects, an event to walk with your dog in the forest called “Doggies Playing in the Forest” was held. Based on a desire to help city dwellers become more interested in forests, the event was designed to increase people’s awareness about forests and forestry while enjoying a walk in the forest with dogs rather than just simply strolling in the forest. We are aiming to build a framework that can return the profits from the events to the forests.
Through these initiatives, we are hoping to increase the number of people who are involved with forests and trees, and promote new future projects so that our program can become a model for revitalizing local communities and forests.


Event to walk with your dog in a well-maintained forest

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

Toyota is constructing a new R&D Center in the overlapping area of Toyota City and Okazaki City. This new facility will be a hub for development of sustainable next-generation mobility.
The main design concept is a technical center in harmony with nature and local communities. About 60 percent of the total project site will be conserved as areas for the regeneration of forests and management of valley bottom rice fields in collaboration with the local community.
In April 2019, work was completed on the central section of the new R&D Center which takes a county road as its primarily feature. Partial operation of the site as “Toyota Technical Center Shimoyama” is now underway.

Toyota intends to continue cooperating with experts, local governments, and local residents to conduct environmental conservation activities in the forest and valley bottom rice fields of this valuable *satoyama* ecosystem. We also plan to actively share information including the status of these activities and findings gained from them.



Overall diagram of the new Toyota R&D Center

FY2019 Activities:
Confirmed Nesting of Japanese Night Heron at Business Site

Since the start of site preparation in 2012, nesting by Japanese night heron was confirmed at business site for the first time.
After nesting was confirmed, several protective steps were implemented under the guidance of experts. For example, slope-planting work and blasting near the nesting site were temporarily halted, and entry by weed-cutting workers was restricted. We plan to continue creating habitats friendly to a variety of living organisms.


Japanese night heron

Environmental Management

Fundamental Approach

Toyota formulated the Toyota Earth Charter (established in 1992 and revised in 2000) as a policy for environmental initiatives based on the Guiding Principles at Toyota (established in 1992 and revised in 1997) to contribute to the sustainable development of society and the earth through its corporate activities.

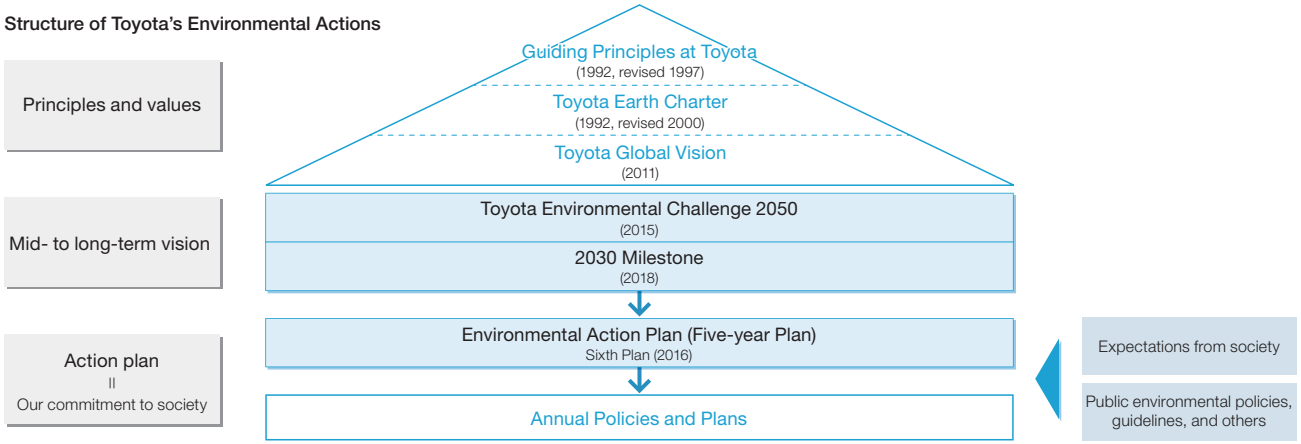
In addition, the Toyota Global Vision announced in 2011 emphasizes the importance of "Respect for the Planet" and positions the environment as one of three values* that Toyota provides to society. Based on this approach, Toyota formulated the Toyota Environmental Challenge 2050 in 2015 as its long-term vision for environmental initiatives, and in FY2017 launched the Sixth Toyota Environmental Action Plan (FY2017–2021). Toyota is identifying environmental risks and opportunities that can affect business operations and incorporating them into management plans to work for sustainable development in harmony with society. Under this structure, Toyota is promoting steadily, the environmental management activities globally, including legal compliance activities, collaboration with business partners, and employee education. Through these activities, we will contribute to achieving SDG 3.9 (reduction of environmental pollution), 6.3 (improvement of water quality), 11.6 (reduction of environmental impact of cities), 12.4 (management of waste), 12.6 (adopt sustainable practices and integrate sustainability information), and 12.8 (sustainable lifestyle).

* Three values: Safety, environment, and *waku-doki* (excitement and exhilaration that wows you)

Related SDGs

	3	6	11	12
Target	3.9 (reduction of environmental pollution)	6.3 (improvement of water quality)	11.6 (reduction of environmental impact of cities)	12.4 (management of waste) 12.6 (adopt sustainable practices and integrate sustainability information) 12.8 (sustainable lifestyle)
Sixth plan targets and progress	No. 20, 21, 22 (pp. 59, 60)	No. 20, 23 (pp. 59, 60)	No. 20, 21, 22 (pp. 59, 60)	No. 20, 22 (pp. 59, 60) No. 23, 24, 26 (p. 60) No. 25 (p. 60)

Structure of Toyota's Environmental Actions



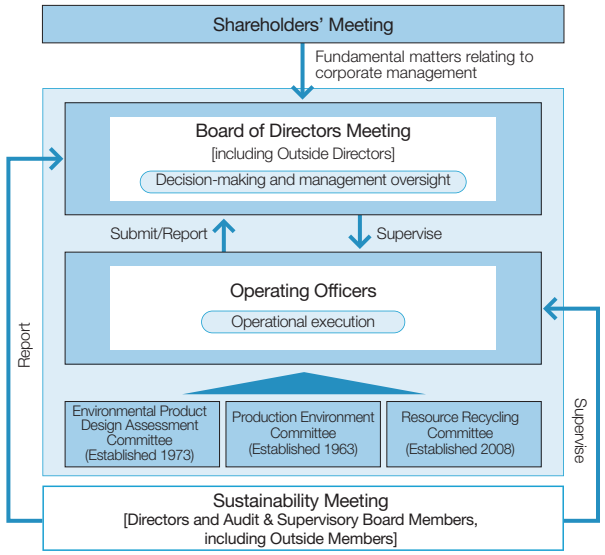
Toyota's Environmental Management Systems

At Toyota Motor Corporation (TMC), Operating Officers entrusted by the Board of Directors make timely decisions and carry out environmental initiatives. The Sustainability Meeting, chaired by the Chief Risk Officer (CRO), deliberates on key issues such as corporate governance and risk management, as well as environmental risks, opportunities, and actions to be taken in response.

TMC also set "environment KPIs (CO_2)," as indicators of the progress of measures to reduce CO_2 in products and production, and reports on them as key management information twice annually at meetings attended by all Executives and those above Field General Manager.

In addition, TMC has three core Environmental Committees: the Environmental Product Design Assessment Committee, the Production Environment Committee, and the Resource Recycling Committee. These committees consider issues and responses, and all relevant divisions work together to carry out company-wide initiatives.

TMC's Promotion Structure (as of July 2019)



Promotion Structure

The Environmental Management System (EMS) is promoted to all consolidated subsidiaries on the financial accounting basis as well as non-consolidated subsidiaries if considered important from the viewpoint of environmental management.

The 678 EMS companies consist of 237 production and sales companies under the direct management of TMC (12 production and sales companies, 79 production companies, and 146 non-production companies), as well as 441 companies managed by way of consolidated subsidiaries.

Environment Committees have been established in six regions around the world where Toyota operates business (Europe, China, North America, Africa, Asia, and South America). These committees steadily promote environmental initiatives and enhance our global responses.

The environmental leaders from the six regions, TMC Environmental Affairs Division, and other relevant divisions established a meeting structure (Global Environment Meeting/Environmental Strategy Meeting) where they can all meet to discuss and share information on global issues that affect multiple regions.

Main Companies in Japan (Alphabetical Order)

(as of March 31, 2019)

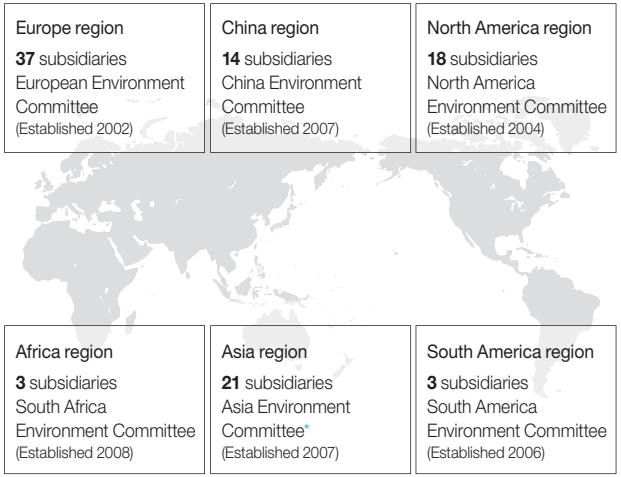
Production Companies (40 companies)	Group 1	・Consolidated subsidiaries ・Automotive manufacturing companies and others ・TMC secondary companies	Daihatsu Motor Co., Ltd., Hino Motors, Ltd., Toyota Auto Body Co., Ltd., Toyota Motor East Japan, Inc., Toyota Motor Hokkaido, Inc., and Toyota Motor Kyushu, Inc.	All-Toyota Production Environment Conference Members
	Group 2	・Companies not subject to consolidated accounting ・Main parts manufacturers ・Body manufacturers and others.	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, and Toyota Tsusho Corporation	
	Group 3	・Consolidated subsidiaries ・Parts manufacturers	Cataler Corporation, Central Motor Wheel Co., Ltd., Kyoho Machine Works, Ltd., Primearth EV Energy Co., Ltd., Toyota Home Co., Ltd., and Yutaka Seimitsu Kogyo, Ltd.	All-Toyota Production Environment Meeting Members
	Group 4	・Consolidated subsidiaries ・Various other products production companies	Admatechs Co., Ltd., Japan Chemical Industries Co., Ltd., Shintec Hozumi Co., Ltd., and Toyota Energy Solutions, Inc.	
	Group 5	・Companies not subject to consolidated accounting ・Parts manufacturers	Chuo Spring Co., Ltd., Chuoh Pack Industry Co., Ltd., Fine Sinter Co., Ltd., FTS Co., Ltd., Futaba Industrial Co., Ltd., Koito Manufacturing Co., Ltd., Kyowa Leather Cloth Co., Ltd., Taiho Kogyo Co., Ltd., Toyoda Iron Works Co., Ltd., Trinity Industrial Corporation, and Tsuda Industries Co., Ltd.	
Logistics Companies (4 companies)	・Consolidated subsidiaries ・Completed vehicle distribution ・Parts distribution		Aichi Rikuun Co., Ltd., Tobishima Logistics Service, Inc., Toyofuji Shipping Co., Ltd., and Toyota Transportation Co., Ltd.	All-Toyota Logistics Environment Conference Members
Sales Companies (50 companies)	Fukuoka Toyopet Corporation, Toyota Corolla Aichi Co., Ltd., and others			
Other Types of Businesses (47 companies)	Aero Asahi Corporation, Delphys Inc., TACTI Corporation, Toyota Central R&D Labs., Inc., Toyota Enterprise Inc., and others •Including one company not subject to consolidated accounting			

Environmental Management Promotions (Individual Companies)

STEP 1. Organize internal structure (governance)
STEP 2. Thorough risk management (compliance and voluntary actions)
STEP 3. Maximize environmental performance

* Varies according to the nature of business

Main Overseas Scope (as of End of March 2019)



* The Asia Pacific Environment Committee was changed to the Asia Environment Committee in 2019

Promote Strengthening of Consolidated Environmental Management

ISO 14001 certification by production affiliates Production

Maintain 100 percent certification by having all domestic and overseas production affiliates renew their certification.

Eco-factory Activities Production

Toyota has been conducting eco-factory activities since FY2004 with the aims of steadily incorporating environmental measures into plant activities and becoming No. 1 regional plant. Our eco-factory activities are to build and develop a mechanism which surely incorporates environmental measures into each stage from planning to design and operations. These measures will be utilized for projects such as construction of new plants, major renovations of existing plants, and capacity expansions.

In FY2019, we carried out eco-factory activities at six plants in Mexico, the United States, China, and Malaysia.

We will continue to promote eco-factory activities as a means to contribute to regional environmental conservation around the world.

Eco-factory Activities

Region	Mexico	U.S.	China			Malaysia
Work site, plant	TMMGT	MTMUS	GTMC		TFTM new plant	ASSB Plant No. 2
			Plant No. 3	Plant No. 4		
Planning stage		2019		2019		
Audits of facility specifications	2019	2019		2020		2019
On-site audit (building)	2020	2020		2021		2019
On-site audit (equipment)	2020	2020		2022	2019	2019
Compliance and risk assessment	2020	2022	2019	2022	2020	2020
Performance assessment	2021	2023	2020	2023	2021	2021

• The years indicate activities implemented in FY2019 or planned for fiscal years thereafter

: Completed

Global ECO. Awards Production and Logistics

Toyota presents its own Global ECO. Awards for production and logistics companies to encourage environmental *kaizen* activities at overseas affiliates for carrying out the Toyota Environmental Challenge 2050 and promote *yokoten** of the best *kaizen* practices.

In FY2019, 6 finalists out of 17 teams selected from 6 regions around the world were invited to give their presentations in Japan. The presentations included an example of identification, recovery, and use of "discarded heat" from a painting plant air conditioning floor, and an example of analysis of local regional weather to identify and improve optimal operational patterns for equipment such as refrigerators, booth air conditioning, and ovens.

Through the presentations, each affiliate learned the beneficial aspects of other examples, for use in higher-level *kaizen* activities around the world.

* *Yokoten* refers to sharing of *kaizen* practices, know-how, non-compliance and other information within the All-Toyota Group

Members of the Gold Awards winning teams from six affiliates with Hiroyoshi Ninoyu, Deputy Chief Officer, TMC (center of bottom row)

Award Results

Award Categories	Award for On-site *Kaizen* Activity	
Gold Awards	TMMC (Canada) TMUK-B (U.K.) GTMC (China)	TMT-BP (Thailand) Challenge 3 p. 69 TDB (Brazil) TSAM (South Africa) Challenge 4 p. 76
Silver Awards	TMMC (Canada) TMMBC (Mexico) TMR (Russia) SFTM Chanchun (China) TMCAP (China) TFTM (China)	TMT-GW (Thailand) STM (Thailand) TKAP (India) TMV (Vietnam) TASA (Argentina)

Legal Compliance Activities Production

Toyota aims to ensure that its production activities pose zero environmental risk to local communities. The foundation of our efforts is preventive measures to avoid non-compliance issues and complaints. Neglecting preventive measures can lead to situations where non-compliance may occur. We consider these situations to be non-compliance near-misses, and we take stringent measures to root out the causes of these near-misses and prevent reoccurrence. For incidents posing significant risk, we share information on reoccurrence prevention measures through environmental affairs meetings at all Group companies. Additionally, we are taking measures to completely eliminate the use of ozone-depleting substances, and no significant releases have been found.

In FY2019, Toyota was not involved in any major environmental incidents causing air or water pollution, nor was the Group subject to fines or penalties. However, there were six minor non-compliance issues among the environmental management companies (five in Japan and one overseas).

We continued to outsource proper treatment of Polychlorinated Biphenyl (PCB). Also, due to amendment of the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, we are conducting a survey of high-concentration PCB ballast stabilizers (compressors in which PCB is sealed) at all plants and work sites in order to complete treatment of high-concentration PCB waste by the March 31, 2021 deadline.

At six of our production plants, we completed groundwater pollution prevention measures in 1997. We continue to conduct pumping aeration and purification to complete purification and ensure that groundwater is purified to levels below standards.

The levels of trichloroethylene at production plants are reported to the government and to local councils in the surrounding communities.

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Emissions Reductions That Contribute to Improvement of Urban Atmospheric Environments in Each Country and Region Research and Development

Based on the Guiding Principles at Toyota, which call for us to dedicate our business to providing clean and safe products, we are working to develop and make widely available vehicles with outstanding environmental performance, we are working to clarify the true state of the environment by introducing atmospheric reaction analysis equipment. We are also conducting cooperative atmospheric environment research according to the research levels and needs of each country and region, contributing to improvement of the atmospheric environment around the world. We actively participate in atmospheric enhancement measures conducted by the Japan Automobile Manufacturers Association and conduct joint research with research institutions, universities, and other organizations in countries worldwide.

Reduce VOC Emissions in Production Activities Production

VOCs* are one of the causes of photochemical oxidation, the cause of photochemical smog. Toyota has been striving to reduce VOCs emitted in vehicle painting processes. Specifically, we have reduced the use of paints and thinners, continuously promoting initiatives linked to painting facility refurbishment plans and day-to-day activities to reduce VOC emissions.

In FY2019, as a result of a higher production rate of models with high design levels and quality requirements, usage of paint materials increased and the volume of VOC emissions per area painted in TMC body painting processes (average for all lines) was 15.0 g/m^2 (up 4.2 percent year on year). For TMC and its consolidated subsidiaries in Japan, VOC emissions volume was 21.5 g/m^2 (same as the previous year).

Also, the volume of VOC emissions per area painted in TMC bumper painting processes (average for all lines) was 176 g/m^2 (down 0.4 percent year on year).

* Volatile Organic Compounds: Used in painting, adhesives, and other products, VOCs are volatile at room temperature under normal pressure. VOCs cause air pollution and soil contamination, raising concerns about the influence on the human body.

Trends in VOC Emissions Volume in Vehicle Body Painting Processes at TMC (Average for All Lines, Japan) Third Party Assurance

FY	2015	2016	2017	2018	**2019**
VOC emissions per area painted (g/m^2)	17.2	15.8	14.6	14.4	**15.0**

Trends in VOC Emissions Volume in Vehicle Body Painting Processes by Consolidated Subsidiaries in Japan

FY	2015	2016	2017	2018	**2019**
VOC emissions per area painted (g/m^2)	22.6	21.8	21.5	21.5	**21.5**

• Vehicle assembly plants of TMC and consolidated subsidiaries and other companies in Japan, a total of eight companies

Trends in VOC Emissions Volume in Bumper Painting Processes at TMC (Average for All Lines, Japan)

FY	2015	2016	2017	2018	**2019**
VOC emissions per area painted (g/m^2)	282	253	193	176	**176**

Promote Environmental Activities in Cooperation with Business Partners (Suppliers) Purchasing

Initiatives in Accordance with the Green Purchasing Guidelines

Toyota purchases a wide range of materials, parts, and equipment from many different suppliers. We have collaborated with suppliers on implementing environmental initiatives through TOYOTA Green Purchasing Guidelines[1], seminars, and other means.

After announcing the Toyota Environmental Challenge 2050, we revised guidelines in January 2016, working with suppliers to maintain existing measures including compliance with the laws and regulations of each country and managing substances of concern and undertake an even broader range of environmental initiatives to reduce greenhouse gases, assess water risks and reduce impact on water environments from those risks, encourage resource recycling, and protect ecosystems in support of the Challenge.

We request that our tier 1 suppliers to roll out environmental initiatives to their suppliers, and we seek to realize the entire supply chain[2] management in the pursuit of a sustainable society.

Toyota released the Green Purchasing Guidelines published not only in Japan, but also at overseas purchasing sites. We will continue to request suppliers to promote initiatives in accordance with the guideline.

1 Green Purchasing Guidelines: Prioritizing the purchase of parts, materials, equipment, and services with a low environmental footprint when manufacturing products
2 Supply chain: The entire flow of business activities related to a product, from procurement of materials for manufacturing, to production control, logistics, and sales

Mutual Study About the Environment

We study environmental issues with suppliers through a variety of opportunities.

CSR Seminars are held each year, and at the FY2019 session, environmental initiatives were explained with a focus on the 2030 Milestone announced in September 2018, and once again requested the cooperation and collaboration of suppliers.

In January 2019, theme-specific research groups of the Kyohokai, which is consisted of more than 200 parts suppliers, commenced activities on environmental topics. The aim is to enhance environmental management of each company by exchanging information among companies and conducting lectures by experts.

Recognition of Suppliers' Environmental Initiatives Started

Toyota established the Environmental Activity Awards in FY2018 to commend suppliers who make company-wide efforts with major contributions to conduct environmental initiatives throughout the vehicle lifecycle and entire supply chain.

Assessing Risks and Opportunities Related to Climate Change and the Water Environment in Supply Chains

We introduced the CDP Supply Chain Program in FY2016 to support continuous environmental initiatives conducted with suppliers. The program enables us to assess environmental risks and opportunities across the supply chain.

We have been enhancing the quality of the program's activities through communication with suppliers.

Ensuring Compliance with REACH and Other Global Regulations on Chemical Substances

In order to minimize severe negative impacts on human health and the environment due to the production and use of chemical substances, nations are strengthening laws related to chemical substances, which include the Chemical Substances Control Law in Japan, and the ELV Directive[3] and REACH regulation[4] in Europe. To properly respond to these regulations, Toyota has built and is operating chemical substance management frameworks in cooperation with its suppliers.

We continued these efforts in FY2019 and asked suppliers in Japan to conduct self-assessments of their operations. We also worked with suppliers to take further measures. We also shared these efforts to main overseas sites.

3 End-of-life Vehicles Directive: A European Union directive on vehicle disposal designed to reduce the impact of End-of-life vehicles on the environment
4 Registration, Evaluation, Authorization and Restriction of Chemicals regulation: A European Union regulation for managing chemical substances to protect human health and the environment

Promote Environmental Activities in Cooperation with Business Partners (Dealers and Distributors) Sales and Service

Toyota has strong bonds of trust with its dealers and distributors built on shared values for products and services, supporting a long history of collaborative initiatives in environmental activities. Given their direct contact with customers, dealers are a critical partner in carrying out environmental initiatives.

In Japan, Toyota works with the Toyota National Dealers' Advisory Council to promote unified efforts among all dealers to implement voluntary activities based on the Toyota Dealer CSR Guidelines.

In overseas regions, we strongly promote environmental management through environmental activities led by regional headquarters and distributors along with continual DERAP[5] implementation.

5 Dealer Environmental Risk Audit Program: Audit program to reduce environmental risks at overseas dealer service shops

Promoting Environmental Initiatives at Domestic Dealers

In May 2019, the Toyota National Dealers' Advisory Council issued an updated Legal Compliance Manual (formerly the Toyota Dealer CSR Checklist) with explanations of key laws and regulations and checkpoints as a tool to support the voluntary compliance activities of dealers and taking measures to reduce environmental risks.
Toyota also organized guidelines on initiatives for achieving zero lifecycle CO_2 emissions (Challenge 2) under the Toyota Environmental Challenge 2050 in the form of an Environmental Guidebook and issued it to dealers. Actions are being taken to establish eco-dealers.

Raise Ratio of Dealers Achieving DERAP

Toyota continues to implement the Dealer Environmental Risk Audit Program (DERAP) to reduce environmental risks at overseas dealer service shops. This program is intended to conduct audits of five fundamental environmental items including the proper management of waste and treatment of water discharge.
In FY2019, a total of 99 distributors and 4,506 dealers from 96 countries worldwide participated in DERAP, an increase of 7 distributors and 210 dealers from FY2018. All 5 requirements were satisfied by 4,325 dealers, 96 percent of all participating dealers (up 1 percent year on year).
We will continue to support expansion of DERAP participation and support dealers and distributors such as by creating environmental guidelines for each overseas region based on global environmental guidelines and determining the status of operations.

Further Strengthen Global Employee Education and Awareness Activities

In accordance with the national policies of Japan, Toyota designated June as its "Toyota Environment Month" in 1973 and has been taking measures since then to raise employees' awareness and actions for the environment. In 1991, we changed the name to "Toyota Global Environment Month," and we are expanding activities globally.
We ensure that all global employees are aware of Toyota Global Environment Month by distributing the President's message on the environment through global affiliates in their local languages and making event-related notifications on monitors at various locations throughout company sites and on the intranet.

Year-round Awareness Activities for Employees

Starting in FY2018, we provided environmental information to employees, planning and carrying out a variety of programs throughout the year to enhance employees' environmentally conscious mind and accelerate measures for achieving the Toyota Environmental Challenge 2050.
Toyota Global Environment Month is considered to be one part of these measures.
For each program, a cycle with three phases—know, learn, and act by taking voluntary action—are performed with regard to the environment, and options are available for each rank according to the level of employees' awareness and environmental understanding.
In FY2019, we took measures to encourage better understanding of the content of the Toyota Environmental Challenge 2050 and generate action. To raise interest, throughout the year we devised innovations such as "information that can be touched" and "information that enters the eyes."

Phase: Know

Following the measures taken in FY2018 including the use of digital signage installed in various locations throughout the company to disseminate environmental information and displaying educational screens when PCs are started, in FY2019, we undertook new measures that address the issue of water and wildlife conservation.
During the Water Week Campaign in August, a special page was created on the intranet to inform employees about water issues and the importance of water resources. Educational stickers were also utilized within the company to convey the importance of water resources. In addition, to promote World Water Day (March 22), fun in-house events were conducted such as requesting employees to collect pictures related to water or something blue, wearing something blue and taking photos with Toyota's environmental character. These innovative measures were taken to lower the hurdles to participation and educate participants on the importance of natural water.


The World Water Day event on March 22

An educational sticker encouraging careful use of water resources

The Toyota Saves the Wildlife Campaign was launched in September 2018 as a new internal appeal concerning the Toyota Today for Tomorrow Project, a part of Challenge 6. During the campaign, special pages were created on the intranet to present information on Toyota's collaboration with the World Wide Fund for Nature (WWF) and the International Union for Conservation of Nature (IUCN), with which Toyota has established global partnerships, and goods with an original Toyota and WWF logo and other items were sold in the in-house shop. The "WITH STAMP" seals, which combine a family name with the image of an endangered animal, were extremely popular and approximately 700 seals were sold. A portion of the sales proceeds were allocated to WWF activities for protecting the natural environment.
Posters highlighting Toyota's initiatives with the WWF and IUCN were prepared and distributed to divisions in January and February 2019, respectively. The posters were also displayed in key stations in Tokyo, Nagoya, and Osaka in March, raising awareness and understanding.

Examples of WITH STAMP seals

Posters highlighting initiatives undertaken with the WWF and IUCN

Phase: Learn

During the learn phase, we provide opportunities to learn about the environment throughout the year such as holding environmental lectures conducted by outside instructors and reimbursing test fees to employees who pass the Certification Test for Environmental Specialists (Eco Test). The instructors for the ninth environmental lecture were Hiroko Ida, a weather forecaster, and Seita Emori, a researcher at the National Institute for Environmental Studies, Japan. They gave a lecture entitled "Weather Forecast for 2050: Take Action Now to Preserve a Beautiful Earth 30 Years in the Future." Approximately 1,450 employees attended and engaged in a lively exchange of opinions during the question and answer session.

Phase: Act

Similar to the previous year, an Environmental Campaign of Creative Suggestion System was conducted as a main program of Toyota Global Environment Month, and a wide variety of environmental proposals were submitted, raising awareness.
In addition, measures were taken during the period from October to December, which includes Eco-Drive Month in November, to raise awareness and increase understanding among employees regarding eco-driving.
Continuing from the previous year, in FY2019 we sought to learn and gain understanding by distributing messages about eco-driving that draw attention through surprise.
Specifically, we created posters that create a lasting impression with messages that cite 10 key elements of eco-driving recommendations intertwined with athletes affiliated with Toyota.

New Employee Training Program Raises Sense of Ownership

In FY2019, new employee training program was conducted for approximately 690 employees and included courses by the Environmental Affairs Division on the fundamentals of global environmental issues, Toyota's environmental initiatives, and environmental risks Toyota is facing. The training provides an opportunity for employees to consider and be aware of the environment as a personal issue after they are assigned and to acquire the basis for putting that awareness into practice in their day-to-day activities.

Enhance Active Disclosure of Environmental Information and Communication

Toyota Motor Corporation (TMC) strives to proactively disclose environmental information and enhance its communication through an annual Environmental Report, its website, and events.
In February 2019, our Environmental Report 2018 won the Grand Prize (Minister of the Environment Prize) in the Environmental Reporting Category at the 22nd Environmental Communication Awards sponsored by Ministry of the Environment of Japan and other organizations. The investigation of climate-related risks and opportunities based on the 2°C and beyond 2°C scenarios, the logic of the 2030 Milestone that was set toward the Toyota Environmental Challenge 2050, and other elements were highly evaluated.

On the corporate website, pages were reorganized according to ESG frameworks to convey information about Toyota's initiatives in a more understandable manner. In conjunction with announcement of the 2030 Milestone, the environmental challenge page was updated to comprehensively explain current conditions and the status sought for 2030 and 2050.
Toyota produced three sequels of "econohito," which is a web video content featuring employees who undertake environmental activities toward achieving the Toyota Environmental Challenge 2050. The new contents covered Challenge 6. Social media was also utilized to disseminate environmental information.


econohito

Awards ceremony for the Environmental Communication Awards

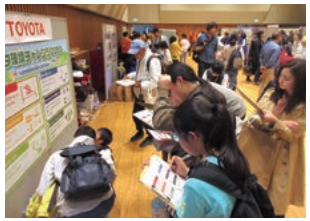
We also produced and posted videos to raise interest in Toyota's environmental initiatives among the general public and provided them to overseas affiliates. The video introducing the Toyota Environmental Challenge 2050 employs pop-style animation.
A video promoting Challenge 6: Toyota Today for Tomorrow Project introduced a new technique—popping the world's largest scale bubble wrap art—to introduce Toyota's environmental conservation activities undertaken with the IUCN.


Animated video


Promoting activities with the IUCN

At events, workshops and other programs are conducted to raise environmental awareness.
At the Water is Life 2018 (global high school students conference) held in July 2018, we conducted a workshop with Shibuya Kyoiku Gakuen Shibuya Junior and Senior High School and Shibuya Kyoiku Gakuen Makuhari Junior and Senior High School and implemented a hands-on, easily understood program with a focus on Toyota's water-related initiatives.
We also had a booth at the Junior Eco-Club National Festival 2019 held in March 2019, where we used fill-in-the-blank quizzes and animated video to convey in a fun manner the key points of Toyota's environmental initiatives.


Water is Life 2018



Junior Eco-Club National Festival 2019

Toyota Earth Charter

I. Basic Policy

1. Contribution toward a prosperous 21st century society

Contribute toward a prosperous 21st century society. Aim for growth that is in harmony with the environment and set as a challenge the achievement of zero emissions throughout all areas of business activities.

2. Pursuit of environmental technologies

Pursue all possible environmental technologies, developing and establishing new technologies to enable the environment and economy to coexist harmoniously.

3. Voluntary actions

Develop a voluntary improvement plan, based on thorough preventive measures and compliance with laws, which addresses environmental issues on the global, national, and regional scales, and promotes continuous implementation.

4. Working in cooperation with society

Build close and cooperative relationships with a wide spectrum of individuals and organizations involved in environmental preservation, including governments, local municipalities, related companies and industries.

II. Action Guidelines

1. Always be concerned about the environment

Take on the challenge of achieving zero emissions at all stages, i.e., production, utilization, and disposal.

(1) Develop and provide products with top-level environmental performance
(2) Pursue production activities that do not generate waste
(3) Implement thorough preventive measures
(4) Promote businesses that contribute toward environmental improvement

2. Business partners are partners in creating a better environment

Cooperate with associated companies.

3. As a member of society

Actively participate in social actions.

(1) Participate in the creation of a recycling-based society
(2) Support government environmental policies
(3) Contribute to non-profit activities

4. Toward better understanding

Actively disclose information and promote environmental awareness.

III. Organization in Charge

Promotion by the Sustainability Meeting which consists of top management

Environmental Data

Challenge 1: New Vehicle Zero CO_2 Emissions Challenge

A Sales of Electrified Vehicles (Global)

Third Party Assurance

Year	2015	2016	2017	**2018**
Vehicle sales (thousand units)				
Hybrid and plug-in hybrid vehicles	1,203.9	1,400.6	1,517.9	**1,630.7**
Fuel cell vehicles	0.5	2.0	2.7	**2.4**
Total	1,204.4	1,402.6	1,520.6	**1,633.1**

Challenge 3: Plant Zero CO_2 Emissions Challenge

B Calorific Energy Use Ratio at TMC (Japan)

Third Party Assurance

FY	2016	2017	2018	**2019**
Ratio (%)				
Electricity	45.8	44.8	45.3	**48.5**
City gas	49.3	51.3	50.1	**46.7**
Heavy oil A	4.1	2.9	2.9	**2.9**
Kerosene	0.4	0.5	0.4	**0.5**
Hot water	0.3	0.3	0.3	**0.3**
Cold water	0.1	0.1	0.1	**0.1**
Renewable energy	0.0	0.1	0.9	**1.0**

- Conversion factors: Environmental Data p. 102-Y

C Global Total CO_2 Emissions (Actual Emissions Volume from Energy Consumption at Stationary Emission Sources)

Third Party Assurance

FY	2016	2017	2018	**2019**
Total CO_2 emissions (million tons)				
Japan (TMC)	1.52	1.52	1.50	**1.47**
Japan (consolidated EMS and its subsidiaries)	4.03	4.32	4.30	**4.32**
North America	0.93	0.96	0.96	**0.96**
China	0.63	0.64	0.64	**0.70**
Europe	0.25	0.27	0.27	**0.22**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	0.73	0.75	0.75	**0.62**
Total	8.09	8.46	8.42	**8.29**
CO_2 emissions per unit produced (tons/unit)	0.795	0.803	0.800	**0.772**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 120 companies Environmental Data p. 101-R
- GHG Protocol was used to calculate emissions
- Conversion factors: Environmental Data p. 102-X

D Global Energy Consumption (at Stationary Emission Sources)

Third Party Assurance

FY	2016	2017	2018	**2019**
Consumption volume by region (PJ[1])				
Japan (TMC)	15.5	15.8	15.6	**14.8**
Japan (consolidated EMS and its subsidiaries)	46.3	45.9	46.7	**46.5**
North America	13.5	13.5	13.6	**13.7**
China	5.7	5.7	5.9	**6.5**
Europe	3.7	3.7	3.8	**3.7**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	8.0	8.0	7.6	**7.3**
Total	92.7	92.6	93.2	**92.5**
Energy consumption per unit produced (GJ[2]/unit)	9.12	8.79	8.85	**8.61**

1 Peta joule:
Peta represents 10^{15} and a joule is a unit of energy
2 Giga joule:
Giga represents 10^{9} and a joule is a unit of energy

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 120 companies Environmental Data p. 101-R
- Conversion factors: Environmental Data p. 102-Y

FY	2016	2017	2018	**2019**
Consumption volume by energy type (PJ)				
Electricity	38.7	38.5	38.5	**38.3**
City gas	29.7	29.9	30.1	**28.7**
Natural gas	15.0	15.0	15.0	**15.3**
LPG	2.3	2.3	2.3	**2.1**
LNG	0.9	0.9	1.1	**1.3**
Coke	1.0	1.0	1.0	**0.9**
Coal	0.5	0.5	0.6	**0.6**
Heavy oil A	1.2	1.0	0.9	**0.8**
Diesel oil	0.4	0.4	0.4	**0.4**
Kerosene	0.2	0.2	0.2	**0.2**
Steam	1.1	1.1	1.2	**1.1**
Hot water	0.7	0.7	0.7	**0.8**
Others	0.7	0.7	0.6	**0.7**
Renewable energy	0.3	0.4	0.6	**1.3**
Total	92.7	92.6	93.2	**92.5**

Challenge 4: Challenge of Minimizing and Optimizing Water Usage

E Global Water Withdrawal Volume by Source

FY	2017	2018	**2019**
Water withdrawal volume (million m^3)			
Municipal water	47.9	47.9	**48.8**
Groundwater	12.0	12.6	**12.2**
Rainwater	0.2	0.2	**0.2**
Water discharge from other organizations	0.8	0.0	**0.0**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 115 companies

F Global Water Discharge by Destination

FY	2017	2018	**2019**
Water discharge volume (million m^3)			
River/lake	32.3	32.9	**33.6**
Groundwater	0.7	0.4	**0.8**
Brackish surface water/seawater	3.1	2.8	**2.7**
Sewage	9.2	8.9	**8.9**
Other organizations	0.6	1.8	**2.6**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 102 companies

G Global Recycled Water Discharge

FY	2017	2018	**2019**
Volume of recycled water discharge (million m^3)	2.2	1.9	**2.1**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 21 companies

Challenge 5: Challenge of Establishing a Recycling-based Society and Systems

H Trends in Vehicle Recovery Rate and ASR[1] Recovery Rate at TMC (Japan)

FY	2015	2016	2017	2018	**2019**
Vehicle recovery rate[2] (converted into a per-vehicle value) (%)	99	99	99	99	**99**
ASR recovery rate[3] (%)	97	97	98	98	**97**

1 Automobile Shredder Residue: Residue after vehicles are shredded
2 Vehicle recovery rate: Calculated by combining the percentage recycled and recovered through the dismantling and shredding processes, approximately 83% (quoted from the April 2003 joint council report), with the remaining ASR rate of 17% × ASR recovery rate of 98%
3 ASR recovery rate: Recovery volume/amount collected

I Trends in Damaged and Removed Bumpers Collected and Recovered at TMC (Japan)

FY	2015	2016	2017	2018	**2019**
Amount collected (thousand pieces)	855	809	770	775	**765**
Collection rate (%)	72.9	69.4	67.4	68.3	**69.6**

J Volume of Raw Materials Used and Ratio of Recycled Materials Used (Global)

FY	2017	2018	**2019**
Volume of raw materials used (million tons)	13.90	13.75	**14.03**
Ratio of recycled materials used (%)	24	24	**24**

K Damaged and Removed Parts Collected and Recovered at TMC (FY2019, Japan)

Bumpers	765,000 pieces (collection rate of 69.6%)
Lead wheel balance weights[4]	25.0 tons
Amount of oil delivered using tanker trucks (bulk supply system[5])	64.8% of the volume sold by parts distributors

4 Lead wheel balance weights: Weights used to ensure rotation balance when joining a wheel and tire
5 Bulk supply system: Filling oil directly to large-capacity tanks located on site

L Supply of Used and Remanufactured Parts at TMC (FY2019, Japan)

Parts name		Number of parts supplied	
		Used and remanufactured parts	New parts (reference)
Remanufactured parts	Automatic transmissions	1,077	78
	Power steering gear	3,613	1,609
	Torque converters	1,015	6,266
Used parts		30,264	—

M Breakdown of Total TMC Waste Volume

Third Party Assurance

FY	2015	2016	2017	2018	**2019**
Breakdown of total waste volume (thousand tons)					
Waste at cost	34.8	34.1	32.8	31.7	**31.3**
Incinerated waste	1.1	1.1	1.0	1.0	**0.9**
Landfill waste	0.0	0.0	0.0	0.0	**0.0**
Total	35.9	35.2	33.8	32.7	**32.2**

N Breakdown of Global Total Waste Volume

FY	2015	2016	2017	2018	**2019**
Breakdown of total waste volume (thousand tons)					
Waste at cost	400	386	394	417	**408**
Incinerated waste	58	56	59	63	**62**
Landfill waste	17	19	21	19	**26**
Total	475	461	474	499	**496**

Challenge 6: Challenge of Establishing a Future Society in Harmony with Nature

O Results of Toyota Environmental Activities Grant Program (Global)

FY	2015	2016	2017	2018	**2019**	**Cumulative total**
Country/region covered (programs)						
Asia-Pacific	7	5	7	5	**6**	**116**
North America, Latin America	0	1	0	0	**2**	**22**
Africa	1	3	1	3	**1**	**33**
Europe	2	1	2	2	**1**	**15**
Japan	11	16	18	18	**17**	**201**
Total	21	26	28	28	**27**	**387**

* FY2019 grant topics: Biodiversity, climate change

Environmental Management

P Environment-related Non-compliance Incidents and Complaints at TMC (Japan)

FY	2015	2016	2017	2018	**2019**
Non-compliance incident (Cases)	0	0	1[1]	1[2]	**1**
Complaint (Cases)	0	0	0	0	**0**

1 See P46 of the Environmental Report 2017
2 See P55 of the Environmental Report 2018
- Number of non-compliance incidents and complaints are determined based on internal standards

Q Trichloroethylene Levels at TMC (FY2019, Japan) Third Party Assurance

Plants	Levels of groundwater before remediation (mg/L)
	(Environmental standard value: 0.01)
Honsha	Less than 0.002-0.59
Motomachi	Less than 0.002-0.15
Kamigo	Less than 0.002-0.10
Takaoka	Less than 0.002-0.22
Miyoshi	Less than 0.002-0.07
Tsutsumi	Less than 0.002-0.21

- In 1997, Toyota completed implementation of measures to prevent outflow of groundwater at the six production plants listed above
  Toyota is continuing groundwater remediation using pump and aeration treatment without exceeding the standard values
  Trichloroethylene levels are reported to the authorities concerned
  Levels are also explained to citizens at local council meetings
- Measurements are taken at all Toyota Motor Corporation (TMC) plants, and nothing is detected at plants other than those listed
- The levels are expressed as a range since each plant includes multiple measurement points

Statements Relating to Environmental Data

R Scope of Data Coverage (TMC (1 company) and consolidated EMS in Japan (77 companies including subsidiaries) and overseas (42 companies), a total of 120 companies)

TMC: One company

Japan: Main production companies

Group 1
Daihatsu Motor Co., Ltd.
Toyota Motor Kyushu, Inc.
Toyota Motor East Japan, Inc.
Toyota Motor Hokkaido, Inc.
Toyota Auto Body Co., Ltd.
Hino Motors, Ltd.

Group 2
Aisan Industry Co., Ltd.
Aisin AW Co., Ltd.
Aisin AI Co., Ltd.
Aisin Seiki Co., Ltd.
Aisin Takaoka Co., Ltd.
Aichi Steel Corporation
JTEKT Corporation
Denso Corporation
Tokai Rika Co., Ltd.
Toyoda Gosei Co., Ltd.
Toyota Industries Corporation
Toyota Boshoku Corporation

Group 3
Cataler Corporation
Kyoho Machine Works, Ltd.
Central Motor Wheel Co., Ltd.
Toyota Housing Corporation
Primearth EV Energy Co., Ltd.
Yutaka Seimitsu Kogyo, Ltd.

Group 4
Admatechs Co., Ltd.
Shintec Hozumi Co., Ltd.
Toyota Energy Solutions, Inc.
Japan Chemical Industries Co., Ltd.

Group 5
FTS
Kyowa Leather Cloth Co., Ltd.
Koito Manufacturing Co., Ltd.
Taiho Kogyo Co., Ltd.
Chuoh Pack Industry Co., Ltd.
Chuo Spring Co., Ltd.
Tsuda Industries Co., Ltd.
Toyoda Iron Works Co., Ltd.
Trinity Industrial Corporation
Fine Sinter Co., Ltd.

Overseas: Main production and production/sales companies

North America
TMMK (U.S.)
TMMI (U.S.)
TMMWV (U.S.)
TMMAL (U.S.)
TMMTX (U.S.)
TMMMS (U.S.)
BODINE (U.S.)
TABC (U.S.)
TMMC (Canada)
CAPTIN (Canada)
TMMBC (Mexico)

China
TFTM
TFTD
TTFC
TFAP
TFTE
FTCE
SFTM
GTMC
GTE
TMCAP

Europe
TMR (Russia)
TMMP (Poland)
TMMF (France)
TMUK (U.K.)
TMMT (Turkey)
TPCA (Czech Republic)

Asia (excluding Japan), Australia, Middle East, South Africa, Latin America
TSAM (South Africa)
TKM (India)
TKAP (India)
IMC (Pakistan)
TMMIN (Indonesia)
TMT (Thailand)
STM (Thailand)
ASSB (Malaysia)
TMP (The Philippines)
TAP (The Philippines)
TMV (Vietnam)
Kuozui (Taiwan)
TASA (Argentina)
TDB (Brazil)
TDV (Venezuela)

S Conversion Factors Used to Calculate "Global Average CO_2 Emissions from New Vehicles Reduction Rate Versus 2010 (Japan, U.S., Europe, China)"

Gasoline	2.32 kg-CO_2/L
Diesel oil	2.58 kg-CO_2/L
LPG	3.00 kg-CO_2/kg, 0.507 kg/L (liquid density)[3]

3 Japan Environmental Management Association for Industry, "Carbon Footprint of Products Communication Program, Basic Database" (version 1.01)
- "Greenhouse Gas Emissions Accounting and Reporting Manual" (version 4.3.2), Japanese Act on Promotion of Global Warming Countermeasures

T Conversion Factors Used to Calculate Respective Emission Volume of 15 Categories in Scope 3 and Ratio of Total Emissions

Category	Conversion factors
Category 1: Purchased goods and services	· Ministry of the Environment of Japan, "Database on Emissions Unit Values for Accounting of Greenhouse Gas Emissions, etc., by Organizations Throughout the Supply Chain" (version 2.6)
Category 2: Capital goods	
Category 3: Fuel- and energy-related activities (not included in Scope 1 and Scope 2)	· "Greenhouse Gas Emissions Accounting and Reporting Manual" (version 4.3.2), Japanese Act on Promotion of Global Warming Countermeasures · Ministry of the Environment of Japan, "Database on Emissions Unit Values for Accounting of Greenhouse Gas Emissions, etc., by Organizations Throughout the Supply Chain" (version 2.6) · Japan Environmental Management Association for Industry, "Carbon Footprint of Products Communication Program, Basic Database" (version 1.01)
Category 5: Waste generated in business operations	· Ministry of the Environment of Japan, "Database on Emissions Unit Values for Accounting of Greenhouse Gas Emissions, etc., by Organizations Throughout the Supply Chain" (version 2.6)
Category 6: Business travel	
Category 7: Employee commuting	· Ministry of the Environment of Japan, "Database on Emissions Unit Values for Accounting of Greenhouse Gas Emissions, etc., by Organizations Throughout the Supply Chain" (version 2.6) · Japan Environmental Management Association for Industry, "Carbon Footprint of Products Communication Program, Basic Database" (version 1.01) Gasoline: 2.66 kg-CO_2/L Diesel oil: 2.74 kg-CO_2/L
Category 9: Downstream transportation and distribution	· "Greenhouse Gas Emissions Accounting and Reporting Manual" (version 4.3.2), Japanese Act on Promotion of Global Warming Countermeasures · Japan Environmental Management Association for Industry, "Carbon Footprint of Products Communication Program, Basic Database" (version 1.01)
Category 11: Use of sold products	· Japan Environmental Management Association for Industry, "Carbon Footprint of Products Communication Program, Basic Database" (version 1.01) Gasoline: 2.66 kg-CO_2/L Diesel oil: 2.74 kg-CO_2/L LPG: 1.81 kg-CO_2/L, 0.507 kg/L (liquid density) · "Greenhouse Gas Emissions Accounting and Reporting Manual" (version 4.3.2), Japanese Act on Promotion of Global Warming Countermeasures Gasoline: 2.32 kg-CO_2/L Diesel oil: 2.58 kg-CO_2/L LPG: 3.00 kg-CO_2/L

U Conversion Factors Used to Calculate "Trends in CO_2 Emissions per Ton-kilometer (Transportation Volume) from TMC Logistics Operations (Japan)"

Railway	22.0 g-CO_2/tkm
Vessel	39.0 g-CO_2/tkm
Gasoline	2.32 kg-CO_2/L
Diesel oil	2.62 kg-CO_2/L
Heavy oil C	2.98 kg-CO_2/L

- Used "Guidelines on Disclosure of CO_2 Emissions from Transportation & Distribution" (version 3.0) issued by Ministry of Economy, Trade and Industry of Japan and Ministry of Land, Infrastructure, Transport and Tourism of Japan, and other guidelines

V Conversion Factors Used to Calculate "Trends in Total CO_2 Emissions (from Energy Consumption at Stationary Emission Sources) and CO_2 Emissions per Unit Produced at TMC"

Electricity	0.3707 kg-CO_2/kWh
Heavy oil A	2.6958 kg-CO_2/L
Heavy oil C	2.9375 kg-CO_2/L
Kerosene	2.5316 kg-CO_2/L
LPG	3.0040 kg-CO_2/kg
City gas	2.1570 kg-CO_2/Nm^3

Coke	3.2426 kg-CO_2/kg
Coal	2.3557 kg-CO_2/kg
Hot water	0.0570 kg-CO_2/MJ*
Cold water	0.0570 kg-CO_2/MJ
Steam	0.0570 kg-CO_2/MJ

* Mega joule: Mega represents 10^6 and a joule is a unit of energy
- CO_2 emissions were calculated using the Nippon Keidanren's 1990 conversion factors

W Conversion Factors Used to Calculate "Trends in Global Total CO_2 Emissions (from Energy Consumption at Stationary Emission Sources) and CO_2 Emissions per Unit Produced"

- GHG Protocol was used to calculate emissions
- Emissions from electric power were calculated using the 2001 conversion factor from the "CO_2 Emissions from Fuel Combustion" from IEA, Paris, France (2007 edition)
- For items other than electric power: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds). Published: IGES, Japan.
- For city gas, steam, hot water, cold water, and coke-oven gas, conversion factors used were those quoted in the Japanese Act on Promotion of Global Warming Countermeasures (March 2017)

X Conversion Factors Used to Calculate Global Total CO_2 Emissions (from Energy Consumption at Stationary Emission Sources)

- GHG Protocol was used to calculate emissions
- Emissions from electric power were calculated using the 2016 conversion factor from the "CO_2 Emissions from Fuel Combustion" from IEA, Paris, France (2018 edition)
- For items other than electric power: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds). Published: IGES, Japan
- For city gas, steam, hot water, cold water, and coke-oven gas, the conversion factors used were those quoted in the Japanese Act on Promotion of Global Warming Countermeasures (March 2017)

Y Conversion Factors Used to Calculate Global Energy Consumption (at Stationary Emission Sources)

- Electricity conversion factor is 3.6 (GJ/MWh)
- Other energy conversion factors were based on the Japanese Act on Promotion of Global Warming Countermeasures (March 2017)

Governance

Corporate Governance

Fundamental Approach

Toyota regards sustainable growth and the stable, long-term enhancement of corporate value as essential management priorities. Building positive relationships with all stakeholders, including shareholders, customers, business partners, local communities and employees, and consistently providing products that satisfy customers are key to addressing these priorities. To this end, Toyota constantly seeks to enhance corporate governance. Moreover, Toyota complies with the general principles of the Corporate Governance Code. The specifics of these efforts are discussed in Sustainability Meetings and reported to the Board of Directors.

Corporate Governance Report

Business Execution and Supervision

With the aim of achieving the Toyota Global Vision, Toyota has been implementing ongoing revisions in its operational framework in order to quickly respond to the unprecedentedly rapid changes occurring in the external environment. Since 2011, to accelerate decision making and operational execution, Toyota has been undertaking a variety of reforms, including the introduction of the in-house company system.
In 2018, to accelerate management oversight that is fully coordinated with the workplace, Toyota moved up the timing for changing the executive lineup from April to January, revised the corporate strategy function, and restructured the Japan Sales Business Group based on regions rather than sales channels. These organizational changes were designed to transform the company structure into one that facilitates decision making close to customers and close to where the action takes place.
In 2019, to further advance its "acceleration of management" and the development of a diverse and talented workforce, we made executive and organizational changes as follows.
・Executives are composed of only senior managing officers and people of higher rank.
・A new classification called "senior professional/senior management" (*kanbushoku* in Japanese) was created replacing the following titles or ranks: managing officers, executive general managers, (sub-executive managerial level) senior grade 1 and senior grade 2 managers, and grand masters.
From the perspective of appointing the right people to the right positions, senior professionals/senior management are positioned in a wide range of posts, from chief officer, deputy chief officer, field general manager, and plant general manager to group manager, regardless of age or length of employment, to deal with management issues as they arise and to strengthen their development as part of a diverse and talented workforce through *genchi genbutsu* (on-site learning and problem-solving). Executives themselves go to where the action is taking place and, together with senior professionals/senior management and other members of the workplace, give form in the real world to their visions for a future society of mobility.
In the Sustainability Meetings, in which Outside Directors and Outside Audit & Supervisory Board Members also participate, the execution of operation is supervised from a societal perspective toward sustainable growth of the company and the corporate governance structure is deliberated.
In addition, we deliberate on and monitor management and corporate activities based on views of various stakeholders through a wide variety of deliberating bodies, including the Labor-Management Council/Joint Labor-Management Round Table Conference.

Board of Directors and Related Structures

The structures related to the Board of Directors are based on comprehensive considerations with the aim of ensuring prompt, appropriate decision making and appointing the right person to the right position. We believe that it is crucial to appoint individuals who comprehend and are capable of putting into practice its core concepts of making ever-better cars and *genchi genbutsu* (onsite hands-on experience). Moreover, these individuals must be able to contribute to decision making aimed at sustainable growth into the future. Toyota's Executive Appointment Meeting, of which the majority are Outside Directors, discusses recommendations with the Board of Directors regarding such appointments.
In order to ensure that outside perspectives are adequately reflected in management decision making, there are three Outside Directors, all of whom are registered as independent officers with the relevant financial instrument exchanges.
When selecting Outside Directors who will serve as independent officers, we consider the requirements set forth in the Companies Act and independence standards established by the relevant financial instrument exchanges. Our Outside Directors draw on their broad experience and insight, including their respective fields of expertise, to inform decision making from a perspective independent of management structure.

Overview of the Executive Appointment Meeting

Purpose and authority	Evaluation of recommendations to the Board of Directors concerning appointment/dismissal of Members of the Board of Directors and Audit & Supervisory Board Members
Number of persons	5 (of whom 3 are Outside Directors)
Members	Representative Director Takeshi Uchiyamada (Chairman) Representative Director Koji Kobayashi Outside Director Ikuro Sugawara Outside Director Sir Philip Craven Outside Director Teiko Kudo

Audit & Supervisory Board

Toyota has adopted an Audit & Supervisory Board system. Six Audit & Supervisory Board Members (including three Outside Audit & Supervisory Board Members) play a key role in Toyota's corporate governance by undertaking audits in line with the audit policies and plans.
In appointing Audit & Supervisory Board Members, Toyota believes it is necessary to elect individuals who have broad experience and insight in their respective fields of expertise and can advise management from a fair and neutral perspective, as well as audit the execution of business. Toyota's Executive Appointment Meeting, more than half of whose members are Outside Directors, discusses recommendations with the Audit & Supervisory Board regarding such appointments.
Three individuals, all of whom are registered as independent officers with the relevant financial instrument exchanges, have been appointed as Outside Audit & Supervisory Board Members. When appointing Outside Audit & Supervisory Board Members, Toyota considers the requirements set forth in the Companies Act as well as the independence standards established by the relevant financial instrument exchanges.

Executive Compensation

The amount of executive compensation, how its calculation method is determined, and the calculation method are described below.

[Decision Policy and Decision Process]

The director compensation system is designed based on the following ideas.

- The system should encourage Members of the Board of Directors to work to improve the medium- to long-term corporate value of Toyota
- The system should maintain compensation levels that will allow Toyota to secure and retain talented personnel
- The system should motivate Members of the Board of Directors to promote management from the same viewpoint as our shareholders with a stronger sense of responsibility as corporate managers

Remuneration for Members of the Board of Directors is effectively linked to corporate performance while reflecting individual job responsibilities and performance. Remuneration standards in each member's home country are also taken into account when determining remuneration amounts and methods. Remuneration for Outside Directors and Audit & Supervisory Board Members consists only of fixed payments. As a result, this remuneration is not readily impacted by business performance, helping to ensure independence from management.
The amounts of remuneration for Members of the Board of Directors and the remuneration system are decided by the Board of Directors and by the members of the Executive Compensation Meeting, a majority of whom are Outside Directors. The Board of Directors resolves the total amount of remuneration for a given fiscal year and delegates the determination of the amount of remuneration for each Member of the Board of Directors to the Executive Compensation Meeting. The Executive Compensation Meeting reviews the remuneration system for Members of the Board of Directors and senior management, and determines the amount of remuneration for each Member of the Board of Directors, taking into account factors such as corporate performance, as well as individual job responsibilities and performance.
Remuneration for Audit & Supervisory Board Members is determined by the Audit & Supervisory Board within the scope determined by resolution of the Shareholders' Meeting.
Additionally, we check the appropriateness of our executive compensation by referencing benchmarking results created by outside compensation consultants.

Overview of the Executive Compensation Meeting

Purpose and authority	Evaluation of the executive compensation system, and decision on individual remuneration amount is based on factors such as corporate performance, as well as individual job responsibilities and performance. (The Board of Directors resolves the total amount of remuneration for the current fiscal year and delegates the determination of individual remuneration amount to the Executive Compensation Meeting.)
Number of persons	5 (of whom 3 are Outside Directors)
Members	Representative Director Takeshi Uchiyamada (Chairman) Representative Director Koji Kobayashi Outside Director Ikuro Sugawara Outside Director Sir Philip Craven Outside Director Teiko Kudo

[Method of Determining Performance-based Remuneration]

Remuneration for Members of the Board of Directors is effectively linked to corporate performance while reflecting individual job responsibilities and performance. Remuneration standards in each member's home country are also taken into account when determining remuneration amounts and methods.

1) Directors with Japanese citizenship (excluding Outside Directors)
   Toyota sets the total amount of remuneration (Annual Total Remuneration) received by each Member of the Board of Directors in a year based on consolidated operating income, the volatility of the share price of Toyota and individual performance evaluation. The balance after deducting fixed remuneration from Annual Total Remuneration constitutes performance-based remuneration.

Explanation of Indicators

Consolidated operating income	Indicator for evaluating Toyota's efforts based on business performance
Volatility of Toyota's share price	Corporate value indicator for shareholders and investors to evaluate Toyota's efforts
Individual performance evaluation	Qualitative evaluation of each director's performance

Evaluation Method and Reference Value for Indicators, and Evaluation Result for the Current Fiscal Year

	Evaluation method	Reference value	Evaluation result for the current fiscal year
Consolidated operating income	Evaluate the degree of attainment of consolidated operating income in the current fiscal year, using required income (set in 2011) for Toyota's sustainable growth as a reference value	1 trillion yen	170%
Volatility of the Toyota's share price	Comparatively evaluate the volatility of Toyota's share price up to the end of the current fiscal year, using the share price of Toyota and the Nikkei stock average at the end of the previous fiscal year as reference values	Toyota's share price: 6,825 yen Nikkei average: 21,454 yen	

Method of Setting the Annual Total Remuneration

Annual Total Remuneration is set for each Member of the Board of Directors based on consolidated operating income and the volatility of the share price of TMC, and then adjusted based on individual performance evaluation. Individual performance-based remuneration is set within the range of 10% above or below Annual Total Remuneration for each position.

2) Directors with foreign citizenship (excluding Outside Directors)
Fixed remuneration and performance-based remuneration are set based on the remuneration levels and structures that allow TMC to secure and retain talented personnel. Fixed remuneration is set, taking into account each member's job responsibilities and the remuneration standards of such members' home countries. Performance-based remuneration is set based on consolidated operating income, the volatility of the share price of Toyota and individual performance, taking into account each member's job responsibilities and the remuneration standards of such members' home countries. The concept of each item is the same as for directors with Japanese citizenship (excluding Outside Directors).

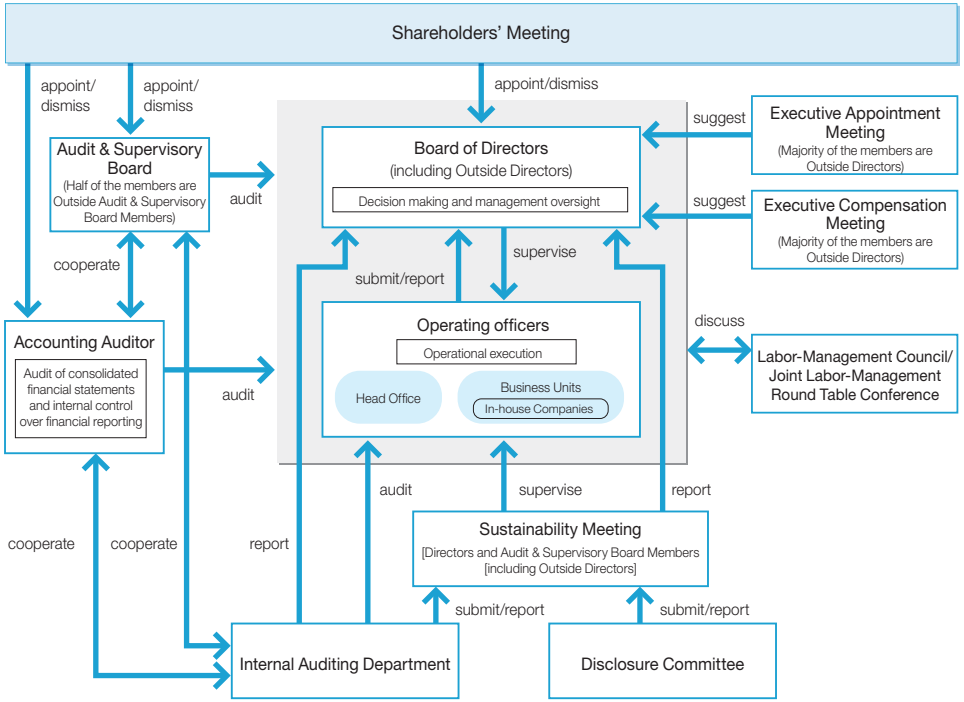
[Share Compensation System]

The Board of Directors of TMC decides the share compensation, using the maximum share compensation (4.0 billion yen per year) set in the 115th Ordinary General Shareholders' Meeting held on June 13, 2019.

Analysis and Evaluation of the Effectiveness of the Board of Directors

After the Secretariat of the Board of Directors conducts a quantitative analysis of the state of the Board's performance pursuant to an instruction of the Chairman of the Board of Directors, a survey is conducted of Members of the Board of Directors (Members of the Board of Directors and Audit & Supervisory Board Members) regarding the state of execution of operations and of the supervision of such execution. Furthermore, interviews are held individually with Members of the Board of Directors, including the Outside Directors and Outside Audit & Supervisory Board Members, based on results of the survey. The Secretariat of the Board of Directors' Meeting combines and explains the findings to the Chairman of the Board of Directors and reports and discusses the findings at the Board of Directors' Meeting.
For FY2019, it was confirmed, as a result of the evaluation, that effectiveness was secured.
However, since meaningful comments were provided during the process of the evaluation regarding "acceleration of decision making," "management oversight of operations" and other matters, Toyota will make suggested improvements during FY2020 to further enhance effectiveness.

Corporate Governance Organizational Diagram (Emphasizing Frontline Operations + Multidirectional Monitoring)



Fundamental Approach and Maintenance of Internal Control Systems

Basic Stance on System for Ensuring Appropriate Business Operations

Toyota and its subsidiaries work to foster a sound corporate culture based on the Guiding Principles at Toyota and the Toyota Code of Conduct. Toyota integrates the principles of problem identification and *kaizen* (continuous improvement) into its operational processes and makes continuous efforts to train employees who will put these principles into practice.

System to Ensure Appropriate Operations

Toyota endeavors to maintain and properly operate a system for ensuring the appropriateness of business operations as a corporate group in accordance with its Basic Policies on Establishing Internal Controls. Each fiscal year, Toyota inspects the establishment and implementation of internal controls to confirm that the organizational units responsible for implementing internal controls are functioning autonomously and enhancing internal controls as necessary. The findings of these inspections are reviewed in the Sustainability Meetings and the Board of Directors Meetings.

For details on Fundamental Approach and Maintenance of Internal Control Systems, please see “IV. Basic Approach to Internal Control System and its Development” in the Corporate Governance Report.

Risk Management

Fundamental Approach

Toyota has been working to reinforce its risk management structure since the series of recall issues that occurred in 2010. In June 2010, Toyota established the Risk Management Committee (now Sustainability Meeting) and appointed risk managers globally and at each region and section to comprehensively prevent and mitigate the impact of risks that could arise in business activities.

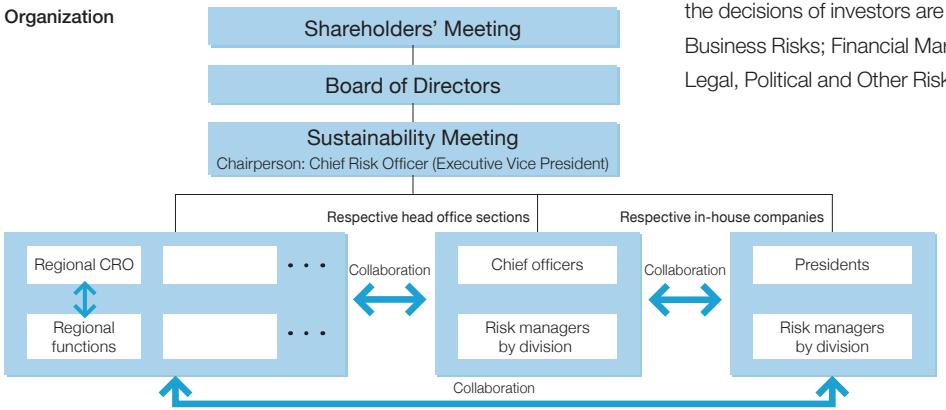
Organization and Structure

To head global risk management, Toyota has appointed a Chief Risk Officer (CRO) who oversees significant risks and takes leadership to respond to significant global emergencies. Beneath the CRO are Regional CROs appointed to manage their own risk management structures.

Within head office departments (such as Accounting and Purchasing), risk management by function is assigned to chief officers and risk managers of individual divisions, while in individual in-house companies, risk management by product is assigned to the company presidents and risk managers of individual divisions. This makes it possible for them to coordinate and cooperate with the regional head offices and sections.

To oversee and mitigate global risks, we are enhancing our global risk management capability based on the Toyota Global Risk Management Standard (TGRS), which spells out Toyota's globally common risk management policy, structure, and operating procedures. Additionally, to identify and implement the necessary risk-prevention actions, significant emerging risks are reported and reviewed in the Sustainability Meetings. To respond to emerging risks in recent years, Toyota advances measures related to information security and business continuity management (BCM). Risks related to Toyota's businesses that could significantly impact the decisions of investors are listed in Form 20-F: Industry and Business Risks; Financial Market and Economic Risks; Regulatory, Legal, Political and Other Risks.

Organization



Initiatives for Information Security

With cyber attacks becoming more sophisticated and complicated, the targets of cyber attack are no longer limited to confidential information and information systems, but also include the networks of systems that control plant facilities and vehicles (such as on-board device systems). The importance of information security is increasing for Toyota.

Toyota is committed to ensuring the safety and security of our customers from cyber attack threats and we consider it our social responsibility to protect our customers' personal information. Therefore, we are reinforcing information security by governance and risk management based on the Information Security Policy, formulated to clearly define our basic policy and attitude regarding information security, with the goal of taking necessary actions together with our subsidiaries.

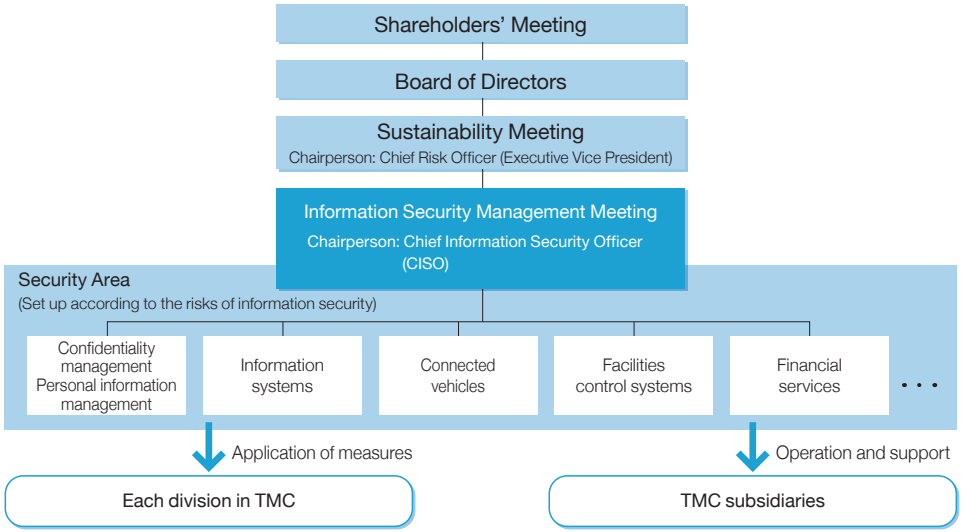
Information Security Policy (Toyota's Basic Approach)

1. Compliance
2. Maintenance of stable business infrastructure
3. Providing safe products and services
4. Contribution to the establishment of safe cyberspace
5. Information security management

Information Security Policy

Organization and Structure

Under the Chief Information Security Officer, security officers are respectively assigned in the individual security fields to promote activities.
Details of activities in each security field and overall common issues are shared and discussed at Information Security Management Meetings to improve information security throughout Toyota.



Initiatives for Information Management

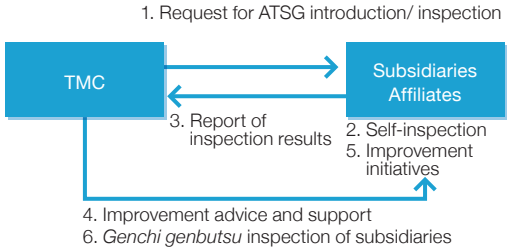
Toyota has established the All Toyota Security Guidelines (ATSG) covering TMC, its subsidiaries and affiliates, with the goal of comprehensively preventing information leaks and emerging risks of cyber attacks.
ATSG ensures information security through a multi-faced approach: through organization, human resources, technical security, physical security, and incident/accident response. To cope with recent environmental changes and increasingly sophisticated cyber attacks, ATSG is revised periodically.

By annually inspecting the information security initiatives being taken at each company in line with the ATSG, Toyota is working to ensure continuous maintenance and improvement. Furthermore, starting in FY2019, TMC has been carrying out *genchi genbutsu* inspection of its subsidiaries for further improvements.

All Toyota Security Guidelines (ATSG)

1. Organizational management measures (establishment of organization and rules)
2. Human resource management measures (employee training, etc.)
3. Technical management measures (network security, etc.)
4. Physical management measures (entry and exit controls, etc.)
5. Establishment of incident/accident response

Structure for ATSG Implementation at Subsidiaries and Affiliates



In terms of automobile-related initiatives, Toyota is a member of Automotive Information Sharing & Analysis Center (Auto-ISAC) in Japan and United States, a framework for sharing knowledge related to information security and is actively utilizing it to immediately learn about cases that occur within the industry and put them to use in our company's development phase.
Toyota also references the best practices in the industry (specifically, best practices found in Auto-ISAC) in order to protect its vehicles against cybersecurity risks. These include the concept of security by design,[1] layered defense,[2] and security tests.
For personal information, individual education ensures that employees are well aware of the importance of following the law and handling information appropriately. In FY2019, we checked our compliance status with regard to EU General Data Protection Regulation (GDPR) and other regulations. We will keep checking for non-compliance on a regular basis in order to protect personal information.

1 Security by design: Design approach that defines the security requirements needed for safe system operations beginning from the planning and designing phases of an information system, and which aims to reliably incorporate these requirements into the information system through the development processes, by moving away from the approach of implementing security countermeasures only after a problem has been discovered.
2 Layered defense: Security practice of combining multiple defense "layers" in order to enhance security, so that an attack is not successful even if one layer is penetrated.

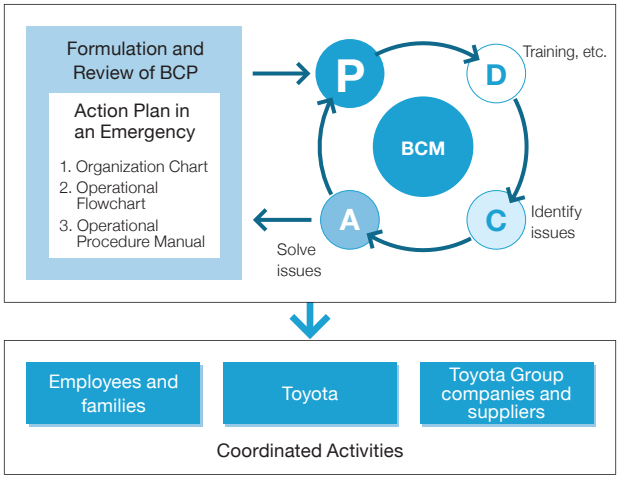
Business Continuity Management at Toyota

Although Toyota was not directly affected by recent large-scale disasters such as the Great East Japan Earthquake and the Thailand floods, our production operations stopped for a long period of time which inconvenienced our customers in terms of both sales and services.
There are deep concerns about the possibility of a Nankai Trough Massive Earthquake occurring, as the Toyota Group companies' main functions are concentrated in that area. It is predicted that a large scale earthquake there would severely impact our production and logistics operations.
To be prepared for such disasters, the Business Continuity Plan (BCP) was established to facilitate early recovery of business operations despite resource limitations.
In order to contribute to enriching the lives of communities, Toyota will work on disaster recovery according to the Basic Guidelines.

Toyota's Basic Guidelines (Priorities during a Disaster)

Business Continuity Management at Toyota

The PDCA is implemented and continuous improvement is undertaken through training, etc., to constantly raise the practical effectiveness of Toyota's BCP.
These activities are identified as Business Continuity Management (BCM), promoted through coordination among employees and their families, Toyota Group companies and suppliers, and Toyota.
Through this process of formulation and review of the BCP, we aim to develop risk-resilient organizations, workplaces, and individuals.



Humanitarian Aid and Early Recovery of Disaster-affected Regions

Toyota has concluded comprehensive disaster support agreements with local governments (Toyota City, Miyoshi City, Tahara City, and Susono City). In accordance with the Basic Guidelines, these efforts will give priority to disaster recovery and contribute to building disaster-resilient communities.
Humanitarian support and regional recovery assistance are to be provided under mutual cooperation with local governments. Toyota is preparing relevant structures by incorporating necessary provisions in its business continuity plan (BCP) and conducting joint training with the local governments.
Details of the major support items are described below. In addition, we have agreed with individual local governments to provide support such as designated shelter facilities.

Details of the Major Support Items

1. Rescue and relief in a disaster
2. Provide temporary evacuation facilities to local residents
3. Provide food, drinking water, and daily necessities for distribution through local governments (local residents)
4. Support cargo handling at municipal relief supply facilities
5. Provide space necessary for restoration of local infrastructure (water supply and drainage, roads, etc.)
6. Employee participation in local recovery activities

Building a Disaster-resilient Supply Chain with Suppliers

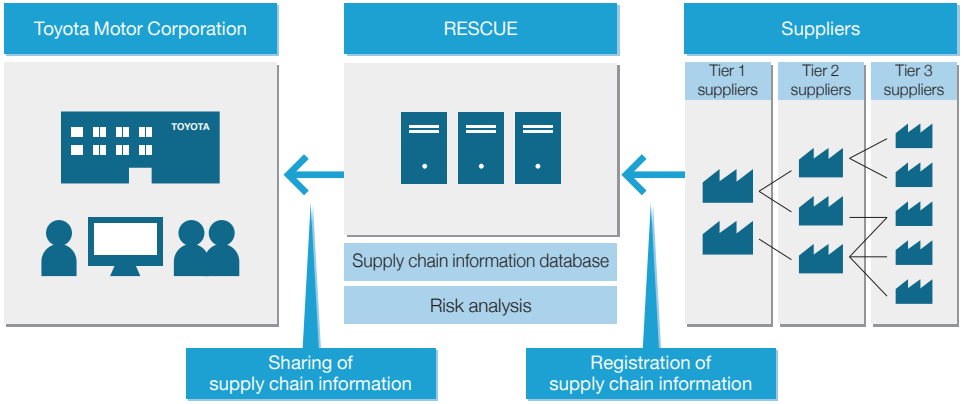
Toyota provides recovery support in accordance with the following priorities: (1) Humanitarian aid; (2) Early recovery of the affected area; (3) Restoration of Toyota's operations and production. Since the Great East Japan Earthquake, we have worked with suppliers in each country and region to build a disaster-resilient supply chain by sharing supply chain information and setting up measures for prompt initial action and early recovery.

In sharing supply chain information in Japan, Toyota has received highly confidential information from suppliers and used it to build a database, the RESCUE (REinforce Supply Chain Under Emergency) system, based on the concept of protecting Japanese *monozukuri* (manufacturing). While strictly protecting suppliers' confidential information, Toyota conducts regular trainings with suppliers to ensure effective utilization of this system in case of a disaster.

This system has been standardized and shared with other companies through the Japan Automobile Manufacturers Association, helping thus to build a disaster-resilient supply chain.

Toyota is implementing equivalent initiatives with suppliers in each country and region overseas.

RESCUE System to Store Supply Chain Information



Compliance

Fundamental Approach

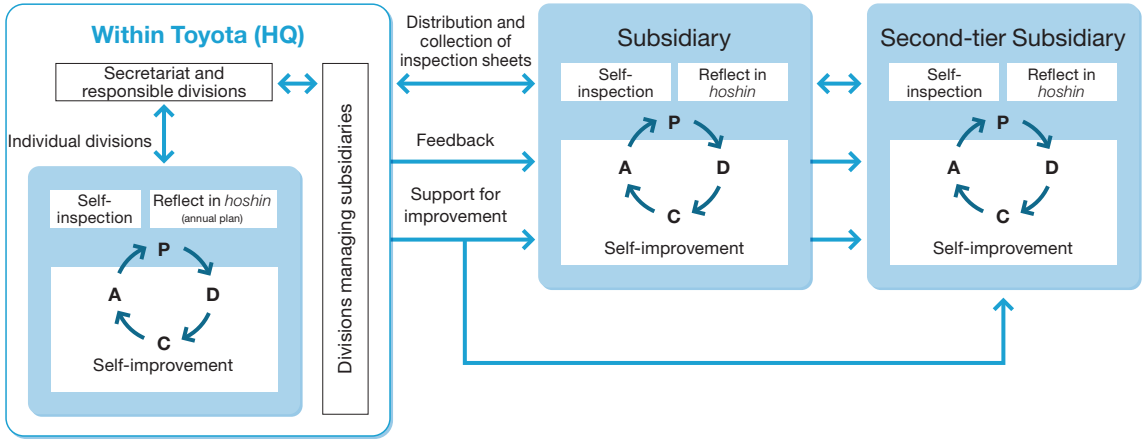
The Guiding Principles at Toyota state that Toyota shall "honor the language and spirit of the law of every country and region, and undertake open and fair business activities to be a strong corporate citizen of the world." Toyota believes that adhering to this principle is to fulfill corporate social responsibility and ensure compliance.
The Toyota Code of Conduct (adopted in 1998 and revised in March 2006) outlines the basic frame of mind that all members of Toyota should adopt. It shows concrete guidelines for the Guiding Principles at Toyota to carry out social responsibilities. This booklet is distributed to all our employees.
We also hold Sustainability Meetings to report and discuss the expectations of our stakeholders and our responses to various social issues including compliance.

Toyota Code of Conduct

Checks to Enhance Compliance

In FY2009, Toyota began implementing internal checks to enhance its compliance structure. In FY2010 these checks were extended to subsidiaries in and outside Japan. Since then, these checks have been carried out and improved every year.
Results are reported to Sustainability Meeting and used as a basis for further improvement. By incorporating improvement points into each year's action plans, we ensure that these checks lead to continuous improvement.
We also have discussions with subsidiaries to understand their compliance efforts and provide support when needed.

Activity



Ensuring Compliance

To ensure that awareness of compliance extends throughout the company, Toyota conducts training programs for directors, managers and newly recruited employees together with company-wide e-learning programs.
The Legal Division also conducts seminars at individual divisions on a wide range of topics based on their specific needs.

Main Training Themes in the Past

- Contracts
- Act against Unjustifiable Premiums and Misleading Representations
- Intellectual Property (trademarks)
- Confidentiality
- Management
- Labor
- Antimonopoly Law
- Insider Trading Regulations
- Product Liability Act
- Bribery Prevention
- Export Operations Management
- Subcontracting Law
- Copyright
- Act on the Protection of Personal Information
- Taxation
- Safety and Health etc.

Corruption Prevention Measures

In response to the global expansion of our business and social demands, Toyota adopted the Antibribery Guidelines in 2012 to eliminate corruption. Toyota is strengthening its preventive measures and working to prevent corruption by raising awareness through internal training and by informing business partners as well.
Furthermore, Toyota has been incorporating bribery prevention into self-inspection check sheets since 2013 and has been promoting improvement including in our subsidiaries.

Anti-bribery Guidelines (For Business Partners)

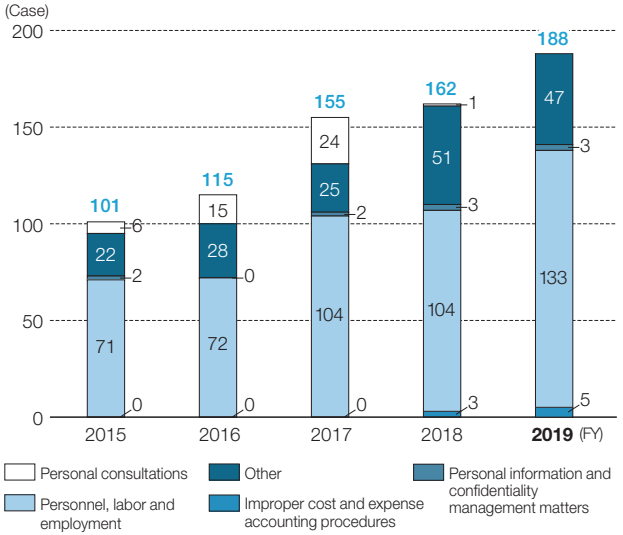
The Compliance Hotline

Toyota has established hotlines for quick and appropriate responses to concerns, complaints, or questions that employees may have. We have set up the Compliance Hotline, run by an outside law firm (subcontractor), which allows employees to have consultations concerning compliance-related issues. We are making sure that everyone is aware of the hotline by distributing contact cards to all employees and regularly setting up pop-up displays in cafeterias, and employees are making use of the hotline.

Upon request, the content of consultations may be made anonymously. The consultations are passed to the responsible division and the details are investigated carefully to ensure that the employee who made the consultation is not identified. If the results of the investigation indicate an issue, a response is immediately implemented.

For cases where we confirmed that there actually was an issue, we confirmed the facts and took appropriate measures in accordance with company regulations such as Work Regulations.

Content and Number of Consultations to the Compliance Hotline (Japan)



Performance Data

Activity results for the past three years are listed in the table below.

Data List (Fiscal Year-end)

Issues	Items			Unit	FY2017	FY2018	FY2019
Social Issues	Safety	No. of models with NCAP five-star safety rating	Japan (collision)	Models	4	2	3
			Japan (prevention): ASV+ FY2016, ASV++ FY2017, ASV+++ FY2019		5	2	3
			U.S.		13	13	13
			Europe		3	2	1
			China		— [1]	— [1]	1
		U.S. IIHS Top Safety Pick models	TSP		0	3	10
			TSP+		13	9	2
		No. of vehicles with units capable of providing and gathering traffic information (Japan)	No. of shipped vehicles with VICS (cumulative)	Thousand vehicles	14,180	15,210	16,230
			No. of vehicles registered for G-BOOK, T-Connect, G-Link (cumulative)		5,300	5,900	6,690
	Quality	J.D. Power (US) Initial Quality Study (IQS) ranking No. 1		Models	7	2	1
		Good Design Award (Japan)		—	Prius/Prius PHV, Sienta (including the Welcab series)	C-HR, JPN TAXI, Roomy/Tank	Crown, Century, SORA
		No. of calls to customer call centers (Japan)[2]		Thousand calls	299	293	314
	Welcab	No. of Welcabs sold (Japan)		Vehicles	17,050	15,718	14,801
		Market share of Welcab (Japan)[3]		%	70.0	68.2	67.0
		No. of Welcab models (Japan)		Models	26	23	23
	Social Contribution Activities	Total expenses for social contribution activities[4]		Billion yen	29.2	24.3	19.0
		No. of Toyota Community Concert participants (Japan)		Persons	38,600	33,414	29,589
		No. of Why/What Lecture participants (Japan)			1,031	906	728
		No. of visitors to the Forest of Toyota (Japan)			11,137	10,175	10,546
		No. of traffic safety educational materials distributed (picture books)		Million books	2.56	2.62	2.66
		Toyota Environmental Activities Grant Programs		No. of programs (cumulative)	332	360	387
	Employees	No. of foreign executives (TMC)		Persons	7	7	5
		Local employees comprising management at overseas affiliates		%	65.8	67.8	70.8
		Non-Japanese CEOs/COOs in major overseas subsidiaries		%	56.3	52.7	55.0
		No. of female managers (TMC)	Assistant manager	Persons	580	636	688
			Managerial positions		155	186	215
		Employment ratio of people with disabilities (including TMC and one special-purpose subsidiary)[5]		%	2.17	2.25	2.33
		Employment of people with disabilities (including TMC and one special-purpose subsidiary)[5]		Persons	1,238	1,282	1,322
		No. of employees using the childcare and nursing care leave program (TMC)		Persons	646	636	624
			Male		44	54	111
			Female		602	582	513
		Average period of childcare leave		Months	—	15.4	15
			Male		—	2.5	2
			Female		—	16.6	17
		Return rate after taking childcare leave		%	—	97.6	98
			Male		—	100	100
			Female		—	97.4	98

1 No Toyota cars were in the scope for assessment in 2017 and 2018
2 Results for January to December
3 Excluding minivehicles and heavy buses
4 TMC and consolidated subsidiaries in Japan and overseas
5 No. of people with disabilities employed and their employment ratio are current as of June 2019

Issues	Items			Unit	FY2017	FY2018	FY2019
Social Issues	Employees	Rate of male employees taking leave after birth of their child[6]		%	93.8	93.8	95
		Average number of days leave taken by male employees after birth of their child		Days	—	4.9	5
		No. of employees using the flexible working hours system (TMC)[7]		Persons	1,857	2,602	6,013
			Male		342	935	3,896
			Female		1,515	1,667	2,117
		Frequency rate of lost workday cases (TMC)		—	0.07	0.07	0.08
		Full-time employees (TMC)		Persons	75,218	74,890	74,515
			Male		66,399	65,629	65,579
			Female		8,819	9,261	8,936
		Average age (TMC)		Years old	39.1	38.8	39
			Male		39.7	39.4	40
			Female		34.7	34.7	35
		Average period of employment (TMC)		Years	17.7	17.4	16
			Male		18.3	17.9	18
			Female		13.3	13.2	13
		Turnover rate		%	—	—	1.02
		Percentage of annual paid leave taken[8, 9]		%	102.3	92.8	93
		Average monthly overtime per employee[8]		Hours/month	21.3	21.3	21
		Newly-hired employees (TMC)		Persons	2,513	2,237	1,914
			Male		2,166	1,825	1,469
			Female		347	412	445
			Administrative		213	162	168
			Male		83	82	108
			Female		130	80	60
			Engineering		647	626	527
			Male		562	545	444
			Female		85	81	83
			Shop floor		1,653	1,449	1,219
			Male		1,521	1,198	917
			Female		132	251	302
		Re-employed retirees (TMC)			779	745	890
		Employees who feel their own growth (TMC) Administrative and engineering		%	77.6	— [10]	75.2
		Employees who feel their own growth (overseas) Administrative and engineering			70.0		— [10]
		Employees who are satisfied with company life (TMC) Administrative and engineering			78.0		75.8
		Employees who are satisfied with company life (TMC) Shop floor			—		— [10]
		Employees who are satisfied with company life (overseas) Administrative and engineering			74.0		77.0
		Employees who are satisfied with company life (overseas) Shop floor			72.0		70.0
Environmental Issues	New Vehicle Zero CO_2 Emissions Challenge	Annual HEV Sales (Global)[2]		Million units	1.401	1.518	1.631
		Cumulative HEV Sales (Global)[2]			9.943	11.461	13.059
		CO_2 emissions reduction benefit of Toyota Hybrid Vehicles (Global)		Million tons	77.0 (January 2017)	94.0 (April 2018)	108.0 (April 2019)
		Global average CO_2 emissions from new vehicles reduction rate versus 2010 (Japan, U.S., Europe, China)		%	11.9	13.7	14.9
	Life Cycle Zero CO_2 Emissions Challenge	CO_2 emissions per ton-kilometer (transportation volume) from TMC logistics operations (Japan)		Million tons	0.282	0.286	0.289
	Plant Zero CO_2 Emissions Challenge	Global CO_2 emissions (from energy consumption at stationary emission sources)[4]		Million tons	7.81	7.79	7.65
		CO_2 emissions per unit produced[4]		Tons/unit	0.741	0.740	0.712
	Challenge of Minimizing and Optimizing Water Usage	Global water usage[4]		Million m^3	32.8	32.9	33.7
		Water usage per unit produced[4]		m^3/unit	3.1	3.1	3.2

6 Percentage of male employees who took more than a half-day or full day of leave within two months of the birth of their child (including annual paid leave and childcare leave)
7 Including use of programs other than those for childcare or nursing leave (definitions partially revised in FY2019)
8 Union member average
9 As a fraction of the number of days given each year.
Including days of annual paid leave carried over from previous years (annual paid leave can be carried over for up to two years).
10 Survey not conducted

Issues	Items			Unit	FY2017	FY2018	FY2019
Environmental Issues	Challenge of Establishing a Recycling-based Society and Systems	Total waste volume (TMC)		Thousand tons	33.8	32.7	32.2
		Waste volume per unit produced (TMC)		kg/unit	11.6	11.3	11.2
		Recovery rate (TMC)	ASR	%	98	98	97
			Airbag		94	94	94
		Vehicle recovery rate (TMC)		%	99	99	99
	Environmental Management	VOC emissions volume in vehicle body painting processes (average for all lines) (TMC)		g/m^2	14.6	14.4	15.0
		No. of violations of environmental laws and regulations (TMC)		Number	1	1	1
Governance	Governance (TMC)	Outside Directors		Persons	3	3	3
		No. of consultations made to the Compliance Hotline		Consultations	155	162	188

Basic data	Overall	Vehicle sales (consolidated)[11]		Thousand vehicles	8,970	8,964	8,976
			Those sold in Japan		2,274	2,255	2,226
		Research and development expenses		Billion yen	1,037.5	1,064.2	1,048.8
	Financial Information (Consolidated)	Net revenues		Billion yen	27,597.1	29,379.5	30,225.6
			Japan		14,830.8	16,024.8	16,625.3
			North America		10,239.0	10,574.4	10,817.2
			Europe		2,681.0	3,185.2	3,238.8
			Asia		4,819.8	5,148.1	5,513.0
			Other		2,161.0	2,453.2	2,333.4
		Operating income (Operating income ratio: %)		Billion yen (%)	1,994.3 (7.2)	2,399.8 (8.2)	2,467.5 (8.2)
			Japan		1,202.2	1,659.9	1,691.6
			North America		311.1	138.8	114.5
			Europe		12.2	75.0	124.8
			Asia		435.1	433.1	457.4
			Other		58.6	112.6	91.1
		Net income		Billion yen	1,831.1	2,493.9	1,882.8
		Shareholders' equity			17,514.8	18,735.9	19,348.1
		Total assets			48,750.1	50,308.2	51,936.9
		Net assets			18,668.9	19,922.0	20,565.2
		ROE		%	10.6	13.7	9.8
		Dividend per share		Yen	210	220	220
		Capital expenditures		Billion yen	1,211.8	1,302.7	1,465.8
		Vehicle production		Thousand vehicles	8,975	8,964	8,985
	Global Expansion	No. of plants and manufacturing companies	Japan	Sites	16	17	17
			North America		11	10	10
			Europe		9	8	8
			Asia		24	24	24
			Other		9	8	8
		No. of distributors	North America	Sites	5	5	5
			Europe		29	29	29
			Asia		20	21	20
			Other		113	114	113
		No. of parts suppliers (Global)		Companies	3,511	3,759	3,223
			No. of parts suppliers (overseas)		3,075	3,322	2,782
			No. of non-Japanese parts suppliers		1,615	1,795	1,387

11 Including Daihatsu and Hino

ISO 26000 Comparison

Initiatives described in the report are defined as below according to ISO 26000's seven core subjects and issues.

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Core Subjects in ISO 26000	Issues		Page
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		New Vehicle Zero CO_2 Emissions Challenge	61
		Life Cycle Zero CO_2 Emissions Challenge	64
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Community Involvement and Development	31 Community involvement 32 Education and culture 33 Employment creation and skills development 34 Technology development and access 35 Wealth and income creation 36 Health 37 Social investment	Initiatives for Improving Traffic Safety	11
		Creating an Affluent Society	45
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CSR Policy Comparison with ISO 26000 Issues

CSR Policy: Contribution towards Sustainable Development		ISO 26000 Ref. No.
Preamble	We, Toyota Motor Corporation and our subsidiaries, take initiative to contribute to harmonious and sustainable development of society and the earth through all business activities that we carry out in each country and region, based on our Guiding Principles. We comply with local, national and international laws and regulations as well as the spirit thereof and we conduct our business operations with honesty and integrity. In order to contribute to sustainable development, we believe that management interacting with its stakeholders as described below is of considerable importance, and we will endeavor to build and maintain sound relationships with our stakeholders through open and fair communication. We expect our business partners to support this initiative and act in accordance with it.	1 2 4 22 23 24
Customers	● Based on our philosophy of "Customer First," we develop and provide innovative, safe and outstanding high quality products and services that meet a wide variety of customers' demands to enrich the lives of people around the world. (Guiding Principles 3 and 4)	25, 27 29, 30
	● We will endeavor to protect the personal information of customers and everyone else we are engaged in business with, in accordance with the letter and spirit of each country's privacy laws. (Guiding Principles 1)	24, 28
Employees	● We respect our employees and believe that the success of our business is led by each individual's creativity and good teamwork. We stimulate personal growth for our employees. (Guiding Principles 5)	14
	● We support equal employment opportunities, diversity and inclusion for our employees and do not discriminate against them. (Guiding Principles 5)	5, 6, 10
	● We strive to provide fair working conditions and to maintain a safe and healthy working environment for all our employees. (Guiding Principles 5)	11, 13
	● We respect and honor the human rights of people involved in our business and, in particular, do not use or tolerate any form of forced or child labor. (Guiding Principles 5)	3, 4, 9
	● Through communication and dialogue with our employees, we build and share the value "Mutual Trust and Mutual Responsibility" and work together for the success of our employees and the company. We recognize our employees' right to freely associate, or not to associate, complying with the laws of the countries in which we operate. (Guiding Principles 5)	5, 7 8, 12
	● Management of each company takes leadership in fostering a corporate culture, and implementing policies, that promote ethical behavior. (Guiding Principles 1 and 5)	19, 20

CSR Policy: Contribution towards Sustainable Development			ISO 26000 Ref. No.
Business Partners		● We respect our business partners such as suppliers and dealers and work with them through long-term relationships to realize mutual growth based on mutual trust. (Guiding Principles 7)	21
		● Whenever we seek a new business partner, we are open to any and all candidates, regardless of nationality or size, and evaluate them based on their overall strengths. (Guiding Principles 7)	37
		● We maintain fair and free competition in accordance with the letter and spirit of each country's competition laws. (Guiding Principles 1 and 7)	21
Shareholders		● We strive to enhance corporate value while achieving a stable and long-term growth for the benefit of our shareholders. (Guiding Principles 6)	—
		● We provide our shareholders and investors with timely and fair disclosure on our operating results and financial condition. (Guiding Principles 1 and 6)	1
Local Communities/ Global Society	**Environment**	● We aim for growth that is in harmony with the environment by seeking to minimize the environmental impact of our business operations, such as by working to reduce the effect of our vehicles and operations on climate change and biodiversity. We strive to develop, establish and promote technologies enabling the environment and economy to coexist harmoniously, and to build close and cooperative relationships with a wide spectrum of individuals and organizations involved in environmental preservation. (Guiding Principles 3)	15, 16 17, 18
	Community	● We implement our philosophy of "respect for people" by honoring the culture, customs, history and laws of each country. (Guiding Principles 2)	2, 7, 8
		● We constantly search for safer, cleaner and superior technologies that satisfy the evolving needs of society for sustainable mobility. (Guiding Principles 3 and 4)	26, 34
		● We do not tolerate bribery of or by any business partner, government agency or public authority and maintain honest and fair relationships with government agencies and public authorities. (Guiding Principles 1)	19, 20
	Social Contribution	● Wherever we do business, we actively promote and engage, both individually and with partners, in social contribution activities that help strengthen communities and contribute to the enrichment of society. (Guiding Principles 2)	31, 32 33, 35 36, 37

Worldwide Olympic Partner

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Toyota is a Worldwide Olympic/Paralympic Partner in the category of vehicles, mobility support robots and mobility services.

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Address: 1 Toyota-Cho, Toyota City, Aichi Prefecture 471-8571, Japan
Phone: +81 565 28 2121
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