TOYOTA

TOYOTA MOTOR CORPORATION

Sustainability Data Book 2018

Sustainability Data Book 2018

Fiscal Year Ended March 31, 2018

Sustainability Data Book 2018

Editorial Policy

The *Sustainability Data Book* explains Toyota's initiatives related to the environment (E), society (S), and governance (G).
The *Environmental Report 2018—Toward Toyota Environmental Challenge 2050*—is excerpted from the *Sustainability Data Book 2018*.

Period Covered

Fiscal year 2018 (April 2017 to March 2018)
Some of the initiatives in fiscal year 2019 are also included.

Third-Party Assurance

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

Scope of Report

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

Disclosure of Information on Overseas Affiliates

Reports are being issued in a total of 13 countries and regions (including Japan) in which Toyota overseas affiliates operate, and detailed information is disclosed on company websites in three countries and regions. The information disclosed globally by these reports covers about 87 percent of Toyota vehicles sold worldwide.

Reference Guidelines

- Ministry of the Environment of Japan *Environmental Reporting Guidelines* (2012 Version)
- ISO 26000 guidelines
- A comparison table relative to the *GRI Sustainability Reporting Guidelines* is disclosed on the Toyota company website

Web https://www.toyota-global.com/sustainability/csr/gri/


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

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, 2018)
Main Business Activities	Motor Vehicle Production and Sales
No. of Employees (consolidated)	369,124 (as of the end of March, 2018)
No. of Consolidated Subsidiaries	606 (as of the end of March, 2018)
No. of Affil. Accounted for under the Equity Method	57 (as of the end of March, 2018)

Non-automotive Business

Financial Services

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

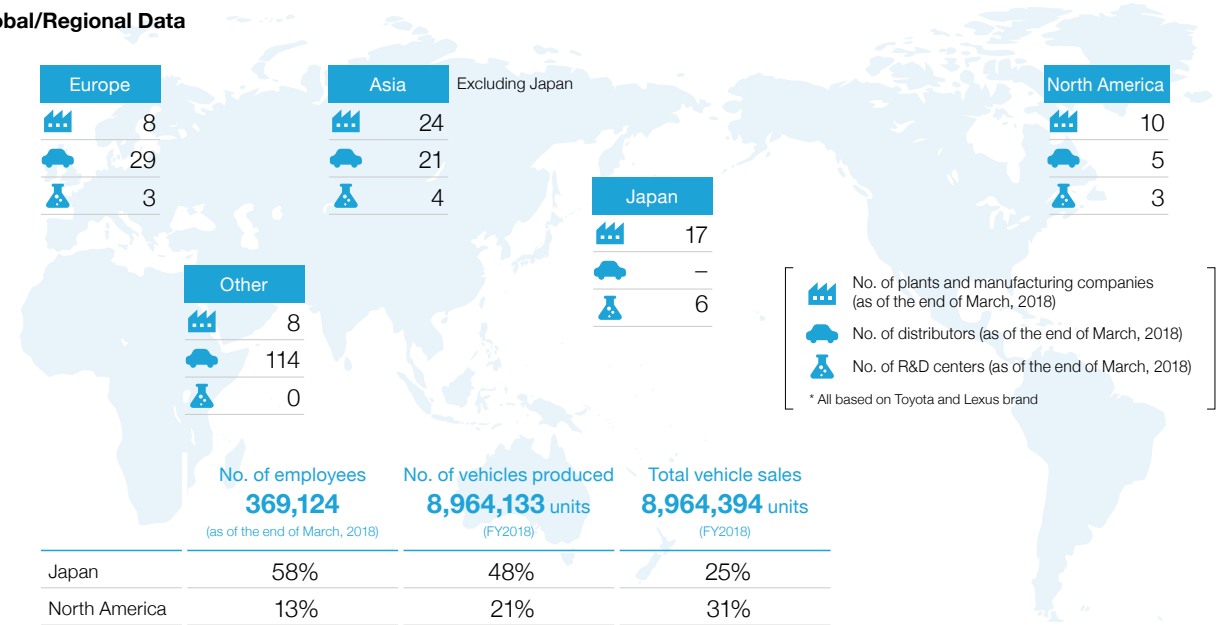
Housing

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.

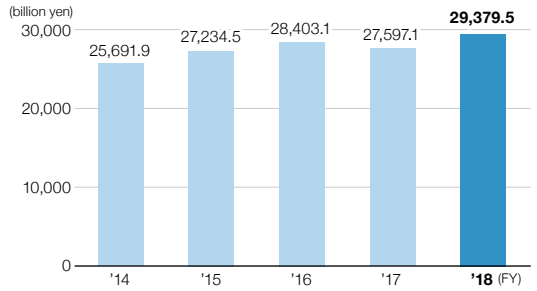
Global/Regional Data



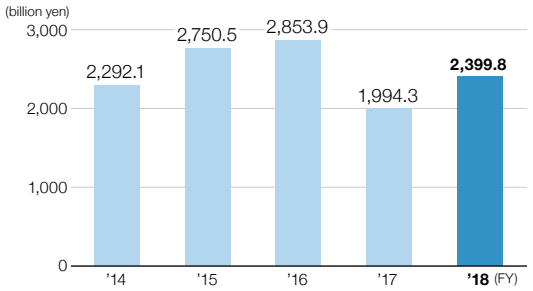
	No. of employees 369,124 (as of the end of March, 2018)	No. of vehicles produced 8,964,133 units (FY2018)	Total vehicle sales 8,964,394 units (FY2018)
Japan	58%	48%	25%
North America	13%	21%	31%
Europe	6%	8%	11%
Asia	17%	18%	17%
Other	6%	6%	16%

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

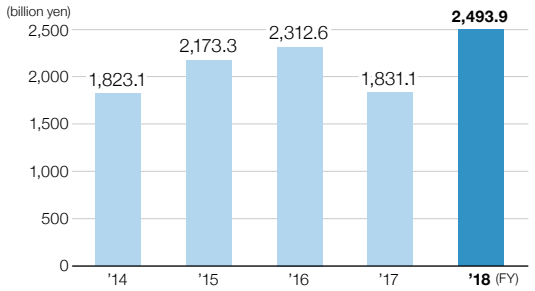
Net Revenues



Operating Income

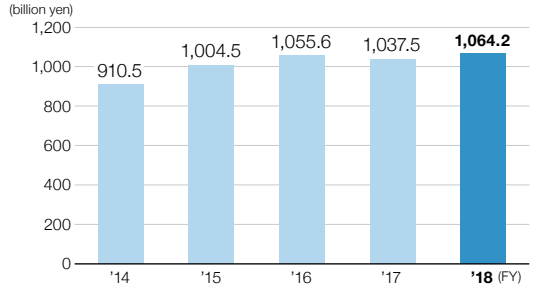


Net Income

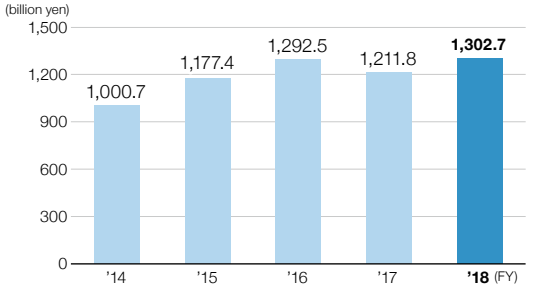


• Shows the net income attributable to the shareholders of Toyota Motor Corporation

R&D Expenses



Capital Investment



• Capital investment excludes vehicles and equipment on operating leases

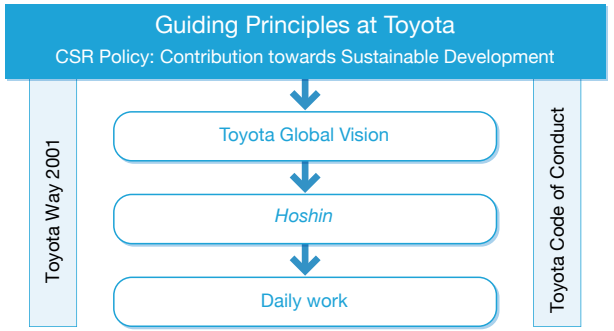
Corporate Principles

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* 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 founder of the Toyota Group, 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 (revised in April 1997) to clarify how Toyota is expected to be, 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 nation and undertake open and fair business activities to be a good corporate citizen of the world.
2. Respect the culture and customs of every nation 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 manufacture to achieve stable, long-term growth and mutual benefits, while keeping ourselves open to new partnerships.

Toyota Global Vision

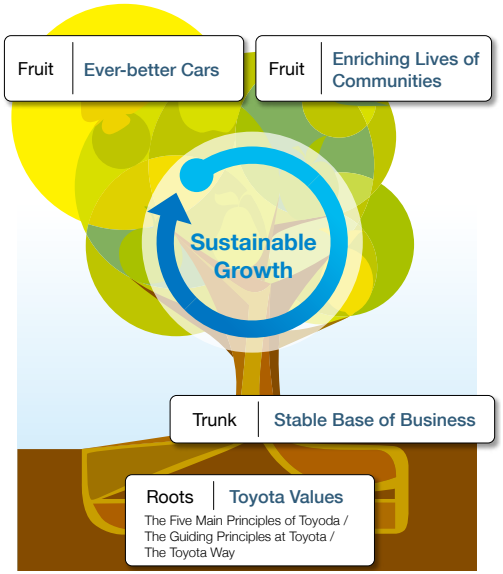
The Toyota Global Vision—announced in March 2011—reflects lessons learned from financial losses caused by the global economic crisis in 2008 and the series of recall issues of 2010. It reflects company-wide review and comprehensive discussions on how Toyota wants to be, and the kind of values it should 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.

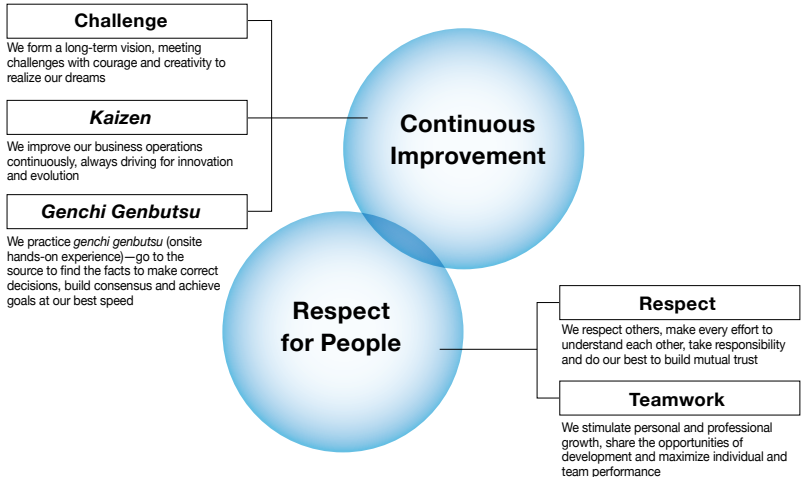
We will meet challenging goals by engaging the talent and passion of people, who believe there is always a better way.



Toyota Global Vision
Web https://www.toyota-global.com/company/vision_philosophy/toyota_global_vision_2020.html

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
Web https://www.toyota-global.com/company/vision_philosophy/toyota_code_of_conduct.html

Toyota Production System (TPS)

Toyota's vehicle production system is a way of "making things" that is sometimes referred to as a "lean manufacturing system" or a "Just-in-Time (JIT) system," and has come to be well known and studied worldwide. This production control system has been established based on many years of continuous improvements, with the objective of "making the vehicles ordered by customers in the quickest and most efficient way, in order to deliver the vehicles as quickly as possible."

The Toyota Production System (TPS) was established based on two concepts: The first is called *jidoka* (which can be loosely translated as "automation with a human touch") which means that when a problem occurs, the equipment stops immediately, preventing defective products from being produced; The second is the concept of "Just-in-Time," in which each process produces only what is needed by the next process in a continuous flow.

Based on the basic philosophies of *jidoka* and Just-in-Time, the TPS can efficiently and quickly produce vehicles of sound quality, one at a time, that fully satisfy customer requirements.

Toyota Production System Concept: Complete Elimination of *Muda* (Waste)

Jidoka	**Just-in-Time**
Highlighting/visualization of problems	**Productivity improvement**

Web https://www.toyota-global.com/company/vision_philosophy/toyota_production_system/

Sustainability Policy

Toyota's CSR policy is an interpretation of the Guiding Principles at Toyota with a focus on 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)

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)

Global Society/Local Communities

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)

Structure

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 external directors and external auditors. The Meeting discusses non-financial issues from a range of angles, and confirms management directions.

We have also set up the ESG Committee within the Sustainability Meeting, in which the executive officers in charge lead discussions toward solving individual issues promptly.

Organization

Sustainability Issues

In line with the Five Main Principles of Toyoda and the Guiding Principles at Toyota, we aim to grow with the community as we have since our founding, however these days the automobile industry and the social environment are both changing greatly. To grow sustainably within this changing world, Toyota identifies sustainability issues based on the importance for our business and the expectations of our stakeholders in order to be a trusted company.

In defining sustainability issues, we are studying the business environment Toyota is acting according to internationally-agreed standards, such as the Paris Agreement[1], the UN Guiding Principles on Business and Human Rights[2], and Sustainable Development Goals (SDGs[3]), as well as expert advice. Thus we define issues to improve corporate value or strengthening management foundation and risk management.

Toyota checks progress on these issues periodically by discussing them in the Sustainability Meeting and the ESG Committee.

1 An international framework on climate change adopted at the 21st Conference of the Parties (COP21) of the United Nations Framework Convention on Climate Change held in Paris in 2015, dealing with greenhouse-gas-emission mitigation starting in the year 2020.
2 Global standards that must be respected by all countries and businesses, approved by the United Nations Human Rights Council in 2011.
3 Adopted at the United Nations Sustainable Development Summit, which was held in September 2015 and attended by more than 150 world leaders, these new sustainable development goals through 2030 consist of 17 goals and 169 targets.

Sustainability at Toyota

Management from a Sustainability Viewpoint

Competitiveness enhancement to ensure sustainability ⟷ **Risk management** to ensure a sound business foundation

- Precise handling of ESG issues (social responsibility), leading to sustainable growth
- Advance risk assessment through constant information collection and analysis (to avoid opportunity loss, threats, and emergencies)

Sustainability Issues

E Environment

Environmental Issues

Preventing global warming and sustainable growth

- Climate change
- Energy
- Water
- Waste

pp. 76–134

S Social

Social Issues

Responding to diverse expectations from stakeholders

- Achieving a safe mobility society
- Customer First and Quality First

pp. 13–26

- Creating a mobility society

pp. 27–43

- Contributing to the local economy

p. 3

- Local community involvement

p. 73

- Responding to expectations from society regarding human rights

pp. 44–47

- Ensuring customer privacy

p. 141

G Governance

Governance Compliance Risk Management

Preventing risk that could affect management

- Governance structure
- Ensuring compliance

pp. 136–144

- Internal control to ensure appropriate operations
- Risk management

Common Issues

Information disclosure/collection	● Effective notification and dialogue for initiatives and progress	pp. 73–74
Value chain	● Environmental matters ● Risk responses for new values, new businesses	pp. 93–96, pp. 107–112, pp. 139–141
Supply chain	● Compliance, environmental and social activities	pp. 48–50, pp. 126–127

Initiatives Aligned with Global Society

Toyota is working on initiatives that contribute to sustainable development of society and the earth through all its business activities in cooperation with global society. At the root of this 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.

These ideas and values of Toyota are in line with the aims of the UN Sustainable Development Goals (SDGs), which went into effect in January 2016. In the 17 goals, Toyota will contribute to solving global social issues by using its strengths by working to reduce traffic casualties (goal 3), building sustainable cities and communities and improving mobility (goal 11), and taking actions to address climate change (goal 13).

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[1] agreed on in the Paris Agreement, we are promoting initiatives under the Toyota Environmental Challenge 2050. In 2018, we established our midterm goals and are tackling the challenges that make positive change for the environment.

In addition, Toyota is a founding member of the World Business Council for Sustainable Development (WBCSD[2]) In the Transforming Mobility project, which started in 2018, we intend to clarify issues with specialists, in order to incorporate the major environmental changes happening around cars such as sharing and autonomous driving into future mobility systems.

1 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 pre-industrial revolution level.

2 The World Business Council for Sustainable Development, headquartered in Geneva, conducts surveys and makes suggestions on economic growth, environmental preservation, and social development from a global perspective toward sustainable development. Around 200 companies from various industries around the world have joined the council. Since its inception in linkage with the Rio Earth Summit in 1992, the WBCSD has proposed the environmental management system "ISO 14000" and Eco-efficiency, a management philosophy that encourages business to search for environmental improvements that yield parallel economic benefits. The WBCSD also supports SDG-related initiatives.

Initiatives for Contributing to SDGs (Examples)

Reducing traffic casualties (goal 3)	Active safety through Toyota Safety Sense • The number of vehicles with Toyota Safety Sense has reached 8 million globally (as of April 2018)	p. 15
Improved mobility and sustainable urban development (goal 11)	Realize a prosperous mobility society while eliminating disparities in mobility through the Toyota Mobility Fund. • Example: Shift to multiple transportation modes, Vietnam	p. 37
Responses to climate change (goal 13)	Toyota Environment Challenge 2050: New Vehicle Zero CO_2 Emissions Challenge • Accelerate development with the goal of selling more than 5.5 million electrified vehicles in 2030 (more than 1 million BEVs/FCEVs)	pp. 77–79, 89

Society

Initiatives for Improving Traffic Safety

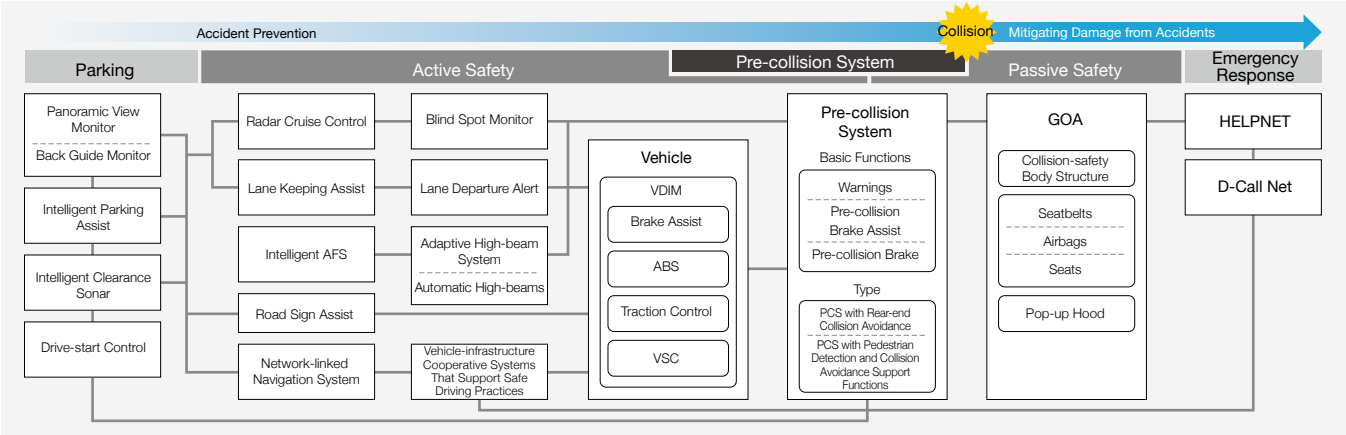
Fundamental Approach According to a World Health Organization (WHO) survey*, 1.25 million people worldwide died in traffic accidents, making them the ninth leading cause of death. While the number of deaths due to traffic accidents has been decreasing slightly in Japan, the United States and Europe, 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 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.

* Global status report on road safety 2015, 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 intersystem coordination rather than seeing each one separately. This is what's behind our Integrated Safety Management Concept.

Integration of Individual Technologies and Systems

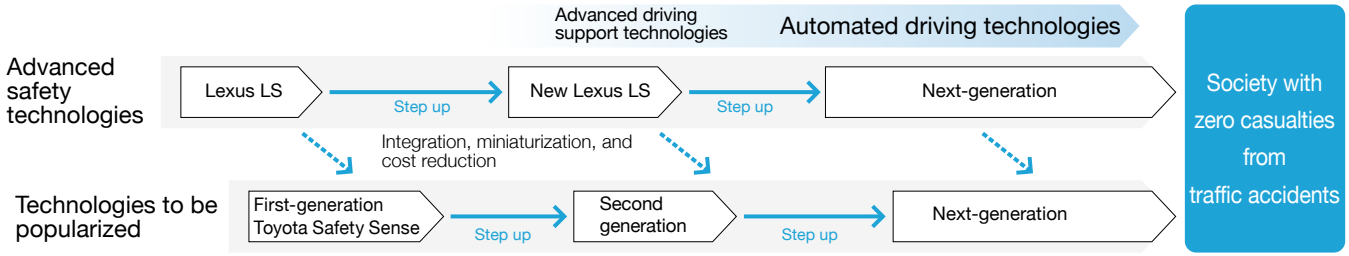


Popularization and Promotion of Safety Technology Development

To achieve a society with zero casualties from traffic accidents, it is important to develop highly effective safe driving systems in the market as soon as possible and install them in as many cars as possible.

To achieve this goal, it is necessary to take the two-pronged approach of developing advanced safety technologies and capitalizing on the expertise developed there to then develop technologies to be popularized.

Popularization and Promotion of Safety Technology



Results for the Previous Fiscal Year and Major Initiatives for the Current Fiscal Year

Major Initiatives during FY2018 (result)	Major Initiatives during FY2019
• Announced the effects of combining Toyota Safety Sense with ICS (Intelligent Clearance Sonar) in reducing accidents • The number of cars with Toyota Safety Sense (first-generation) installed has topped 5 million globally • The Parking Support Brake (for stationary objects, vehicles approaching in the rear, pedestrians in the rear) is designed to reduce accidents in parking spaces, and is fitted to the Lexus LS • The Lexus LS is equipped with the Lexus Safety System + A, which incorporates PCS, the world's first active steering, and the "Lexus CoDrive" advanced driving assist technology	• The more advanced, second-generation Toyota Safety Sense system is gradually being introduced into new models sold since 2018 • Full-scale implementation of the D-Call Net® and HELPNET's support for D-Call Net® • Launched Version 6 of THUMS, our virtual human body model

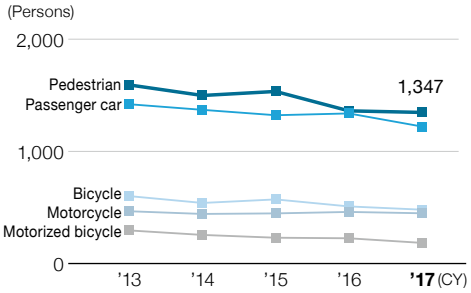
Actual Status of Traffic Accidents and Toyota's Safety Technology

There were 3,694 traffic fatalities in Japan in 2017, a drop of 210 people over the previous year. This was the lowest number since the National Police Agency began keeping records in 1948. Going by road users, pedestrians accounted for the largest number of deaths, with the percentage of fatalities among the elderly (65 year 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. This is why 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 automatic braking, on almost all our passenger vehicle models. We are also working on developing ICS, which helps prevent accidents caused by pressing the wrong pedal.

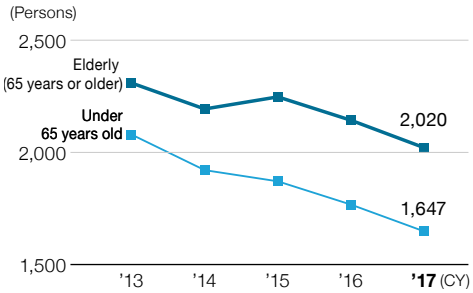
Automated driving technology, which is an aggregation of advanced driving support technologies, is expected to make a big difference in helping reduce the number of casualties from traffic accidents. Toyota is placing the highest priority on safety and actively working on developing automated driving technologies, with the aim of achieving a world in which every person can enjoy mobility safely, easily, and freely.

Number of Traffic Fatalities by Accident Type



Source: "Status of traffic fatalities within 30 days of the accident in 2017" National Police Agency

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



Source: "On the number of traffic fatalities during 2017" National Police Agency

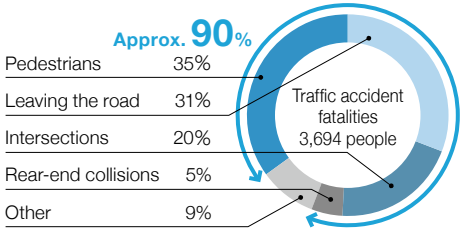
Active Safety

Toyota is developing Active Safety Systems that can keep cars and people free from accidents.

The Number of Vehicles with Toyota Safety Sense Has Topped 8 Million Globally

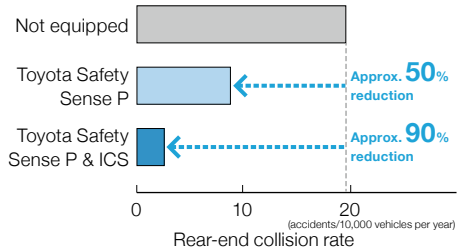
In 2015, Toyota introduced its new active safety package, Toyota Safety Sense, as a way to roll out safety systems that would contribute to greatly reducing deaths and injuries. Toyota Safety Sense is based on the idea of supporting the driver by assuming safe driving by the driver, reducing the number of accidents as well as helping mitigate damage in the event of an accident. We can work to help avoid collisions or mitigate damage from low to high speeds by packing multiple active safety functions. Our package is 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, Automatic High Beam (AHB), which helps ensure clear sight in front at night. With regard to the actual safety of cars with Toyota Safety Sense installed in real traffic environments, there was a reduction of about 50 percent in rear-end collisions and about 90 percent in combination with the ICS, which helps avoid collisions at low speeds, such as sudden acceleration or hitting other cars and collisions in parking lots (Toyota comparison). In November 2017, we completed Toyota Safety Sense (either as standard or as an option) for almost all passenger vehicles in Japan, North America, and Europe. The number of vehicles with Toyota Safety Sense now tops more than 8 million globally (as of April 2018). In other regions, we are progressively rolling it out to the market as we confirm the various regulations and traffic conditions in each area.

Comparative Rates of Fatal Traffic Accidents by Type



Source: "Concerning the Characteristics of Traffic Accident Fatalities for 2017" Traffic Bureau, National Police Agency

Effects of Toyota Safety Sense P and ICS on Accident Reduction



* 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

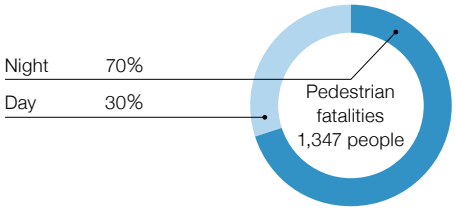
Number of cars with Toyota Safety Sense tops:

Approx. 8 million globally

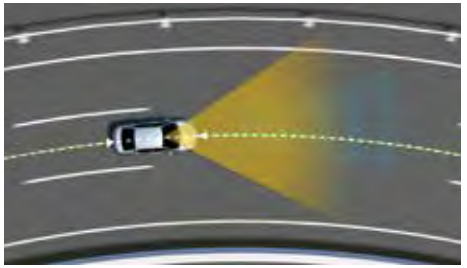
Second Generation Toyota Safety Sense Which Is the Active Safety Package Rolled Out from 2018

Toyota Safety Sense, now enhanced to its second generation, is being progressively introduced started from new 2018 models, mainly in Japan, North America, and Europe. The second generation uses two sensors to detect shapes and distance, the single-lens camera and the millimeter-wave radar, to prevent accidents and reduce the number of deaths and injuries from traffic accidents, and ease driver burden. The evolution of the second generation has been in the following three areas: (1) improving functionality through improvements to the performance of the camera and radar to expand the scope of hazard detection, (2) utilization of the advanced driving support feature Lane Tracing Assist (LTA), and (3) reduction of the size of the unit to improve ease of installation. For example, as we are expanding our coverage of serious accidents by adding nighttime pedestrians and cyclists to the scope of hazards detected by PCS, we can reduce the number of collisions between pedestrians and cars at night, which currently account for approx. 70 percent of all fatal pedestrian accidents and bicycle-car collisions, which account for approx. 75 percent of all fatal cyclist accidents. In addition, we package advanced driver support functions to reduce driver burden and improve convenience.

Pedestrian Fatalities (by Day/Night)



Source: "Concerning the Characteristics of Traffic Accident Fatalities for 2017" Traffic Bureau, National Police Agency



Lane Tracing Assist, advanced driving support technology

Pre-collision System with nighttime pedestrian detection

Pre-collision System with crossing cyclist detection

ITS Connect, Cooperative Driving Support System

Launched in the autumn of 2015, ITS Connect features a cooperative driving support system which utilizes vehicle-to-infrastructure and vehicle-to-vehicle communication. The system acquires and alerts the driver of the information about the presence of cars and pedestrians that are in blind spots outside the field of vision of onboard sensors, and about traffic signals to help reduce accidents at accident-prone intersections.

In the future, by linking ITS technologies with control technologies, Toyota is aiming to realize automated driving that will enable every driver to enjoy mobility safely, easily, and freely.

Main Vehicle-to-infrastructure Communication Systems (DSSS: Driving Safety Support Systems)

Right-turn Collision Caution	While waiting to turn right at an intersection, drivers are warned by an audio and visual alert if they start to move forward when another car is approaching from the opposite direction or when a pedestrian is crossing the road to the right of the vehicle.
Red Light Caution	When approaching an intersection fitted with the appropriate equipment, if the signal is red and the driver does not ease off the accelerator, the system will warn the driver with an audio and visual alert.

Main Vehicle-to-vehicle Communication Systems (CVSS: Connected Vehicles Support Systems)

Communicating Radar Cruise Control	The system responds almost instantaneously to the acceleration and deceleration of vehicles ahead equipped with Communicating Radar Cruise Control. This allows two or more vehicles to maintain a safe distance and minimize speed fluctuations, making traffic flow smoother.
Emergency Vehicle Notification	When an ambulance is sounding its siren nearby, the system notifies the driver with an audio alert and displays the approximate location and distance to the emergency vehicle, as well as the direction in which it is moving. As of September 2018, these alerts can be received in and around Nagoya, Aichi Prefecture.

For details on intersections that are compatible with Driving Safety Support Systems, please see the following websites.

Web https://toyota.jp/technology/safety/itsconnect/ Web https://lexus.jp/brand/technology/itsconnect/

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.

Furthermore, to analyze the human body injury mechanism, Toyota developed 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.

Impact-absorbing Body and High-strength Cabin

To reduce injury to vehicle occupants during a collision, it is crucial to prevent vehicle doors and other objects outside the vehicle from penetrating the cabin and to absorb the collision impact. The latest collision-safety structure consisting of an impact-absorbing body and a high-strength cabin incorporates the concept of “compatibility,” aiming to ensure the mutual safety of vehicles of different weights and heights if they collide.

Furthermore, in car manufacturing based on the “Toyota New Global Architecture (TNGA)” next-generation platform strategy, Toyota developed a vehicle body that demonstrates exceptional collision safety in frontal, side, rear, and even oblique frontal collision tests, based on the latest GOA. The newly developed body was adopted in the Prius launched in 2015, the C-HR launched in 2016, the Prius PHV, Camry, Lexus LC and LS launched in 2017, and the Crown and Corolla Sports launched in 2018.

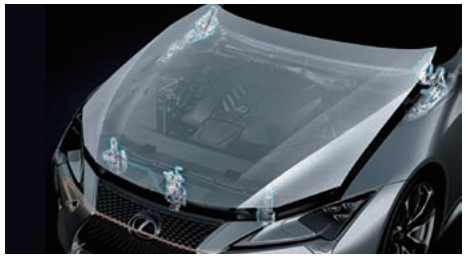
Setting Preventive Link Functions

Based on Toyota’s Integrated Safety Management Concept of increasing safety by linking individual systems, 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.

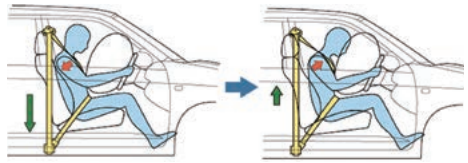
The Lexus LS, which was launched in October 2017, has a function to prepare the side & curtain shield airbags and the pop-up hood, while the new Crown, which was launched in June 2018, has a function to prepare the seatbelt system and pop-up hood.

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



Pop-up Hood

Seatbelt System



THUMS Virtual Human Body Model

THUMS, the virtual human body model that allows computer simulation of the damage bodies receive when subjected to impacts, recreates the dynamic characteristics of the human body, including its shape, the strength of bones, and the flexibility of organs and skin.

We can forecast the extent of injuries sustained throughout the human body through THUMS, and since its development in 2000, it has been utilized in the technological development of passenger protection devices such as airbags, and to contribute to improved vehicle safety performance.

Since 2007, Toyota has been applying THUMS to injury analysis of accidents involving general vehicles as well as motor sports. In March 2017, Toyota signed a four-year joint THUMS-based research agreement with the Global Institute for Motor Sport Safety which presides over research on safety in motor sports.

Outside Evaluations of Safety

ASV++ (the highest ranking) in the JNCAP[1] Active Safety Performance Assessment	Harrier, C-HR
Five Star Award (the highest ranking) in the JNCAP Passive Safety Performance Assessment	C-HR, JPN TAXI
TSP+[2] (the highest ranking) in the New Car Assessment Program of the Insurance Institute for Highway Safety (IIHS) in the U.S.	Camry, Corolla, Prius, Prius V, RAV 4, Lexus ES 350, NX, RC, RX
TSP (the highest ranking) in the New Car Assessment Program of the Insurance Institute for Highway Safety (IIHS) in the U.S.	Avalon, Yaris iA, Lexus CT 200h
Five Star Award (the highest ranking) in the NCAP[3] 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[3] in Europe	C-HR, Yaris
Five Star Award (the highest ranking) in the ANCAP[3] in Australia	Avensis, Camry, C-HR, Corolla, Kluger/Highlander, Yaris, Lexus CT, NX
Five Star Award (the highest ranking) in the ASEAN NCAP[3]	Vios, Yaris, Yaris ATIV
Five stars (highest level) in the Latin NCAP[3]	Corolla

1 JNCAP (Japan New Car Assessment Program) offers vehicle safety information, published by the Ministry of Land, Infrastructure, Transport and Tourism and the National Agency for Automotive Safety and Victim's Aid. The information is intended to promote better vehicle safety.
2 TSP+ is given to the most outstanding TSP vehicles.
3 NCAP (New Car Assessment Program) is a new car assessment program being carried out in various countries.
- Period: Japan: April 2017–March 2018; United States NCAP: 2018 model year; United States IIHS: December 2016–November 2017; Other: January–December 2017

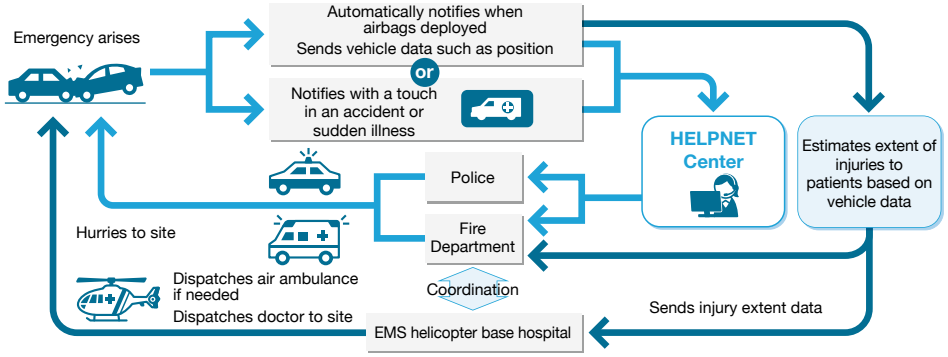
Emergency Response

Every minute counts in emergency response for 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. As of June 2018, HELPNET® has more than 1.7 million members. Under HELPNET®, a dedicated operator will promptly contact the police or rescue services to arrange emergency vehicles in the event of a sudden accident or illness. It automatically contacts an operator when the airbag deploys and supports the D-Call Net® which makes quick deployment decisions for air ambulances, etc.

Emergency Reporting System (D-Call Net®)

The D-Call Net® is one of the automated rescue alert systems that use connective technology in vehicles to further increase the ratio of lives saved in a traffic accident. When an airbag goes off in a traffic accident, vehicle data regarding the impact direction, severity of collision and whether seatbelts were fastened is automatically sent, where it is analyzed based on data from 2.8 million other accidents in Japan to estimate the likelihood of death or serious injury. This information is sent to the fire department headquarters and the EMS helicopter base hospital, allowing prompt decisions to be made sending an air ambulance or a ground ambulance, saving time before they can be dispatched and helping save more lives. Since November 2015, Toyota has been working with the Emergency Medical Network of Helicopter and Hospital (HEM-Net), Honda Motor Co., Ltd., and Japan Mayday Service Co., Ltd. (HELPNET®) to implement trial operation of D-Call Net®, and started full-scale operation in June 2018.

HELPNET® (Airbag-linked Type) Illustration



* 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 trade mark of Japan Mayday Service Co., Ltd.
* D-Call Net® is a registered trade mark of HEM-Net (Emergency Medical Network of Helicopter and Hospital).

Parking Assist

About 30 percent of all traffic accidents are said to occur in parking lots*. Checking around the car for safety and repeated steering maneuvers tend to burden drivers, which, along with pedal misapplication, can lead to serious accidents. Toyota has developed technology to improve visibility and to assist driving maneuvers during parking operations in order to prevent accidents and minimize damage.

* Source: "Statistics of Parking Lot Accidents" (statistics from six prefectures in Tohoku Region) from the General Insurance Association of Japan

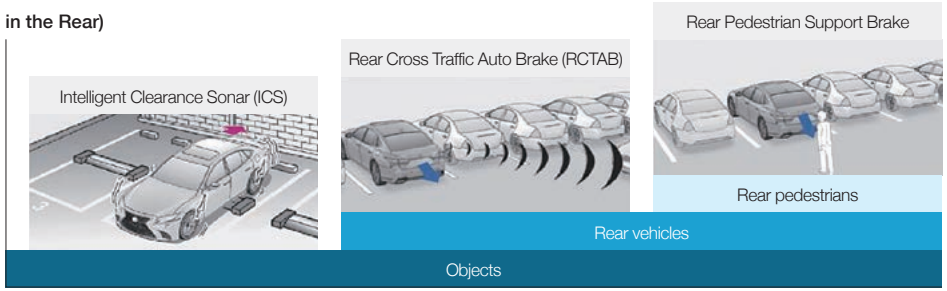
Parking Support Brakes Help Reduce Accidents in Parking Lots

Parking lots are busy with many people and cars, requiring careful awareness of surroundings and complicated driving techniques, which means they are also places where accidents are common. Toyota has developed the Parking Support Brakes (PKSB) system to further improve safety when parking, and equipped them on the Lexus LS, launched in October 2017.

In addition to the existing ICS, which reduces damage or avoids collisions with objects in the direction of movement front or rear and Rear Cross Traffic Auto Brakes, which prevent collisions with vehicles nearing the rear when backing out of parking areas, the PKSB system uses rear cameras to detect pedestrians behind the vehicle when reversing out, and if there is the risk of a collision, it sounds an alarm and operates the brakes automatically—a world first—thus avoiding or reducing damage from a collision.

We are carrying out technology development from a range of angles to assist driving when parking as well. We have already brought to market Clearance Sonar, which alerts drivers to obstacles, Drive-Start Control, which limits sudden starts or sudden acceleration during gear-shift operations, Intelligent Parking Assist, which assists with steering when parking, Panoramic View Monitor, which shows images looking down from above the car to allow drivers to check the safety of their surroundings, Back Guide Monitor, which helps with smooth reversing parking using guidelines. These allow us to contribute to reducing driving burden in parking lots.

Parking Support Brake (Objects, Vehicles in the Rear, Pedestrians in the Rear)



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 do. 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.

MOBILITY TEAMMATE CONCEPT
Automated Driving Tech.

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.

Detailed information: *Annual Report 2018* (p. 18)
Web https://www.toyota-global.com/investors/ir_library/annual/

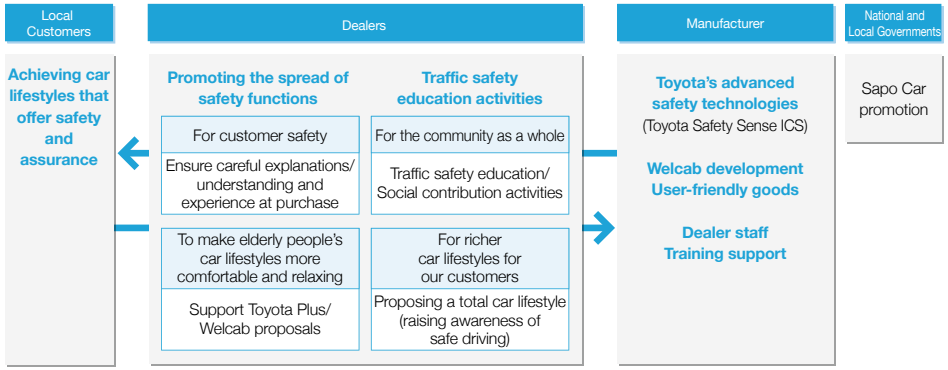
Initiatives Targeting People

Believing that educating people is also important for preventing traffic accidents, Toyota started donating traffic safety teaching materials for small children by donating traffic safety picture books and story-telling card sets 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. Overseas, Toyota affiliates are taking initiatives on education and edification, taking into account each country or region's traffic and accident situations, as well as people's awareness about traffic safety.
Additionally, capitalizing on its many years of traffic safety programs, Toyota is supporting efforts by local affiliates, for example helping train safe driving instructors in Thailand and Vietnam.

The Support Toyota Program Is Supporting Safety and Assurance through Technology and People

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.

Starting with traffic safety education activities like our Machihotaru (City Firefly) Project, which recommends effective use of high beam headlights to drivers and wearing accessories made of reflective materials to pedestrians, we carry out ongoing license seminars on safety technology (ICS) for dealer staff as a way to increase experiences of safety technology at customer-oriented dealerships. In addition, at our Support Toyota Park event, which is held by dealerships to raise awareness of traffic safety, we work with local governments and others to get local residents to participate in a range of Support Toyota hands-on experience events that make use of facilities and courses such as a driving schools, promoting initiatives for the achievement of a zero traffic fatalities or injuries society.



For 50 Years, We Have Donated Traffic Safety Picture Books and Story Cards from One Concept That an Unchanging Belief Can Change the World

Our traffic safety education activities started back in 1969, which means 2018 is their 50th anniversary. There is a large spike in pedestrian deaths among seven-year-olds. This is why Toyota has been providing traffic safety picture books and story cards on the theme of "the dangers of running out into the road" to preschoolers. So far, we have given away about 144.07 million picture books and 1.66 million story cards. Our traffic safety programs will continue as we broaden its scope even further.
As the times change, so do cars. But our hopes that our loved ones stay safe remains unchanging. Toyota's activities and programs will continue with this one unchanging wish. We believe that even small efforts, if done often enough, can grow into an engine of change for the world. "Safety is Toyota's wish. And all our wishes."


Traffic safety picture books/story cards presentation ceremony


Special 50th anniversary editions of our safety picture books and story cards

* "Traffic Accidents for Children and Others (five-year average from 2012 to 2016)" National Police Agency

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.

Results for the Previous Fiscal Year and Major Initiatives for the Current Fiscal Year

Major Initiatives during FY2018 (result)	Major Initiatives during FY2019
Quality	
• Laid down a solid foundation for measures to comprehensively prevent reoccurrence of recall issues that occurred in the past • Introduced new technology and established quality assurance systems to support those technologies • Expanded quality-learning facilities on a global scale to teach personnel about the Customer First and Quality First principles	• Build a system for incorporating customer feedback into products • Thorough review and reinforcement of company-wide business processes related to legal compliance • Build quality standards from the customer's view point focused on product safety
Customers	
• Held customer feedback exhibitions to raise awareness of "something is different" or "something is missing" compared to customer expectations • Deployed a system for searching customer feedback on the company intranet	• Improving the support level at customer assistance centers • Staff education based on visualizing customers' real voices

Initiatives to Improve Quality

Toyota sees quality as the 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.

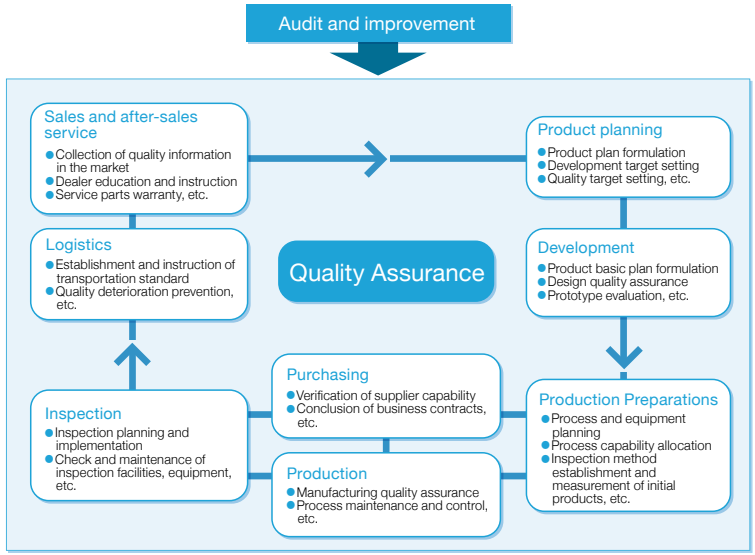
We also believe that products and services that gain the confidence of customers can be created only when each employee, who engages in every process from development, purchasing, production, and sales to after-sales service activities, builds in quality and implements the quality assurance cycle.

The origins of quality lie in the spirit of audit and improvement, and Toyota's unchanging *monozukuri* (manufacturing) pursues ever higher quality through continuous improvement based on repeated implementation of PDCA* cycle.

* PDCA: The circular process of Plan-Do-Check-Action for continuous improvement

Toyota's Concept to Quality

Quality Assurance Cycle



Organization and Structure

Toyota establishes a Quality Function Policy each year based on the policy for 2018. In 2018, we have identified focal activities and are working on various issues based on the policy of "Establish a solid foundation by adhering rigidly to the work basics and build competitive quality from the customer's viewpoint."

The fundamentals of action are function management and policy management.

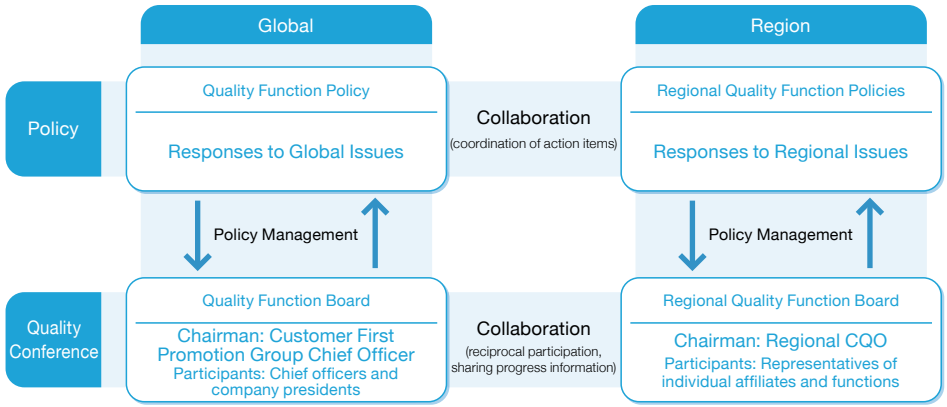
Function management refers to setting company-wide policies based on a function that ensures quality and each group and company taking action in collaboration with other divisions.

Policy management refers to the formulation and implementation of action plans for achieving targets in each group and company, based on the company-wide policy. During the implementation phase, progress and results are reported through Quality Function Board and other forums and responses are carried out 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 to address regional issues and promote global collaboration.

In 2012 the Customer First Promotion Group (CF Promotion Group) was established to strengthen in-house systems for quality improvement in order to be a Quality Leader from customer's perspective.

Global Implementation Structure of Policy and the Quality Conference



Strengthen Quality Improvement Measures through Region-driven Measures Centered on CQOs

In 2010, we established the Chief Quality Officer (CQO) system to strengthen collaboration with each region for the purpose of gathering and globally sharing information on the real voice of regional customers and measures being taken. We are taking actions to improve quality on a global scale. For example, among the meetings of the Quality Function Board, the highest-order global conferences held by TMC several times each year, the one in January requires CQOs from all regions to attend. Also, appropriate CQOs are invited to other meetings, depending on their agendas.

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.

Quality Month Activities for Raising Employee Awareness regarding Quality

Toyota designates every November as Quality Month and sets a theme each year with the aim of encouraging each employee to consider the importance of the Customer First and Quality First policies and raising work quality so that we can be rewarded with the smiles of customers. Activities are conducted to promote the sense of ownership in quality by employees in a manner that will lead to action. The theme in FY2018 was "Let's listen to customer's voice with sincerity and take action obediently and rapidly!" to return to Toyota's founding principles and be rewarded with the smiles of customers. Company-wide measures were taken to learn about the current status of quality challenges Toyota is facing and for each employee to ensure higher quality of work. There were two issues behind this theme.

The first was "listening more carefully to customer voice and quickly incorporating it into products to improve them," which was made clear by the evaluation information from customers and society.

The second was "completely eliminating simple mistakes such as wrong assumptions and copying mistakes," which was made clear from thorough root cause analysis of the recent measures taken in the market.

Recognition about these issues was shared throughout the entire company, and each employee analyzed and reassessed his/her day-to-day work through discussions on quality held at each workplace. These steps have helped improve work quality and provided us with an opportunity to return to the starting point of "Customer First," "Quality First," and "*Genchi Genbutsu* (onsite hands-on experience)," which express the true character of Toyota.

We have also taken other actions, such as holding exhibits of quality examples targeting both Toyota internal employees and suppliers, the All-Toyota TQM Convention, and lectures for facilitating understanding about the usage environment of cars in each region. The goal was to enhance the quality awareness level in each workplace.

Quality Month poster

Coping with Quality Troubles

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 can be accurately reflected.
After the decision to recall is made, Toyota contacts individual customers through dealers, and additionally posts information on its website to ensure prompt repair service.
We will continue to improve our products so our customers can drive Toyota cars safely and with peace of mind.

Recall information in Japan Web https://toyota.jp/recall/

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 Centers as education facilities for conveying the experiences and lessons Toyota learned from the series of recall issues to future generations of employees. Exhibits that appeal to the five senses, such as actual examples of faulty parts and vehicle simulators, help Toyota employees learn the importance of quality. The Customer Quality Learning Centers are open to voluntary visits by Toyota employees and can also be utilized as facilities for rank-specific education. The Centers offer important programs to educate new employees who are unfamiliar with the situation at the time of the series of recall issues. Every year, on Toyota Restart Day, current quality issues are added to renew the program. We are making these efforts to create key education facilities for maintaining focus on all that Toyota learned. Globally, Toyota has opened approximately 30 Customer Quality Learning Centers (as of the end of March 2018).
We are also working to ensure employees in each region and each plant thoroughly understand the importance of quality. In storytelling activities, employees who experienced those recall issues take on the role of storyteller to convey the facts and lessons learned from the series of recall issues within their own work sites. As the number of employees who experienced the recall issues firsthand dwindles, human resources who can hand down this information at each worksite are essential for permanently maintaining the experiences and lessons of the recalls. Starting in 2017, this activity was expanded companywide, with the storytellers speaking at their work sites about their experiences and the lessons they learned. They are also working to train the next generation of storytellers in order to prevent any fading of the lessons learned from the recall issues.

Rank-specific program targeting new employees (Customer Quality Learning Center)

Roundtable Discussion with Executive Vice President as the Storyteller

As one of the company-wide events related to Toyota Restart Day, a storytelling meeting was held in 2017. Then, in February 2018, a roundtable discussion was held at the Lecture Hall at headquarter office with the executive who was the Vice President of North America affiliate at the time when the series of recall issues occurred.
Twenty-seven employees who had been stationed in the U.S. or had been involved in design at that time, along with 220 storytellers, participated in the event. The experiences and lessons learned were shared under the theme, "The situation as viewed from the outside (i.e., the U.S.), TMC's challenges, and what must be addressed in the future."
Participants' comments included: "I want to widely convey what I learned today to my workplace," "I want to utilize what I heard today for my own education," and "I want to hear more detailed stories."

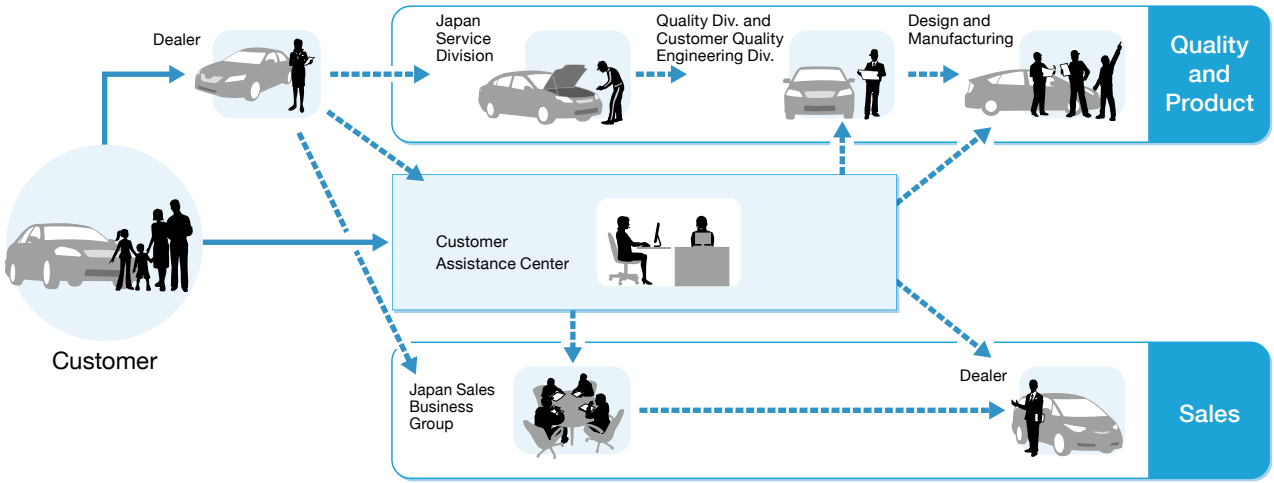
Roundtable discussion

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.



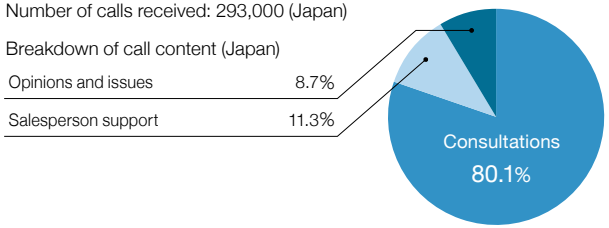
Toyota Customer Assistance Center and Lexus Information Desk

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.

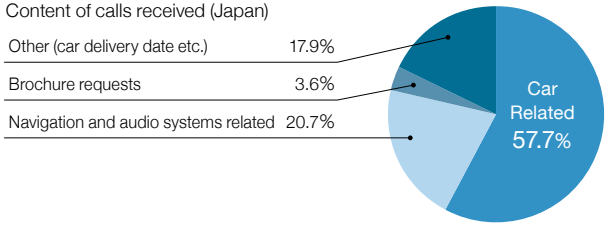
Number and Content of Calls Received by the Center and the Desk in 2017

Number of calls received: 293,000 (Japan)

Breakdown of call content (Japan)



Content of calls received (Japan)



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]

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.

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.

[Claims and Consultations]

Japan

"I cannot figure out how to use the navigation system!"
"Answers to questions related to the navigation system take too long!"

Counter-measures

[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

Japan and U.S.

To repair my hybrid car, the whole inverter had to be replaced,
which was very expensive. Is it possible to replace only the broken part with a new part?

Counter-measures

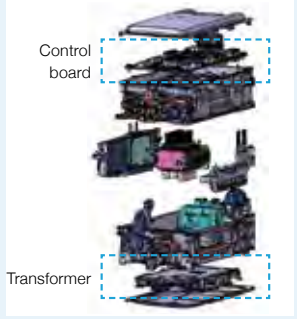
[Initiatives for Improvement]

Initiatives for Overhaul and Reuse of Hybrid Vehicle Parts

Some hybrid vehicle components are dismantled and parts are repaired or replaced in order to reduce repair costs. We are also working to establish rebuild/reuse technologies for rebuilding collected failed parts and supplying them inexpensively, and plan to expand the number of vehicle models that will be handled.

Example: Prius

We made it possible to replace the internal control boards and transformer components of power control units so that repairs can be made at lower cost compared to replacing the entire unit.



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.

The exhibition in May 2018 was held under the theme "Does Toyota's (your) common sense deviate from customers?" and presented customer feedback categorized into product/usage disparities and response/action disparities. The exhibition provided us with an opportunity to contemplate the "disparities between customers' expectations, requests, and actual situations" and "the actions that we at Toyota consider appropriate." It also exhibited customer voices of appreciation, helping our employees gain awareness and motivation. A lecture was also held on customer-first measures taken by companies in other industries.

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

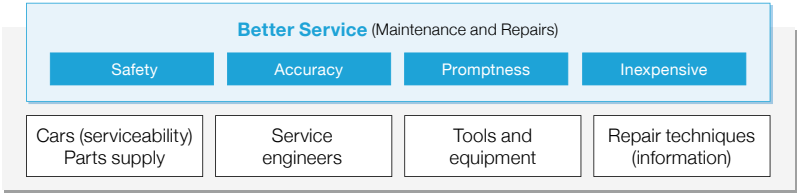
To bring smiles to the faces of as many customers as possible, it is essential to simultaneously achieve both better cars and better services. Customer car use requires regular check-ups, legally mandated inspections, and repairs following breakdowns or accidents. After-sales service provides safety, 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 (in FY2018, the average vehicle age excluding minivehicles in Japan was 12.9 years), increasing by 1.3 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 that 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 serviceability improvement based on market feedback is incorporated 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 manuals that quickly give the necessary information and make repair work quick 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)

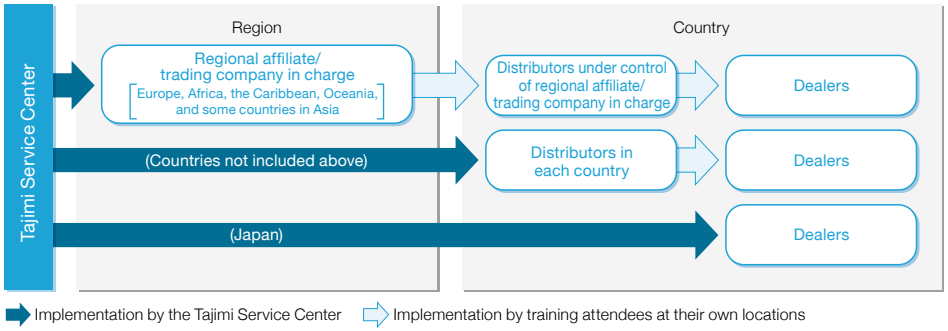
Initiative with Toyota National Dealers' Advisory Council to Listen Directly to Customer Feedback

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 FY2018, a total of approximately 2,200 staff members from 26 sites in Japan and overseas were trained at the center, bringing the cumulative total number of attendees to approximately 9,800.
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

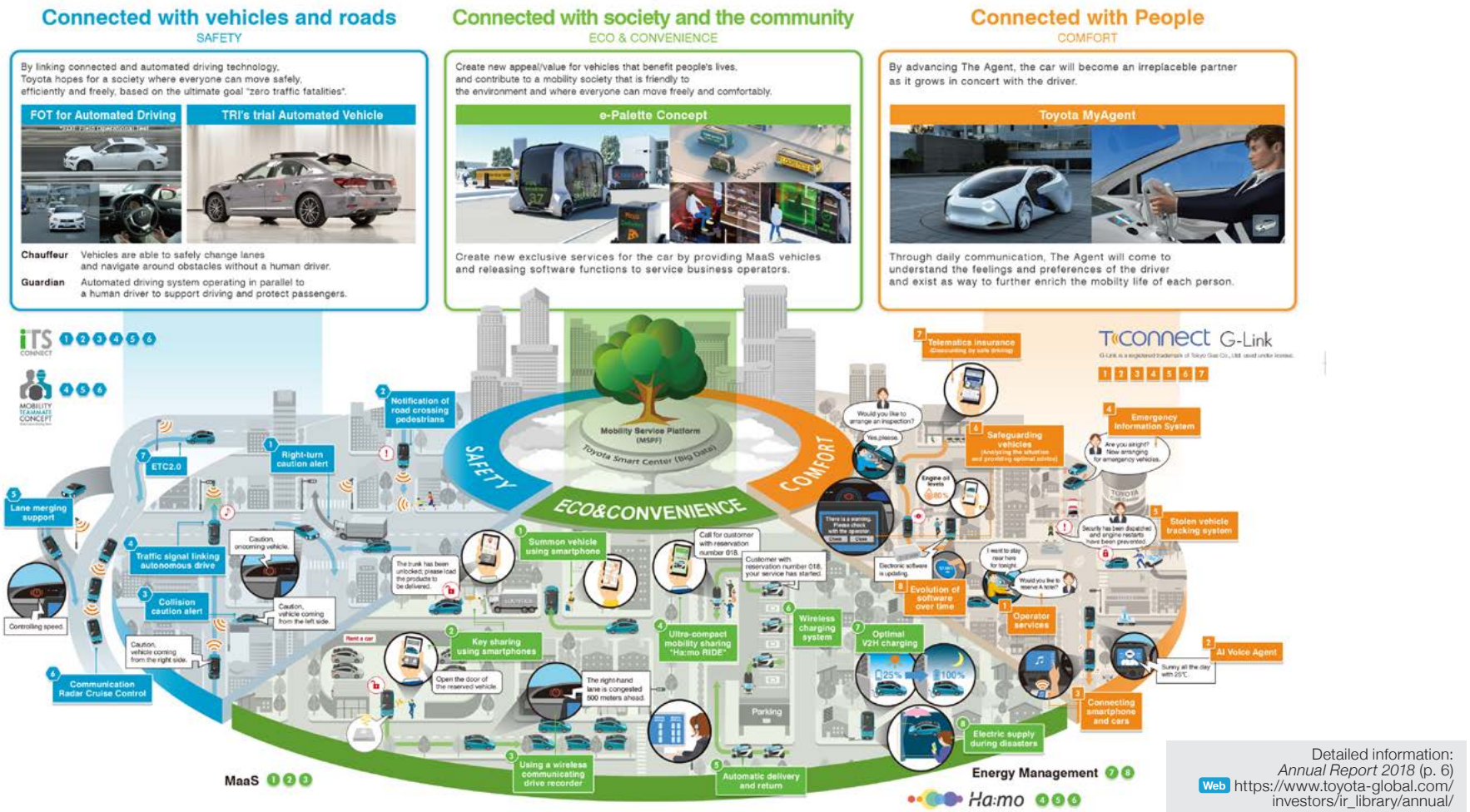


Tajimi Service Center

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.

Future Mobility Society: Envisioning Smart Mobility Society in the Connected Future (by connecting vehicles, people, and communities, Toyota aims to create a safe and exciting society where people can move freely)



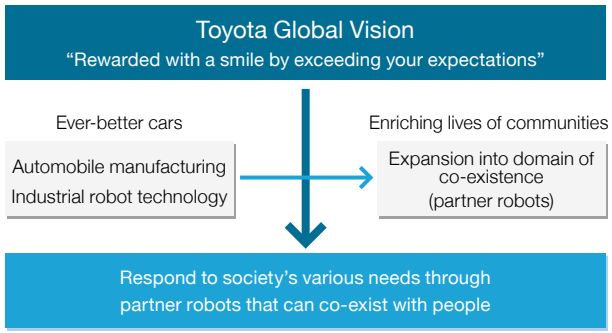
Detailed information:
Annual Report 2018 (p. 6)
Web https://www.toyota-global.com/investors/ir_library/annual/

Partner Robots

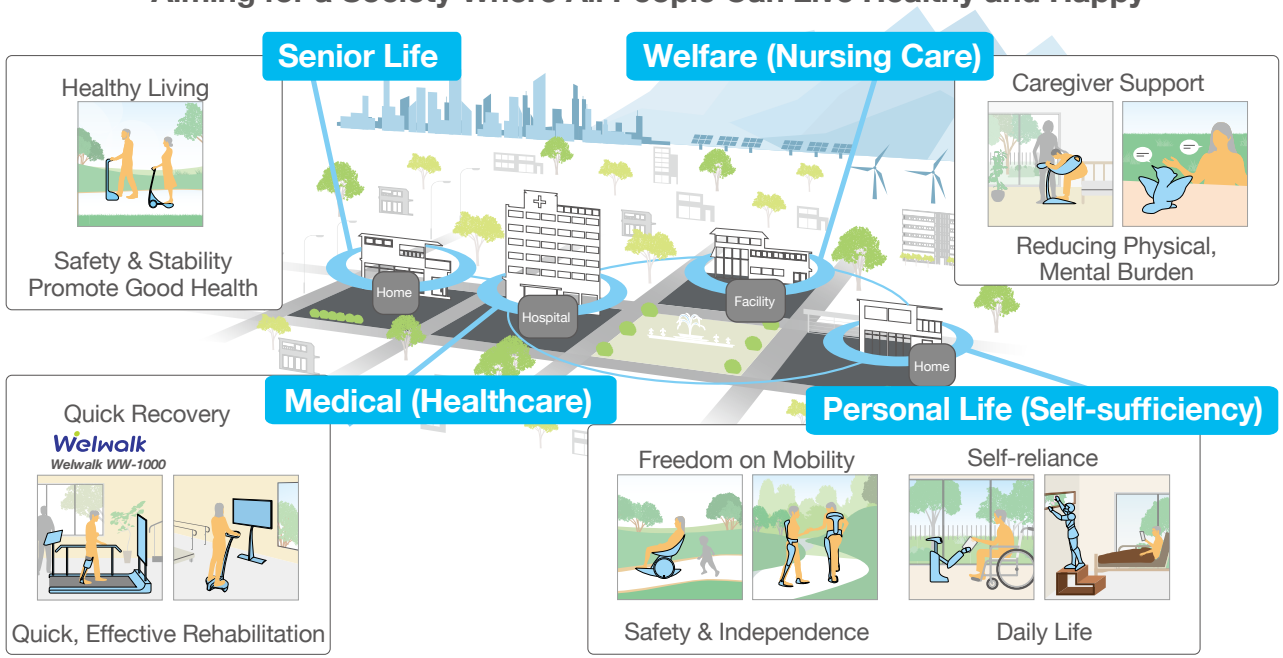
Toyota is responding to social needs by developing human-assisting partner robots that co-exist with people and support their lives.

Toyota is working towards the practical use of partner robots pursuant to a vision based on a concept of "MOBILITY FOR ALL (with the joy of self-reliance)" with four fields of support: senior life, medical (healthcare), personal life (independence), and welfare (nursing care). By providing robots that support the self-reliance of elderly or disabled persons as well as by reducing the burdens on their caregivers, we can respond to the needs of future society with a low birth rate and an aging population. Toyota is contributing to the development of a sustainable society and the realization of comfortable lifestyles for all people.

Partner Robot Development Concept



Aiming for a Society Where All People Can Live Healthy and Happy



Schedule and Status of Development for Practical Application

	2018 Around 2020	Field
Walk Training Assist	Approved as a medical device in November 2016. Rental of the Welwalk WW-1000 rehabilitation support robot began in the autumn of 2017.	Senior Life Medical
Social Robots	To both improve lifestyle functions for the elderly and relieve the burden on caretakers, we are developing and testing robots for early introduction.	Personal Life Welfare
Stand-and-ride Personal Mobility	We are conducting repeated demonstration tests through hands on events at commercial facilities, on public roads, and other locations. We plan to expand use by cooperating with police and government.	Senior Life
Balance Training Assist	These robots were introduced at 21 healthcare institutions located nationwide for clinical research. We are working towards practical application based on *genchi genbutsu* (onsite hands-on experience) and feedback from physicians and physical therapists.	Medical
Human Support Robot (HSR)	Toyota is creating a development community through open innovation and accelerating technology development and verification trials for practical application.	Personal Life

Development | Verification | Commercialization

Welwalk WW-1000 Rehabilitation Assist Robot

The Welwalk WW-1000 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 assistance adjustment function to set the level according to the patient, and to provide feedback regarding the patient's gait characteristics. The robot's simple construction and functions, such as easy fitting and central touch panel operation, ensure easy use in clinical settings.

Development of rehabilitation robots in the medical support field began at the end of 2007 with the collaboration of Fujita Health University in Toyoake City, Aichi Prefecture. Verification testing has been conducted at medical facilities since 2011. Between 2014 and the end of March 2018, Walk Training Assist robots have been installed in 23 medical facilities throughout Japan for clinical research. In 2016, it obtained approval as a medical device, and from May 2017, we began a rental business aimed at medical institutions, with the goal of having 100 in place. We worked with companies that have strong sales and services in the medical field, and by September 2017 we had supplied products to hospitals and other places. In addition, our website provides the latest information regarding the Welwalk WW-1000 to medical professionals.

Welwalk WW-1000 website

Development of Winglet Personal Mobility Robot

Toyota is developing Winglet, a personal mobility robot that supports human mobility and makes daily activities more convenient. It is a form of mobility that makes it possible to travel seamlessly from inside commercial facilities and other indoor locations to outdoors. Through verification tests designed to assess the robot's safety and convenience, and to encourage its commercialization, we have expanded opportunities for people to experience Winglet.

Winglet (Type L)

Development of Pocobee Social Robot

We are involved in the development of social robots to support self-sufficient lifestyles for the elderly and helping support caregivers.

To respond to the increase in dementia patients, Pocobee is a robot to prevent and curtail the progression of dementia and contribute to reducing the burdens on caregivers. Verification tests began in 2016 at the National Center for Geriatrics and Gerontology.

To prevent illnesses such as dementia, it is important to maintain health. To that end, we are enhancing functions that provide target-oriented encouragement to increase what can be done according to person's ability not just increasing what is done normally. As a result, we hope to be able to link this to improved roles (social participation) in society or at home.

By linking caregivers and robots, we hope to safely increase the activities of the elderly and improve their lifestyle functions, as well as contribute to alleviating the burdens of caregivers.

Pocobee

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

The Human Support Robot (HSR) is intended to provide a wide range of support including assistance, self-sufficiency, and household tasks. In addition to fundamental tasks such as picking up, carrying, and handing over objects, we are conducting development towards application in preventive health care and health management and are conducting repeated verification trials in senior facilities and households with disabled persons.

On the other hand, work items expected of HSRs from these verifications are very diverse in both quality and quantity. Therefore, starting in 2015, we have supplied HSRs to universities and research institutes as platforms, forming a development community that promotes sharing results and mutual use. In 2016, a joint university team won the technical innovation award at the RoboCup@Home international competition. From the 2017 RoboCup in Nagoya, we have been supplying HSRs as the standard platform for this competition. It is decided to provide HSRs for the platform in the household task support event at the 2020 World Robot Summit. In this way, we are working to accelerate development through open innovation.

HSR (Human Support Robot)

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

In November 2017, Toyota developed and announced the T-HR3 Humanoid Robot, a robot whose entire body can move smoothly through links with the movements of a remote operator.

The T-HR3 is a bipedal “partner robot” suited for living environments. The operator can operate the robot instinctively, with fine movements of the hands and arms. This allows it to walk like a human, while still retaining its balance. The first and second generation humanoid robots, announced in the past, were able to play musical instruments, but needed precise program-based position control for their finger movements. In contrast, the T-HR3 allows for flexible control of the joints. Our aim is for it to safely work alongside humans in a range of scenarios, including the home and medical institutions, acting as a partner robot that gently supports lifestyles. And, in the future, we will move beyond the home and medical institutions, including the development of robots that can work in disaster sites, construction work, and even space within our sights.

T-HR3 humanoid robot

Robotic Smart Home Project—Aiming to Provide Comfortable, Reassuring Home Lives for the Elderly

To achieve comfortable, reassuring home lives for the elderly, we need comprehensive space design and verification for a range of support devices that includes support robots and communication devices, home devices, and IoT devices.

In September 2017, Toyota started the RSH Project jointly with 14 other companies and institutes in a test site (model room) that replicates a 75 m^2 living space, constructed in the Toyoake Apartment Complex, Toyoake City, Aichi Prefecture.

Eleven of these companies and institutes taking part, starting with Toyota, are also participating in the Knowledge Hub Aichi Key Research Project (Phase II) that supports the introduction of household devices and IoT devices, their verification and operation, and the commercialization of developed devices.

By promoting robots and IoT, Toyota will continue to develop and verify robots and living spaces. We will work to develop functions that make more comfortable and reassuring homes.

Inside the model room

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.

Biomass Utilization

To support fuel diversification for automobiles in the future and spread environment-friendly cars, Toyota is promoting the development of technologies for producing bioethanol that uses biomass, which does not compete with food or feed crops to realize a low-cost, stable bioethanol supply. Currently, demonstration trials are underway, primarily in Southeast Asia, using a high-ethanol-production yeast developed by Toyota. Toyota is focusing on Napier grass, a perennial grass in the Poaceae family that thrives on poor land unsuitable for cultivation, as a biomass resource. We have established a production and purchasing system for low-cost Napier grass in Indonesia.

Furthermore, in Southeast Asia, we are breeding high-productivity varieties of sugarcane using DNA markers. We are also conducting research on innovative core biotechnologies utilizing artificial intelligence (AI).

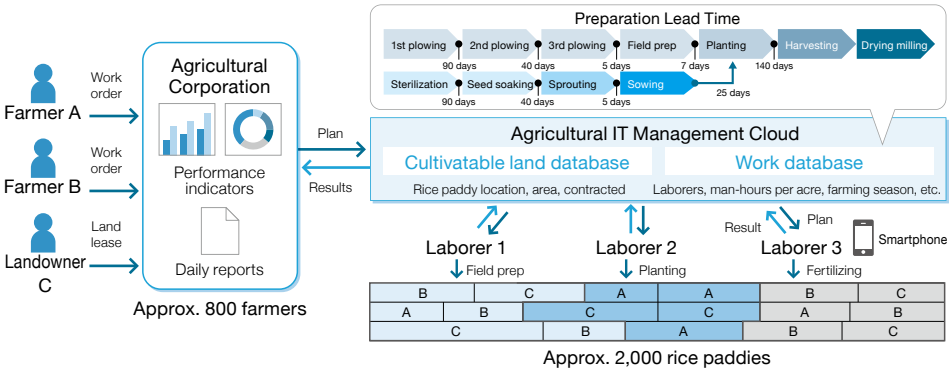
For details on an Indonesian case example that uses Napier grass, please see Environmental Initiatives on page 119.

Support to Agricultural and Food Production Industries

Toyota used the production control methods and process of *kaizen* (continuous improvement) established in the automotive business to develop *Housaku Keikaku*, an agricultural IT management tool, in order to raise productivity in agriculture. *Housaku Keikaku* has been provided to rice-growing agricultural corporations since 2014. Since April 2014, Toyota has participated in the Advanced Model Agricultural Business Formation Trials conducted by the Ministry of Agriculture, Forestry and Fisheries, and has established the Rice Production *Kaizen* Network in collaboration with Ishikawa Prefecture, as well as nine rice-growing agricultural corporations in Aichi and Ishikawa Prefectures. With the collaboration of *Housaku Keikaku* and onsite *kaizen*, we have conducted verification tests to raise efficiency and quality even further and built foundations for development of human resources.

Toyota announced collaboration with Hokkaido and Nagano Prefectures in 2017. The number of agricultural corporations implementing *Housaku Keikaku* based on collaboration with local governments was 65, as of May 2018. Since April 2018, through business collaboration with two agricultural corporations in Aichi Prefecture, we have been working on developing a large-scale, diversified, cutting-edge agricultural model having the following three characteristics: Smart farming that links big data with advanced technologies; improved distribution and sales processes; and application to multiple kinds of crops. Toyota plans to continue contributing to agriculture by further enhancing the functions of *Housaku Keikaku* and developing new products and services.

***Housaku Keikaku* System Overview**



GRAS-Di® New DNA Analysis Technology

On October 30, 2017, Toyota signed a licensing agreement with Kazusa DNA Research Institute, Eurofins Genomics, and GeneBay for Toyota's GRAS-Di®* DNA analysis technology (announced in September 2016), which can dramatically accelerate selective breeding. This technology can substantially simplify the process of identifying and selecting specimens with useful genetic information, and can be expected to cut cost down to approximately one-third and man-hours by one-tenth, both of which have been major hurdles in previous technologies.

Since November 2017, the technology has been put to practical use in contract-based analysis businesses in Japan and abroad, confirming that currently more than 60 species can be analyzed. GRAS-Di® can be applied to selective breeding in general, not only in agriculture, but for wide-ranging development in other areas.

* GRAS-Di®: Genotyping by Random Amplicon Sequencing-Direct

Building a Sustainable Environment

Since 2001, in order to help solve environmental issues, including the warming of cities, Toyota has been developing reforestation technologies that take advantage of functions of plants, as well as conducting research that contributes to people and society.

Toyota Roof Garden Co., Ltd. sells the reforestation products developed by Toyota: TM9 Zoysia grass (low maintenance); specialized green construction and material of rooftops, walls and parking areas; and year-round irrigation control systems.

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 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 gives people with disabilities and the elderly the freedom of mobility and furthermore accommodates 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, and Welcab consultants are on site to help customers choose the most appropriate vehicle. As of May 2018, there were 250 Welcab Stations and 10 Heartful Plazas in Japan.

250 Welcab Stations in Japan

10 Heartful Plazas in Japan

Heartful Plaza

Exploring Ways to Make Assisted Mobility Vehicles into Ordinary Vehicles—Bringing User-friendly Functions Closer

In numerous instances, we received customer feedback indicating that customers considered buying a Welcab but chose not to do so because of the high price, because there was no longer any need, or because the customer did not know how long such a vehicle would be necessary. To address these customer concerns, Toyota is exploring ways to make assisted mobility vehicles into ordinary vehicles in terms of both function and cost.
In FY2018, we launched new models equipped with a new Side Lift-up Tilt Seat vehicle that includes a tilting feature that uses motors to rotate and tilt the second seat forward, helping the passenger get in and out of the vehicle smoothly. Since the Side Lift-up Tilt Seat protrudes minimally outside the vehicle, the passenger can get in and out of the vehicle even when parked in an ordinary parking spot or adjacent to another vehicle.
Furthermore, the size of the footrest is increased, allowing for a more gradual knee angle when getting in and out of the vehicle or when sitting inside the cabin, thereby reducing knee strain.
These Welcab features were newly added to the Voxy, Noah, Esquire, Alphard, and Vellfire.
As of May 2018, the Welcab product line included 43 models in 23 vehicle series.
We also offer “Sapotoyo+” (Support Toyota Program goods) such as a product that helps passengers maintain a comfortable posture when getting in and out of the vehicle or while seated in the vehicle, to encourage people with physical disabilities to go out more.

The Welcab product line included **43** models in **23** vehicle series

Side Lift-up Tilt Seat vehicle (Voxy)

Side Lift-up Tilt Seat vehicle (Alphard)

New Wheelchair-adapted Models That Make it Easier to Get in and Out of the Vehicle Were Launched with the Goal of Reducing the Burden on Caregivers

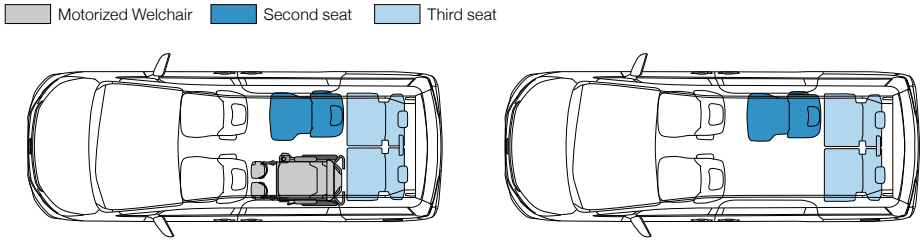
To address the issue of increasing number of families in which seniors are taking care of seniors, Toyota added Type III to its wheelchair-adapted models (with a Rear Slope type) with the goal of reducing the burden on caregivers.

Type III comes standard with the Welchair, a Toyota-developed original motorized wheelchair. Combining this with the one-touch anchor enables the user to quickly secure or release the wheelchair from an unstrained posture. Moreover, Type III eliminates the need for actions such as going to get the safety belt or squatting inside the cabin, significantly reducing the burden on the caregiver.

This Welcab feature was newly added to the Voxy, Noah, and Esquire.

Motorized assist function

One-touch anchor



Equipped with the motorized Welchair and the securing device

Weljoin a Large-capacity Microbus for Helping Solve Public Transportation Issues in Japan

In Japan where the population is aging, many route buses are being eliminated especially in local cities, robbing ordinary citizens of their freedom of movement. Especially hard hit are the elderly who are losing their means for going to medical clinics or shopping.

Therefore, Toyota focused on the community buses being driven by local volunteers, and developed the Weljoin in order to help popularize these buses.

For these community buses, vehicles with three rows of seats, such as the Noah, are normally used. Consequently, when a passenger needs to get in or out of the third-row seat, the driver must help the passenger by moving the second-row seat. This means, on rainy days, the driver gets wet when helping the passenger get in or out of the vehicle. This kind of burden has made it difficult to secure enough volunteer drivers, putting the community bus system in jeopardy.

In the Weljoin, by removing one of the second-row seats and installing a handrail near the door, we made it possible for passengers to get in and out of the vehicle without assistance, thereby reducing the burden on the driver.

Toyota's assisted mobility vehicles, which were started based on the concept of "providing freedom of moving in comfort to all people," are facing a new phase. In the future, we are planning to help establish social systems, such as community buses, in which volunteers play an active role.

Creating an Affluent Society p. 35

Weljoin (Noah)

Inside the cabin of the Weljoin

Olympic Games, Paralympic Games and Special Olympics

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.
In addition, Toyota entered into an agreement to become a “National Partner” with the Special Olympics Nippon Foundation (SON) in January 2016. In November 2017, Toyota entered into an agreement with Special Olympics (SO) International to become a Global Partner beginning in 2018, and has been supporting SO’s activities and national tournaments which help people with intellectual disabilities to participate in sports.

● Olympic and Paralympic Games Initiative

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 Games 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

Initiatives in the Mobility Field

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, an 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

e-Palette Concept

MIRAI

Initiatives in the Sports Field

Toyota has been active in corporate sports and engaged in long term and multi support for athletes since its founding in 1937. The main objectives are to promote company unity, higher motivation among employees, and developing better businesspeople. In the area of sponsoring athletes without disabilities, Toyota is focusing its support on existing sports clubs. Additionally, after becoming a Paralympic partner, Toyota is providing support to athletes with disabilities by co-sponsoring Boccia and wheelchair basketball leagues.

More than 50 Team Toyota athletes from 20 countries competed at the Olympic and Paralympic Winter Games PyeongChang 2018 held in PyeongChang in South Korea. Team Toyota athletes consisted of Toyota employees, as well as athletes selected from around the world who shared Toyota's philosophy and core values—be a natural challenger, represent the *kaizen* (continuous improvement) spirit and be a team player, etc. To show their support for Team Toyota athletes who share these core values, many employees participated in cheering for the athletes and public viewing events. In addition to hiring these athletes as employees, Toyota is helping the development of equipment for athletes with Toyota's specialty in *monozukuri* (manufacturing). The sit-ski used by Taiki Morii, silver medalist at the PyeongChang 2018 Paralympic Winter Games held in PyeongChang, was developed jointly by Toyota and Nissin Medical Industries. This ski was around 15% lighter than existing models but achieved approximately three times the rigidity.

Shoma Uno, silver medalist

Taiki Morii, silver medalist

Detailed information: *Annual Report 2018* (p. 45) Web https://www.toyota-global.com/investors/ir_library/annual/

Challenge of Solving Social Issues

Since its founding, Toyota has always considered social contribution to be important. With the participation in the Olympic and Paralympic Games, Toyota's global affiliates, regional headquarters, regions and plants have been taking steps to address the social issues. Specifically, Toyota in cooperation with Olympic and Paralympic Committees and athletes in various countries has begun to hold events designed to expand opportunities for people with disabilities to participate in sports. Toyota also works with Paralympic athletes in supporting activities to eradicate prejudice against people with disabilities and educate children through sports.

Transportation Network Utilizing Assisted Mobility Vehicles in Semi-mountainous Areas—Regionally Supported Community Buses

With the hope of providing all people with the freedom of mobility, Toyota provides assisted mobility vehicles that support the elderly, people with physical disabilities and caregivers, in order to help establish mobility in communities faced with inadequate transportation infrastructure.

In Yokote City, Akita Prefecture, demonstration test for a mini-bus driven by residents was carried out from November 2017 to March 2018.

In this demonstration test, local paid volunteers of 60 years or older drove a community bus on days when a privately operated bus service was not running. The drivers picked up residents at their homes, drove them to their desired destinations and then took them back home. The vehicle used was Weljoin, an assisted mobility vehicle donated by Toyota.

Users' comments included "I don't have to walk carrying heavy bags anymore" and "The vehicle is very comfortable to ride in and easy to get in and out of." Volunteer drivers found this experience very positive because of the appreciation expressed by the residents. Based on the test results, Yokote City began a mini-bus test operation in April 2018 utilizing the Weljoin used in the demonstration test, and plans to shift to full-fledged operation in October 2018.

Creating an Affluent Society p. 33


Local residents walking on a road with snow piled higher than their heads


The Weljoin playing an active role in transporting local residents

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 a 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 Enters into an Agreement to Become a Global Partner and a Global Unified Sports Partner

In November 2017, Toyota entered into an agreement with Special Olympics International to become a Global Gold Partner (starting in 2018). 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 will be supporting Special Olympics Unified Sports programming primarily in Japan and the United States.
On the occasion of Toyota becoming a Global Partner, President Toyoda, who has played sports since his student days, said, “I believe in the power of sports where people with various characters can come together and compete for the same goal. This leads to creating a society where people have respect for each other. Unified Sports further achieves this goal. Working together with everyone involved with Special Olympics, we would like to contribute to building recognition of the appeal of Special Olympics to as many people as possible.”


Signing ceremony


Signing ceremony

Major Events and Overview

Event	Implementation	Overview
Special Olympics Day	November 2017	A Special Olympics Day event was held at an official B League (top league in men’s professional basketball) game played by the Alvark Tokyo team. Before the game, PR events for Special Olympics activities and Unified Sports were held, including a unified basketball demonstration match.
Unified Basketball Festa	May 2018	Held at the National Olympics Memorial Youth Center. Twelve teams competed and 17 members from Toyota participated as volunteers.
Third national unified soccer games (Special Olympics Japan)	June 2018	Held in J-GREEN Sakai, continuing to the 2nd Games held in December 2017, 20 members from Toyota participated as volunteers. Team Fukushima, which participated in the Unified Cup in July 2018, also joined the Games.
Special Olympics Unified Cup in Chicago	July 2018	In celebration of the 50th anniversary of the Special Olympics, a football (soccer) tournament will be held in Chicago, birthplace of the Special Olympics. From Japan, Team Fukushima participated supported by Nagoya Grampus.
Summer National Games in Aichi (Special Olympics Japan)	September 2018	National games are held once every four years. Thirteen games were held at various sites within Aichi Prefecture, with a record 400 organizing staff participating from Toyota.
Special Olympics World Summer Games	March 2019	Held once every four years, the next Games will take place in Abu Dhabi, United Arab Emirates. Athletes who competed in the national games in Aichi will participate.


Special Olympics Day


Unified Basketball Festa


Unified Soccer Games in Osaka


Unified Soccer Cup

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.

Web http://www.toyotafound.or.jp/english/index.html

Toyota Mobility Foundation

The 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.

Project Activities in Progress

Ueyama (Mimasaka City, Okayama Prefecture)	
Building a sustainable mobility model in mountainous regions	
Program length	From January 2016 to September 2019 (3 years and 9 months)
Partner	Minnano Shuraku Kenkyusho Aida Ueyama Tanada-Dan

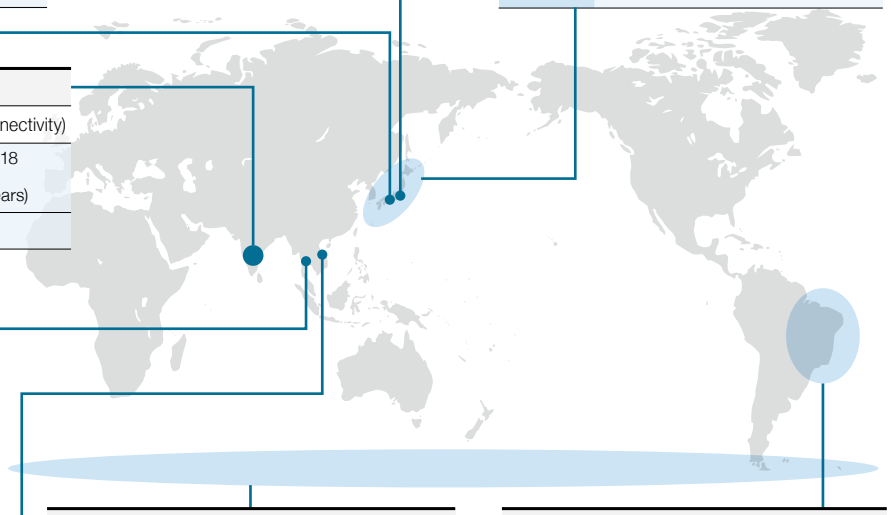
Asuke (Toyota City, Aichi Prefecture)	
Building a sustainable mobility model in mountainous regions	
Program length	From April 2016 to March 2019 (3 years)
Partner	Nagoya University, University of Tokyo

Japan	
Began soliciting proposals to expand basic research on hydrogen at the end of July 2017	
Program length	Five years starting in July 2017
Partner	Universities and research organizations in Japan

India	
Enhancing access to metro (first and last mile connectivity)	
Program length	(1) From December 2016 to March 2018 (1 year and 4 months) (2) From June 2018 to May 2021 (3 years)
Partner	World Resources Institute

Bangkok	
Easing traffic congestion	
Program length	From April 2015 to March 2017 (Ended)
Partner	Chulalongkorn University

Da Nang	
Preventing traffic congestion	
Program length	From April 2015 to April 2019 (4 years)
Partner	Da Nang City People's Committee



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 (1 year)
Partner	World Resources Institute

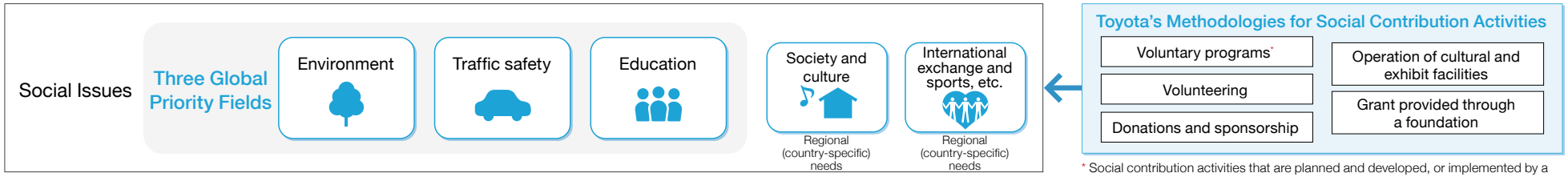
Web http://toyotamobilityfoundation.org/en/

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 have society and cultures 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

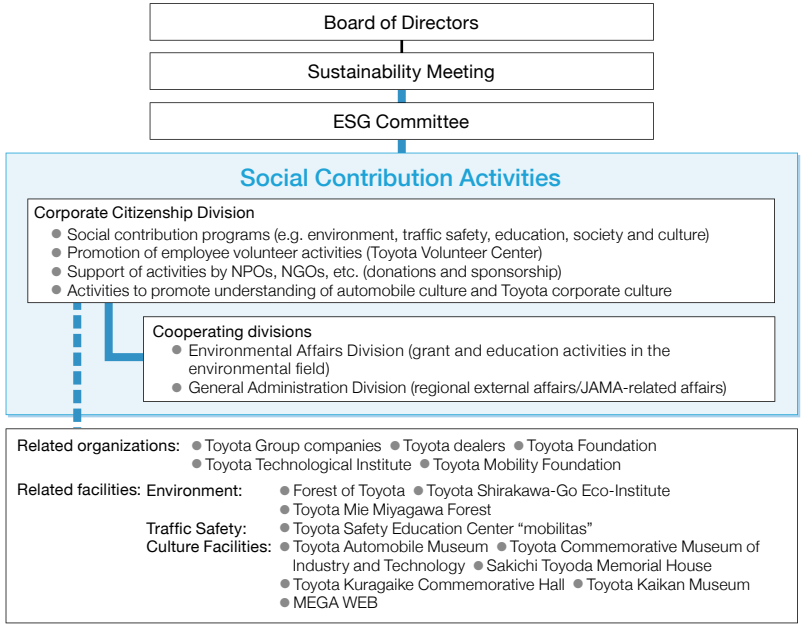
Results for the Previous Fiscal Year and Major Initiatives for the Current Fiscal Year

Major Initiatives during FY2018 (result)	Major Initiatives during FY2019
Social contribution (excluding Great East Japan Earthquake Restoration Support)	
• Promoted activities in fields including environment, traffic safety, education, society and culture • Expanded activities toward realization of an inclusive society in which diversity is accepted and anyone can live happily, for example by strengthening support and sponsorship of the Special Olympics • Enhanced cooperation aimed at expansion of activities which leverage Toyota's global expertise	• Promote activities related to each region, in addition to the three global priority fields, including environment, traffic safety, and education • Strengthen activities even further toward realization of an inclusive society in which diversity is accepted and anyone can live happily, for example by supporting and sponsoring the Special Olympics through volunteers • Enhance cooperation aimed at expanding activities and strengthening the corporate brand which leverage Toyota's global expertise
Great East Japan Earthquake Restoration Support	
• Continued restoration support activities, such as holding voluntary programs in disaster-struck areas and dispatching employee volunteers	• Continue the activities described to the left

Organization and Structure

In Japan, the Corporate Citizenship Division, a specialized division for social contribution activities, plays the lead role in organizing activities. Key activities are discussed based on expectations from stakeholders from a medium to long-term perspective at the ESG Committee with related officers. Outside Japan, regional headquarters in the United States, Europe, Asia and China mainly promote social contribution activities in each region. In addition, we share social contribution activities policy and case studies in each region through global social contribution meetings.

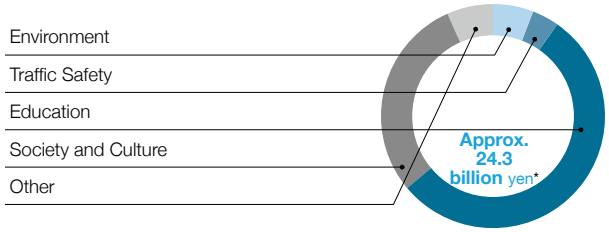
Domestic Organization Structure



Overseas Organization Structure

U.S.	The Social Contribution Committee under the Executive Committee is responsible for leading social contribution strategy and decision making
Europe	Toyota Fund for Europe executive meeting is responsible for setting direction on social contribution activities, as well as for selection and approval of proposed projects
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

FY2018 Expenditure for Social Contribution Activities

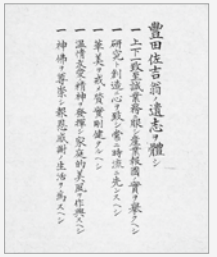


* Consolidated base including TMC and major subsidiaries.
Overseas affiliates' results have been converted to yen based on the average exchange rate for FY2018.

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 progress 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 concepts of contributing to the development and welfare of the country and feelings of gratitude. This 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

A Closer Look at Case Studies in Key Fields

● Environment

Afforestation Activities in the Fengning Manchu Autonomous County, Hebei Province, China (China)

China is facing the serious issue of desertification caused by overgrazing of livestock. Desertification has been expanding in areas near Beijing as well, and the Chinese government is taking this seriously. TMC has been conducting an initiative since 2001, in collaboration with partners such as the Chinese Academy of Sciences, to stop desertification over 3,000 ha of land in Xiaobazi Township, Fengning Manchu Autonomous County, Hebei Province, an area at the front line of desertification near Beijing. The initiative carries out countermeasures for the causes of desertification and conducts tree-planting events to improve the lives of local residents. This will lead to the economic independence of local residents even after the support ends through income from timber (and growing fruit trees or medicinal plants). This "sustainable forest" model also includes reinvesting part of the profits into new afforested areas.

In 2011, management of the program was transferred to the local affiliate, which has carried out afforestation on 300 ha so far in the Nanshakouzi region of Fengning Manchu Autonomous County. TMC and Toyota's Chinese affiliates have been working together, with a total of more than 1,500 employee volunteers, planting around 7,000 trees by 2017.

Xiaobazi Area in 2015

● Traffic Safety

Traffic Safety Activities for Children in Thailand (Thailand)

TMT has promoted a traffic safety campaign called the White Road Project (which implies "safe road" in Thai) since 1988. Since 2004, TMT has been creating White Road Theme Parks where children can enjoy learning about traffic safety in Bangkok and several other places. Starting in 2005, TMT has carried out a traffic safety education program that sends mascots from "Milky Way and the Gang" to elementary schools nationwide, where they distribute cartoon videos as a traffic safety campaign.

Starting in 2011, TMT has been working with dealers to roll out a traffic safety campaign targeted at the younger generation and new drivers.

Starting in 2013, TMT has been working with the Thai Department of Land Transport to establish a five-day training program targeted at all dealer trainers, working to increase awareness of safe driving. These activities have been going on for three decades as of 2017, with the cooperation of the Thai Ministry of Education, Royal Thai Police, Ministry of Transport, and other organizations. Its initiatives have been acclaimed by the Thai government.

At a White Road Theme Park

● Society and Culture

Activities to Improve the Toyota Production System (U.S.)

The TSSC (Toyota Production System Support Center) was established in 1992 in Lexington, Kentucky (now relocated to Erlanger, KY), which has, as a part of its mission, "Contribute to society by sharing Toyota Production System (TPS) knowledge with public institutions and especially manufacturing in North America." The TSSC shares expertise on the TPS and supported more than 300 organizations, including public bodies, medical institutes, and non-profits involved in disaster recovery and supplying food to those affected. It carries out support for solving operational issues, maximizing the use of resources, individual process improvement activities that lead to the maintenance and creation of employment. In 2017, the TSSC celebrated its 25th anniversary with a ceremony at TMNA, our North American affiliate.

"We see strong opportunity in organizations in sectors other than automotive or manufacturing, and are excited to see how TSSC can collaborate with them to help improve processes, maximize operations, build more resilient communities, and serve more people," said Chris Nielsen, TMC Executive General Manager, also responsible for TSSC, quality and product support in TMNA.

Activity to support medical supply inventory

Examples of Activities Rooted in the Local Community

● Society and Culture

Tag Rugby Classes (Japan)

Toyota City has been chosen as one of the venues for the Rugby World Cup which will be held in Japan in 2019, and the local area is excited about this opportunity. On request from the city, Toyota Verblitz rugby players instruct tag rugby to elementary school children in the city (participated by 4,310 people in 43 schools in total).

In addition, employees in their third year at the company are also taking part as volunteers to help the event, as part of their training program.

Tag rugby is a sport where people grab the tags attached to the waists of other players, instead of tackling. This is seen as an appropriate first step for allowing schoolchildren to become familiar with rugby balls.

The tag rugby classes both contribute to children growing up healthy, and serve as one of our activities to connect our employees (as athletes and volunteers) with the local community.

Tag rugby class by Verblitz

● Volunteering

Support for Flood Damage in Durban (South Africa)

Toyota is working to help regions around the world affected by disasters to recover. In addition to monetary donations in case a disaster strikes, we also provide material support and volunteers, helping the region recover as soon as possible.

In October 2017, Durban in South Africa was affected by massive flooding, with 11 dead, and 5 hospitals and 42 schools damaged. Toyota plants and dealers were also affected, but Toyota South Africa Motors (TSAM) quickly formed a recovery support team. More than a hundred employee volunteers helped rebuild of a total of 20 primary and junior high schools.

TSAM's general manager, Jenny Mare, said that "This flooding was worse than we've ever experienced, but the recovery work carried out by our staff and the local people was amazing." Employee volunteers also noted that "We were able to draw on the Toyota spirit of tackling difficulties through working as a team."

Plant affected by disaster

Examples of Activities for Local Social Issues

● Society and Culture

Toyota ABCD Programme for Installing Toilets in Elementary Schools (India)

There are still 250 million people in India who have to pass their waste outdoors. This unhygienic toilet situation ruins living environments and increases the spread of infectious diseases. The lack of toilets leads to children refusing to go to school.

The lack of toilets is caused by financial aspects, as it would take about half of the annual income to prepare a toilet in their home. Also toilets are thought of as unclean and should be cleaned by the lower castes. This means outdoor toilets are more convenient.

However, the children have raised their voices, launching a complaint demanding toilets at home.

This complaint was spurred by the Toyota ABCD* Programme, promoted by Toyota's Indian affiliate, Toyota Kirloskar Motor (TKM). In this program, an NPO group partnered with TKM regularly visits local schools, teaching children about the importance of washing hands and how outdoor toilet waste has negative effects on hygiene, and telling them that the government will subsidize toilet installation. TKM started this program to match the strong efforts by the Modi administration, which came to power in 2014, in increasing the number of toilets.

TKM's vice president, Naveen Soni, believes that changing people's values and customs related to toilets needs to be done to develop an environment where toilets can be used hygienically. In addition to installing toilets in schools, TKM has also started activities to encourage children to clean toilets by themselves.

So far, 30,000 children in 180 villages in southern India, where TKM is based, have learned through the Toyota ABCD Programme. Its scope of activities is increasing with the backup of local authorities. TKM is receiving more requests from local schools.

* ABCD: A Behavioural Change Demonstration

Children proudly washing their hands in front of the camera

Children who participated in the Toyota ABCD Programme

Cultivating People Who Can Inherit the Roots of *Monozukuri* from a Medium- to Long-term Perspective

● Human Resource Development

Toyota Technological Institute: Cultivating International Industrial Leaders (Japan)

Kiichiro Toyoda realized that "To develop our country, it is important that we cultivate people who can support science and technology." When he founded the company, his dream was to establish an institute of higher learning at the time of company prosperity." When the Institute was founded, in 1981, its founding principle was taken from the Five Main Principles of Toyoda, "Always be studious and creative, striving to stay ahead of the times," which is based on the legacy of Sakichi Toyoda. As part of the company's commitment to give back to the community, the Institute was founded as Japan's first "university for working adults," targeted at actual workers dispatched from their companies.

After starting to accept young students in 1993, the Institute now has both young students and working adult students studying together. Since its founding, the Institute has been training highly creative engineers proficient in practical development skills through small-group instruction, and a curriculum rich in experiments and hands-on training has been provided.

In addition to the existing fields of Mechanical Systems Engineering, Electronics and Information Engineering, Materials Science and Engineering, and so on, three unique centers—Smart Vehicles, Smart Energy Technology, and Smart Optics and Materials have been established. In addition, through links with our sister school, the Technological Institute at Chicago (TTIC), we are putting our efforts into AI and computer science. We also aim to establish and expand a "Human Life Advanced Technology" (science and technology to support human lifestyles) as a compound, merged advanced research field based on Advanced Hybrid Engineering.

To further energize our research, we are also developing a Research Faculty system aimed at training young faculty members and energizing human resources, as well as an overseas training system. TTI has maintained a 100 percent student employment rate, contributing to the development of society through *monozukuri* (manufacturing) in leading companies within each field in the industrial world.

New school building

Power assist robot research

Cultural and Exhibit Facilities

The ideas of contributing to society through manufacturing and leading the times through research and creativity represent the passion of our predecessors and have been passed on to Toyota today. While Toyota strives to preserve its founding spirit and concepts as automotive and manufacturing culture, we manage and operate cultural and exhibit facilities for everyone to come together to think about enriching future for people and cars.

Cultural and Exhibit Facilities

Facility Name and Overview

Toyota Kuragaike Commemorative Hall (Toyota City, Aichi Prefecture)

Introducing the history of Toyota and the dreams and passions of Kiichiro and his team who supported its founding

Web http://www.toyota.co.jp/en/about_toyota/facility/kuragaike/

Sakichi Toyoda Memorial House (Kosai City, Shizuoka Prefecture)

Exhibiting the life story of Sakichi Toyoda, the founder of the Toyota Group, at his birthplace

Web https://www.toyota-global.com/company/profile/museums/sakichi_toyoda_memorial_house.html

Toyota Commemorative Museum of Industry and Technology (Nagoya City, Aichi Prefecture)

Exhibits and demonstrations to introduce the history of the Toyota Group, which started from the textile machinery business and shifted to car manufacturing

Web http://www.tcmit.org/english/

Facility Name and Overview

Toyota Kaikan Museum (Toyota City, Aichi Prefecture)

Displaying Toyota's vision and new technologies, and providing plant tours

Web https://www.toyota.co.jp/en/about_toyota/facility/toyota_kaikan/

Toyota Automobile Museum (Nagakute City, Aichi Prefecture)

Introducing the history of automobiles through approximately 160 vehicles representing various eras from around the world

Web http://www.toyota.co.jp/Museum/english/

MEGA WEB (Koto-ku, Tokyo)

Site in Tokyo's waterfront district for visitors to look, ride, and feel cars, and share information with Toyota

Web http://www.megaweb.gr.jp/about/english.html

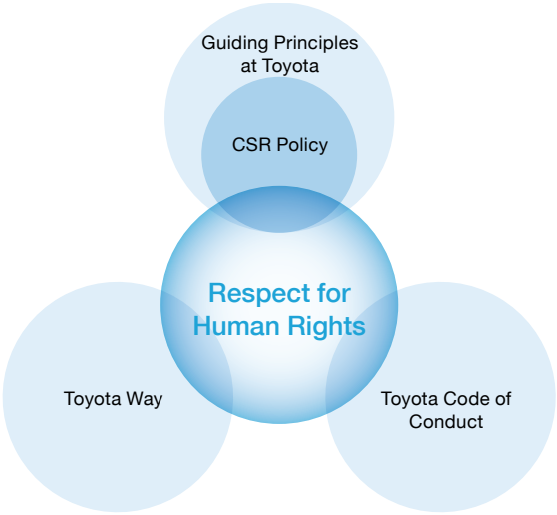
Respect for Human Rights

Fundamental Approach In its Guiding Principles at Toyota, Contribution towards Sustainable Development (CSR Policy) and the Toyota Code of Conduct, Toyota states the concept of respecting and honoring the human rights and other rights of all people. Moreover, the Toyota Way lays out the values that employees working at Toyota should share, based on the Guiding Principles at Toyota.

Of the two pillars of the Toyota Way—"Continuous Improvement" and "Respect for People"—Respect for People means to respect all stakeholders as well as to respect the character and abilities of employees as individuals. It also facilitates personal achievement by linking the personal growth of employees to company performance.

The Toyota Way is considered a shared value for all our affiliates around the world. While referencing each nation's laws and customs as well as various international guidelines and norms such as the Universal Declaration of Human Rights and the United Nations Guiding Principles on Business and Human Rights, we promote various activities to provide employees with secure and attractive workplaces as well as aiming to respond to the expectations of our stakeholders. Toyota makes efforts so that these concepts are put into practice throughout Toyota's global business activities, which include subsidiaries and suppliers.

For details on the Toyota Way, please see page 6.



Major Initiatives during FY2018

TMC

TMC established the Consolidated Compliance Program to check whether respect for human rights is shown in daily work. Self-checks and follow-ups are implemented targeting respective functions each year.

Subsidiaries in Japan and Overseas

Toyota requests the implementation of self-checks in the Consolidated Compliance Program once a year for its subsidiaries in Japan and once every two years for overseas subsidiaries. Since 2012, subsidiaries have been requested to propose and implement improvement measures for addressing human rights and labor issues based on the results of the self-checks. In 2017, self-checks were conducted at our domestic and overseas subsidiaries and requests for improvements were made based on necessity amongst them.

Suppliers

Toyota developed and rolled out the Toyota Supplier CSR Guidelines in 2009, which describe policies and approaches to human rights, along with expectations of suppliers. The suppliers are requested to conduct self-checks in accordance with the guidelines. At the end of 2012, the Toyota Supplier CSR Guidelines were revised. Since then, regarding human rights and labor, which are considered prioritized items, confirmation of status, requests for improvement, and monitoring of improvement activities as needed have been conducted through the distribution and collection of questionnaires. So far, the questionnaires have been distributed to our suppliers in Japan and overseas (approximately 3,000 companies), and improvement requests were made to suppliers as necessary.

Dealers

In Japan, the Toyota National Dealers' Advisory Council (TNDAC) which is comprised of Toyota dealers, voluntarily developed and issued the TNDAC CSR Guidelines in 2005. The guidelines include Toyota's compliance policies. As a specific action for improvement, each dealer checks the items related to human rights and labor in the CSR Check List and executes PDCA. Each dealer's annual activities are shared with TNDAC.

Organization and Structure

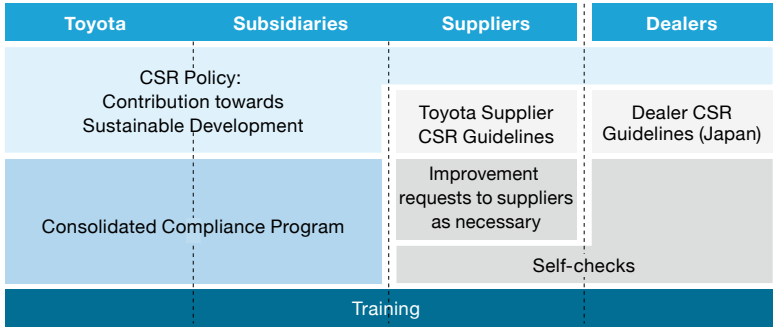
Toyota is responding to changes such as growing demands concerning human rights, by continuously enhancing and reviewing its corporate initiatives.

For example, in conjunction with the reinforcement and revision of international guidelines on due diligence, a Human Rights Working Group was established in 2011 to incorporate various functions including corporate planning (now Corporate Affairs), overseas external affairs, audit, legal, accounting, human resources and purchasing to study international guidelines and measures that Toyota should take. We hold Sustainability Meetings to discuss the expectations of our stakeholders and human rights issues. We ensure a structure where both the company and society can grow sustainably by studying, strengthening measures, and revising activities to put into actual practice.

Organizational Structure

Please see also Sustainability on page 9 for our sustainability structure.

Sharing and Applying Policies on Respect for Human Rights



Toyota's Approaches to Conflict Minerals Issues

Toyota is taking various measures to realize protection of human rights.

Civilians in certain regions around the world are being subjected to massacres, plunder, abduction, conscription of child soldiers, and other inhumane conduct as a result of armed conflict, thereby giving rise to international condemnation. In the Democratic Republic of the Congo (DRC), which is located in central Africa, the unlawful mining and smuggling of the country's abundant mineral resources is said to be a major source of funding for armed groups.

Toyota undertakes business with a strong awareness that violations of human rights, environmental degradation, unlawful mining, and other issues in these conflict regions as well as the issue of minerals that provide sources of funding to armed groups through such actions are major social issues concerning the supply chain. Toyota has conducted a reasonable country of origin inquiry with due diligence for its products since May 2013. A report summing up the survey results for the period between January and December of 2017 was compiled in the 2017 *Form SD* and *Conflict Minerals Report** and submitted to the U.S. Securities and Exchange Commission on May 31, 2018.

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. For that purpose, Toyota will work together with parts suppliers, automotive industry organizations and other relevant organizations.

2017 *Form SD* and *Conflict Minerals Report*
Web https://www.toyota.co.jp/pages/contents/jpn/investors/library/sec/pdf/form_sd_201805_final.pdf

Toyota's Policy on Conflict Minerals

Toyota has adopted Policies and Approaches to Conflict Minerals Issues—a set of guidelines the company is supposed to refer to in tackling conflict minerals issues. Based on the guidelines, Toyota is dealing with the issues. Meanwhile, the company revised the Toyota Supplier CSR Guidelines in 2012, asking its suppliers to engage in responsible material procurement.

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.

Excerpt from the Toyota Supplier CSR Guidelines ("Responsible Material Procurement")

We obtain 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 (such as conflict minerals*). We expect suppliers to take appropriate steps to discontinue procurement of these materials if usage is detected.

* Conflict minerals: Minerals originating from the DRC or an adjoining country that have directly or indirectly contributed to the financing of armed groups

Toyota Supplier CSR Guidelines
Web https://www.toyota-global.com/sustainability/society/partners/supplier_csr_en.pdf

Establishment of an In-house System, Industry-to-industry Collaboration, and Participation in Public-private Alliance for Responsible Minerals Trade (PPA)

In 2011, Toyota launched a cross sectional task force in charge of dealing with conflict minerals issues. The team, formally called the Conflict Minerals task force, consists of representatives from relevant departments such as corporate planning (current corporate affairs), purchasing, accounting, public relations, external affairs, legal, and material engineering within the company. The team has begun considering what actions are to be taken regarding conflict minerals.

Also in 2011, Toyota set up a working group on conflict minerals jointly with the JAPIA[1]. The move represented the domestic automotive industry-wide efforts to cope with issues associated with conflict minerals. In 2012, Toyota and its parts suppliers belonging to the JAPIA joined hands in conducting a trial-based survey on conflict minerals used in their products, kicking off their preparations for launching full-fledged investigation into the issues. In 2013, the Japan Conflict-free Sourcing Working Group was established by automakers and companies belonging to the JEITA[2]. Main activities undertaken by the Japan Conflict-free Sourcing Working Group include the investigation of identity regarding firms engaging in smelting in conflicted areas and making visits to organizations representing smelters. The association has been also pressing for smelters to obtain a certificate confirming that minerals they use in their products are DRC conflict-free.

Toyota's efforts to work with other industry groups on the issue of conflict minerals are not limited to activities in Japan. Toyota has been working globally to deal with the issue. For example, the company has participated in a working group set up by the AIAG[3], a U.S. group tasked with setting code of conduct for the auto industry. Toyota has been also cooperating with the RMI[4] through activities of each working group. Through AIAG, we supported and contributed to RMI activities.

Toyota Motor North America, Inc. (TMNA), a U.S. subsidiary of Toyota, contacted 45 smelters/refiners between January and December, 2017, as Leader of AIAG's Smelter Engagement Team, and contacted an additional 7 smelters/refiners in addition to the 45 above as Team-Lead of the Global Smelter Engagement Teams Working Group. They performed surveys of smelters and encouraged them to participate in the Responsible Minerals Assurance Process (RMAP). TMNA also joined the European Smelter Engagement Team in order to further identify and engage more smelters/refiners.

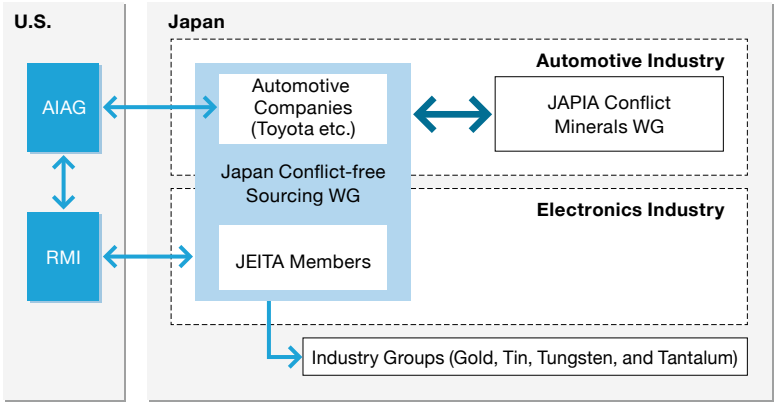
In addition, Toyota participated in Phase 1 of the Public-private Alliance for Responsible Minerals Trade (PPA[5]), a multi-sector initiative whose members include the U.S. government, industry organizations and citizen groups. The PPA encourages responsible minerals trade that is free from material procurement in certain areas marred by regional conflict, including the DRC or an adjoining country, and coordinates support to organizations engaged in the critical work to develop conflict-free supply chains.

Toyota agrees with the spirit of the PPA's efforts, and considers resolving issues that may hinder the trading of legitimate mineral resources in those countries. For this purpose, it refrains from requesting suppliers to not use any minerals in the area, regardless of their relation to human rights violations. Based on that awareness, it believes promoting initiatives industry-wide for use of materials that are free from conflict at smelters who are upstream in the supply chain is one way to resolve human right infringement issues and ultimately develop a more civil society.

As a result of the industry-wide cooperation outlined above, the number of conflict-free smelters and refiners worldwide has been increased to 250 as of November 2017[6]. Toyota has confirmed that 249 out of those 250 conflict-free smelters were named by our suppliers in response to our request for the 2017 survey.

1 JAPIA: Japan Auto Parts Industries Association (http://www.japia.or.jp/english/)
2 JEITA: Japan Electronics and Information Technology Industries Association (https://www.jeita.or.jp/english/)
3 AIAG: Automotive Industry Action Group (https://www.aiag.org/)
4 RMI: Responsible Minerals Initiative, formerly Conflict-Free Sourcing Initiative (http://www.responsiblemineralsinitiative.org/)
5 PPA: The Public-Private Alliance for Responsible Minerals Trade (http://www.resolv.org/site-ppa/)
6 Toyota started analysis of the survey results in November 2017

Overview of Industry-to-industry Collaboration



Reasonable Country of Origin Inquiry

■ Details of Surveys Implemented in 2017

In May 2013, Toyota launched a full-scale reasonable country of origin inquiry. Since then, the survey has been conducted globally, covering its subsidiaries operating both in Japan and abroad. In 2017, Toyota carried out the survey for all kinds of business undertaken by Toyota, including automobiles and marine transportation equipment. Tracing back through our supply chains globally, suppliers operating in Japan and overseas were asked to check if conflict minerals have made their way into the supply chains of their products.

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 effectively improve our efforts associated with conflict minerals.

Before the survey began, Toyota held a briefing session for suppliers while formulating a manual detailing how to fill in the survey sheet and developing a tool used to compile survey results. Also, Toyota supported a briefing session co-sponsored by JAPIA and JEITA. Further, we have been collaborating with our suppliers via regular communications, made possible by our strong and close relationships. As we have been closely communicating with major Tier-1 suppliers, some of the feedback we received from them was integrated into conflict minerals survey-related materials, such as survey manuals, FAQs and other tools. Those materials are provided to suppliers free of charge, with the aim to provide support on the survey.

In addition, Toyota has been doing its due diligence regarding identification of the origin of minerals being used by its suppliers, and their distribution and production processes in line with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-affected and High-risk Areas.

Based on the risks identified through the due diligence, the issue has been discussed at the management level, then the company designed and implemented a strategy to respond to such risk, which was documented as a risk management plan.

For domestic and overseas suppliers for Toyota brand and Lexus brand vehicles, we have identified priority suppliers for following up to mitigate the identified risk in accordance with the internally-developed criteria and procedures.

■ Results of Surveys Implemented in 2017

The 2017 survey results were incorporated into *Form SD* and the *Conflict Minerals Report*, which have been filed with the SEC. Automobile supply chains are broad and complex, and as a result, in many instances the 2017 survey was not able to identify smelters/refiners and mines in upstream portions of the supply chain. For further information on the survey results, please see below.

As for an in-house system for handling the inquiries on details of survey results, it is designed that all the inquiries we receive from outside parties are raised to the Conflict Minerals task force and discussed among the members of the team.

Results of Surveys Implemented in FY2018
Conflict Minerals' Country of Origin
Because sufficient information to identify a portion of the smelters/refiners and the countries of origin of conflict minerals was not provided by its suppliers, Toyota was unable to determine if any of its products to be DRC conflict-free.
Facilities Used to Process Conflict Minerals
During the course of our due diligence on the source and chain of custody of the necessary conflict minerals, Toyota has collected information on some, but not all, of its smelters/refiners. Among those smelters/refiners, we found some of them processed minerals sourced in the DRC or an adjoining country. However, through our due diligence, we were unable to obtain sufficient information to determine whether those conflict minerals were from mines which financed or benefited any armed group.

2017 *Form SD* and *Conflict Minerals Report*
Web https://www.toyota.co.jp/pages/contents/jpn/investors/library/sec/pdf/form_sd_201805_final.pdf

Future Efforts

Toyota aims to become a company which does not use conflict minerals originating from the DRC or an adjoining country that were mined and sold under the control of armed forces to finance conflict and violation of human rights, as materials for their products. Toyota has pledged to become DRC conflict free in collaboration with suppliers. Toyota finds it necessary to establish the environment that enables implementation of survey and due diligence through gathering information on smelters and lobbying to organizations of smelters. For that environment to be created, Toyota will work with industry and other groups.

Future Effort Details

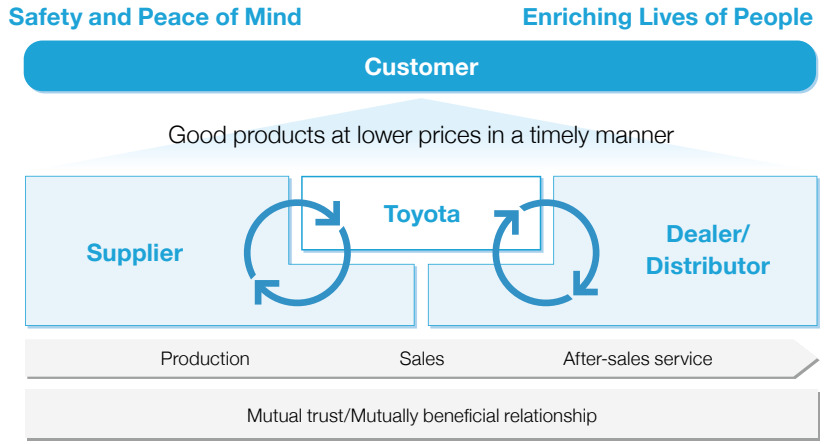
- Improve the reasonable country of origin inquiry (RCOI) survey and due diligence
- Improve the measures of the RCOI survey based on feedback from major Tier 1 suppliers
- Conduct awareness-raising activities for suppliers such as providing conflict minerals survey-related materials including guidance manuals, holding sessions on a regular basis in cooperation with JAPIA and continuing to communicate and exchange opinions with trade partners with direct business
- Encourage smelters/refiners to participate in the RMAP through the industry organizations such as AIAG and JAPIA
- Continue industry-wide cooperation such as contribution to RMI through AIAG
- Follow up with suppliers if there is room for improvement in terms of responsible material procurement, which is among the requirements described in the Toyota Supplier CSR Guidelines

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 CSR 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.



Results for the Previous Fiscal Year and Major Initiatives for the Current Fiscal Year

Major Initiatives during FY2018 (result)	Major Initiatives during FY2019
Suppliers	
• Continued initiatives to promote CSR measures in the supply chain • Addressed issues concerning human rights in the supply chain including the issue of conflict minerals	• Continue and enhance the activities described on the left
Dealers	
• Provided information to dealers through CSR website • Proposed and carried out social contribution activities locally • Promoted the J-ReBORN Plan	• Continue and enhance the activities described on the left

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 supply chain, we have dialogues with supplier executives. 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.

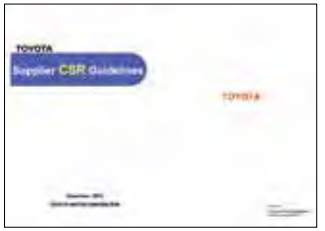
To foster the trust, we pursue close communication with suppliers.

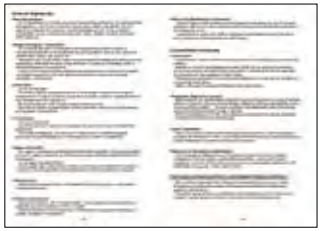
3. Localization with Good Corporate Citizenship

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 CSR activities based on the Guidelines and in turn develop their individual CSR policies and guidelines to their own suppliers. Furthermore, in December 2012, Toyota revised the guidelines to indicate its principles regarding human rights issues (strengthening of monitoring and corrective actions, and approaches towards conflict minerals) in order to enhance CSR initiatives.





Toyota Supplier CSR Guidelines
Web https://www.toyota-global.com/sustainability/society/partners/supplier_csr_en.pdf

Respecting Human Rights

The Toyota Supplier CSR Guidelines indicate the policy of respecting human rights and what is expected of suppliers.

Furthermore, as part of efforts to strengthen its initiatives regarding human rights and labor issues, Toyota created a questionnaire for assessment at each supplier. When necessary, Toyota requests improvement and monitoring of improvement activities as needed.

Promoting Environmental Activities

As Toyota believes that it is important to work with its suppliers to carry out environmental activities, the Toyota Green Purchasing Guidelines has been introduced.

In January 2016, Toyota published a revised edition based on the Toyota Environmental Challenge 2050. The main revisions include enhancing initiatives such as for greenhouse gases (GHG) and biodiversity, reinforcing lifecycle perspectives and strengthening the supply chain management.

↗ Environmental Initiatives p. 126

Approaches towards Conflict Minerals Issue

Based on its Policies and Approaches to Conflict Minerals Issues, Toyota strives to procure conflict-free raw materials that do not involve human rights infringements or other abuses. We conduct investigations that trace global supply chains and take measures to avoid use in cases where there are concerns that raw materials are being used as a source of funds for armed groups.

↗ Respect for Human Rights p. 44

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)
Web https://www.toyota-global.com/sustainability/society/partners/pdf/anti-bribery_en.pdf

Suppliers' CSR Activities

To promote CSR, 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 and encouraging CSR initiatives. In July of FY2018, Toyota held a lecture titled "Requirements for Successful Work Style Innovation." Japan is facing a variety of labor-related issues, including long work hours, productivity, and worker shortages. It provided an opportunity to recognize the importance of work style innovation, such as creating a society in which women, young and old can fulfill their potential, and realize work-life balance. Toyota also holds CSR Study Meetings every year to support the CSR activities of its suppliers. Toyota is also working to accumulate knowledge about CSR and about various issues such as "Why CSR needs to be promoted" and "Why the entire supply chain needs to be included."

In FY2018, a CSR Study Meeting was held and 450 persons from 350 suppliers attended. The topic was a legal issue, "trends and initiatives in fair trading." Toyota participates in the supplier CSR training program of the Automotive Industry Action Group (AIAG)* to support its overseas suppliers in their activities to promote CSR. 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 of CSR across its supply chains.

* AIAG: Automotive Industry Action Group (https://www.aiag.org/)

CSR Study Meeting

CSR lecture

CSR workshop

Volunteer welfare council

Collaboration with Sales Networks

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.

● Domestic Dealers

The Toyota domestic sales network comprises 281 dealers, operating around 5,500 locations (including used car outlets, as of July 2018).

Under the Customer First policy, we have a "Customer First, Dealer Second, Manufacturer Third" concept. Toyota supports 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) established the CSR Study Group and created the TNDAC CSR Guidelines in 2005. In the following year, TNDAC adopted the Toyota Dealers CSR Declaration and have been promoting unified CSR activities involving all Toyota dealers in Japan ever since.

In 2016, the CSR Study Group was reorganized into the Compliance Study Group, which has been studying to ensure legal compliance and giving suggestions to all Toyota dealers.

Additionally, to help dealers carry out compliance activities, TNDAC distributes the CSR Checklist made up of nearly 400 items to dealers each year.

Toyota supports TNDAC and dealers, including the following:

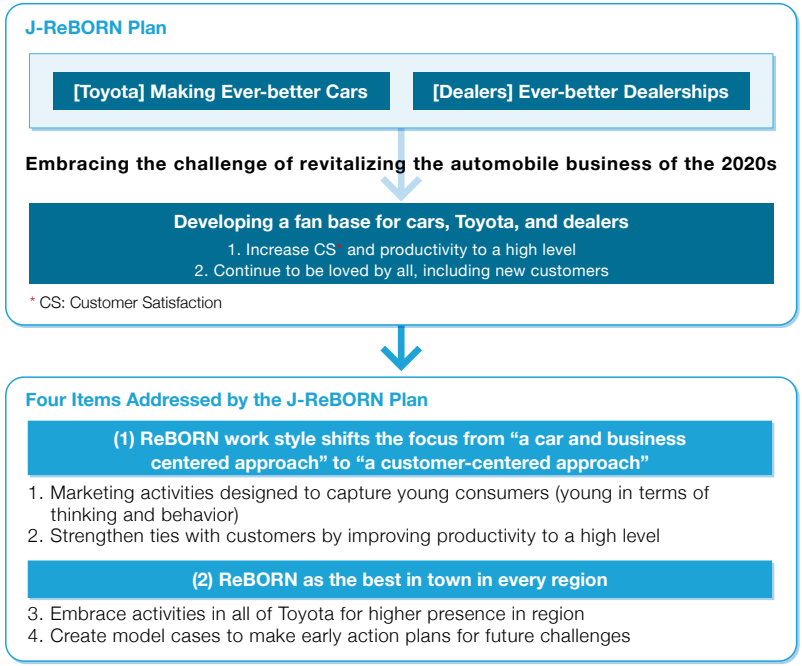
- Setting up a compliance support website that lists best practices from dealers
- Providing information through seminars and lectures held by TNDAC
- Supporting revisions of the CSR Checklist in accordance with legislative amendments

TNDAC's Major CSR Initiatives

- Distribution of the CSR Checklist and the evaluation feedback sheet
- Operation of the Toyota Dealers Helpline, distribution of the Helpline Report Digest, various types of tools, and handouts
- CSR workshop
- CSR lecture

J-ReBORN Plan Aiming to Revitalize Japan with Dealers

To respond to changes in the Japanese automotive market due to depopulation, aging, a shrinking market and technological advances, Toyota is promoting the J-ReBORN Plan, a new domestic sales strategy. The plan is rooted in the idea of using the nationwide dealer network to revitalize Japan. Toyota promotes "Ever-better Dealerships" and is working to attract every stakeholder including customers. Toyota is taking on the challenge of making more car fans.



Dealer Staff Participating in Soccer Instructions through the JFA Youth & Development Programme (Japan)

In May 2017, Toyota signed a JFA Youth & Development Programme (JYD) partnership agreement with the Japan Football Association (JFA). As an official JYD supporter, Toyota is supporting soccer instruction activities for preschoolers nationwide.

JYD is a program that JFA has been running since January 2016, with the goals of continuous development of soccer and its players in Japan.

Staff members of nationwide Toyota dealers, parts distributors, and rental & leasing companies obtain the JFA Official Kids Leader license. Since July 2017, they have been offering classes for kids in local kindergartens, nursery schools, etc. to teach soccer skills as well as the joy of sports, in collaboration with soccer associations in individual prefectures.

In FY2018, the program provided onsite instruction to 8,363 children at 263 kindergartens and nursery schools.

The goal of these activities is to help the next generation to grow up healthy in mind and body.

Signing of an agreement in May 2017

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 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 real car in Car Gentaiken Class. The class for fifth graders is the Class to Fully Understand Cars, which teaches the students about the relationship of cars with environment and economics using quizzes or games, as part of learning about the automotive industry in their social studies class.

In FY2018, the Car Gentaiken Class was conducted at 117 schools and the Class to Fully Understand Cars at 336 schools, for a total of 453 schools. Since starting in 2008, the program has provided classroom activities to approximately 160,000 children in 3,267 schools.

Comments from Participants

- I had to think a lot on how to control the air-powered car and it was fun to learn about its structure. (Fourth grader)
- The staff’s cheerful and courteous interactions with the children allowed them to relax and learn. (Fourth-grade teacher)
- The board game helped me get really interested in cars. I learned the importance of balancing the environment and car development. (Fifth grader)
- Because the program can help children learn about the car manufacturing process as well as its relationships to the environment and social contribution, it expands their scope of learning. (Fifth-grade teacher)


Fifth-grade classroom instruction

TOYOTA SOCIAL FES!! (TSF)

AQUA SOCIAL FES!! (ASF), which was started in 2012 to encourage environmental activities following the launch of the Aqua hybrid vehicle, was renamed TOYOTA SOCIAL FES (TSF). The name change reflects the expansion of the activity theme from aqua (water) to the environment for the next generation, with the goal of improving local communities and the future.

With the hope of creating a brighter future, infused into the Mirai fuel-cell vehicle, the Prius PHV, and widely popular hybrid vehicles, TSF carries out a variety of action programs in all 47 prefectures in Japan, from Hokkaido to Okinawa.

Toyota is in charge of the overall TSF planning, promotion and operation. Developing and running the action programs are carried out by regional NPOs and local newspapers. Recently, TSF has been making changes. For example, local governments municipalities are including environmental restoration costs in their budget and local corporations are utilizing TSF in their employee training.

There are 10,000 participants in TSF events each year. In the summer of 2018, seventh year of the events, the cumulative total of participants exceeded 70,000. The average age of the participants is 30.5, and the activities are varied, including the clean-up of rivers, lakes, seas and mountains; extermination of invasive species; tree planting; and revitalization of terraced rice paddies and *satoyama*.

Nearly 90 percent of the participants answered positively about the program, saying, “I got interested in the local area” or “I want to participate again.”

Project to preserve the rich waterfront of Toyama Bay (Toyama Prefecture)

Project to protect the natural environment (Nagasaki Prefecture)

Onsite Visit from Toyota Dealers Overseas

Every year, Toyota dealers from all over the world visit Toyota dealers in Japan 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 dealers.

Through active communication among dealers with different cultural backgrounds, these visits offer each dealer new ideas.

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

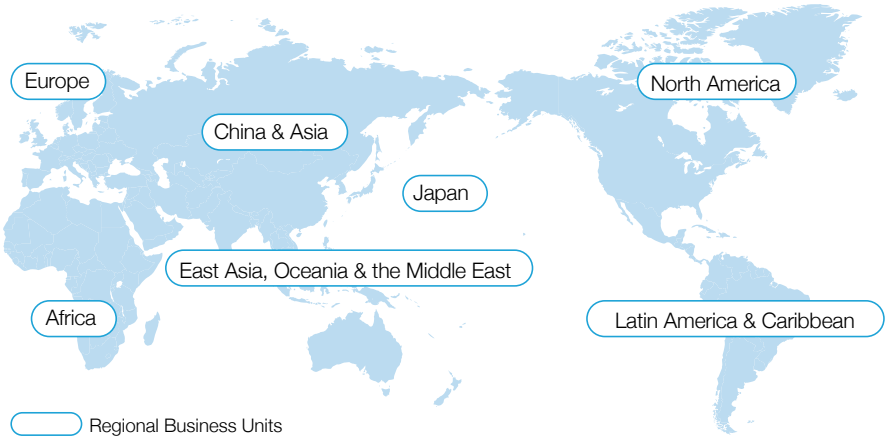
Toyota's sales operations are divided into six regions (excluding Japan) throughout the world: North America, Europe, China & Asia, East Asia/Oceania & the Middle East, Africa, and Latin America & Caribbean, to provide the best cars and services according to the market characteristics of each region. 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.

Furthermore, in order to realize product planning, sales strategies, and local sales promotion activities that respond better to these different local needs, Toyota reorganized its business units in 2013. Toyota No. 1 was in charge of developed nations where car markets had matured and replacement demand and products with advanced technologies were required. Toyota No. 2 was in charge of emerging nations where prompt introduction of products were needed to meet exploding market needs and acquire new customers.

Afterwards, as environmental regulations and the business environment change in various countries, Toyota in April 2017 reorganized, integrating Toyota No. 1 and Toyota No. 2 into the Business Planning & Operation Unit, which coordinate with the product-based in-house companies. This change is designed to enable rapid and effective responses to customer needs.

Under this organization, Toyota further enhanced its cooperation with distributors in each country and region to deliver ever-better cars that meet the needs of customers in each market.

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. 127

Employees

Fundamental Approach Toyota's philosophy for its employees, who are supporting the stable base of 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 ensure 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. Based on the features of each region, it is reflected and implemented in management and various policies. Toyota believes that these initiatives will not only lead to the 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

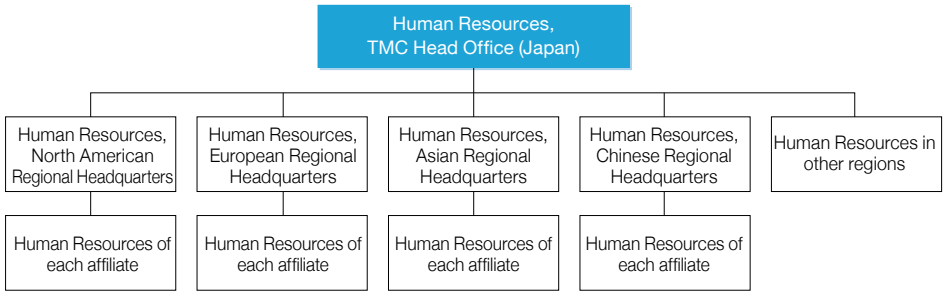
*** A relationship of mutual trust and mutual responsibility between labor and management**

Toyota has gone through painful experiences such as redundancy and labor disputes during the management crisis of the 1950's, 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 to Global HR Priorities (HRFP) 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.

The employee satisfaction survey conducted in FY2017 of administrative and engineering employees indicated that 78.0 percent were satisfied with their company life. The most common reason given was the "work quality and level" followed by "pay level" and "human relations at the workplace."

Results of Employee Satisfaction Survey (Japan)

	(FY)	2012	2013	2014	2015	2016	**2017**
Administrative and engineering employees	(%)		73.9		77.2		**78.0**
Shop floor employees	(%)	64.4		69.2		71.9	

Reasons for Positive Responses by Administrative and Engineering Employees on FY2017 Survey (Japan)

Satisfaction level of company life	
Most common reason	Work quality and level
Second most common reason	Pay level (salary, bonus)
Third most common reason	Human relations at the workplace

Reasons for Positive Responses by Shop Floor Employees on FY2016 Survey (Japan)

Satisfaction level of company life	
Most common reason	Pay level (salary, bonus)
Second most common reason	Human relations at the workplace
Third most common reason	Work quality and level

Percentage of Employees Who Feel Personal Growth (Japan)

	(FY)	2012	2014	2015	2016	**2017**
Administrative and engineering employees	(%)		76.5	77.2	78.4	**77.6**
Shop floor employees	(%)	72.6	75.8		71.9	

Results of Employee Satisfaction Survey (Overseas)

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

Employment (Australia)

In February 2014, the Australian subsidiary company, TMCA, announced an end to production at its Altona Plant. After the announcement, union, employees, and the company worked together as one to start a project that would see employees respectfully transitioned. In July that year a re-employment support center was established. The center provides individual career consultation based on employees' own desires, job information, job fairs, and job skills training. In addition, together with the union, "Re-Skilling" programs have been provided in collaboration with a range of external training courses. A total of 542 employees have obtained certificates in various fields. Employees also found new jobs outside of Australia. Recruitment information was provided from companies around the world including Toyota affiliates resulting in 32 employees finding new jobs. Even for the three years, following the announcement to end production, employees remained highly motivated, carrying out *kaizen* (continuous improvements). In quality (SQA) and several other key performance indicators, the Altona Plant recorded the highest levels in its history.

In October that year, the ceremony to mark the end of production was held and 54 years of history came to an end. However, support for re-employment is continuing to help employees find new jobs (as of May 2018).

Employees with the last car

Employees unite in delivering the best cars to customers until the last day

Safety and Health

Fundamental Approach Ensuring safety and health of employees is one of Toyota's most important business activities from the past and the future. 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 the basic philosophy for safety and health, incorporating the strong desire for employees to 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 as part of our overall health and safety activities.

For health promotion, we discuss the results of our activities done in accordance with our policies 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 Declaration of Health Commitment: Aiming at Health First Company. This Declaration states that the physical and mental health of our employees is the "driving force for good performance," and so Toyota actively supports the "challenge to improve your lifestyle" for each employee and works on initiatives for "health promotion & illness prevention activity."

For these issues of safety and health, the Safety & Health Environment Subcommittee chaired by the executive vice president (once a year) and the Discussion Group chaired by the general manager of the Safety & Health Promotion Division hold meetings to work on issue-solving through company-union cooperation.

* PDCA: The circular process of Plan-Do-Check-Action for continuous improvement

Basic Philosophy for Safety and Health

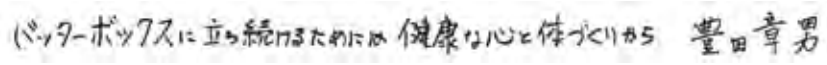
Safe work
Reliable work
Skilled work
Safe work is the "gate" to all work
Let us pass through this gate

Declaration of Health Commitment
—Aiming at Health First Company—

Mental and physical wellness is "driving force for good performance." It is fundamental key point of "happiness of individual employee" as well as of their family.

I hope you will be able to find happiness and motivation in your work at Toyota and that you can enjoy a prosperous life following retirement.

The TMC culture of "Step in the batter's box and challenge!" without fearing failure is applicable for health. I would like to declare that TMC proactively support individual "challenge to improve your lifestyle" and develop "health promotion & illness prevention activity" in cooperation with Toyota Motor Health Insurance Society.



To keep standing at the batter's box, develop mental wellness and physical preparation.

Akio Toyoda

Recognized as a 2018 Certified Health & Productivity Management Outstanding Organization

Toyota has been certified as a 2018 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 creates a workplace where employees can stay energetic and motivated, which results in improved performance and growth for the company. This certification is an evaluation as a corporation that carries out strategic initiatives to manage employee health from a management perspective.

Promoting a Three-pillar Approach to Safety

Toyota has promoted the establishment of a culture that promotes interactive development of safety and health in its safety and health function policy and is taking measures to elevate safety. We are implementing initiatives to promote compliance with basic rules with executives and managers taking leadership and all employees participating so that employees are aware of the risks and take preventive action proactively. In FY2018, the rate of lost-workday cases was 0.59 (down 1.7 percent from the previous fiscal year). We will continue taking action to eventually achieve zero accidents and the continuation of zero accidents at all worksites and will intensify efforts regarding 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 (development of safety management systems), and environmental and facility preparation (provision of safe machinery and comfortable workplace environments).

Accident Frequency Rate (Frequency Rate of Lost Workday Cases)

(FY)	2014	2015	2016	2017	**2018**
(%)					
Frequency rate of lost workday cases (Global)	0.79	0.89	0.75	0.60	**0.59**
Frequency rate of lost workday cases (Japan)	0.06	0.06	0.03	0.07	**0.07**
All industries (Japan)	1.58	1.66	1.61	1.63	**1.66**
Manufacturing industry (Japan)	0.94	1.06	1.06	1.15	**1.02**
Automobile manufacturing industry (Japan)	0.18	0.23	0.20	0.18	**0.15**

Data source: All industries, manufacturing industry, and automobile manufacturing industry (2017 Survey on Industrial Accidents by the Ministry of Health, Labour and Welfare)

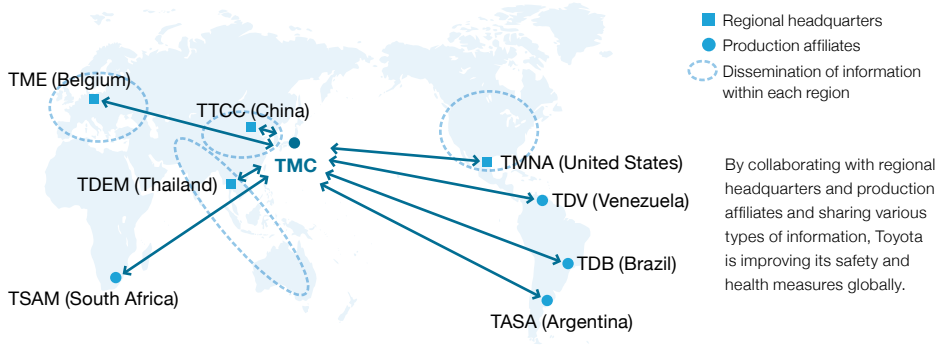
Global Safety Measures

Toyota regional headquarters are mainly 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[1]) globally. Along with unique regional requirements, we have established requirements that are shared throughout global Toyota based on ISO 45001[2]. Using OSHMS, weaknesses are identified by *genchi genbutsu* (onsite hands-on experience) to improve safety management.

Toyota also holds an annual global safety meeting, attended by managers responsible for safety and health. By studying measures for common issues and sharing information on unique activities and best practices, the conference participants are able to raise the level of safety and health activities in each region.

1 OSHMS: Occupational Safety and Health Management System
2 ISO 45001: The international standard related to occupational health and safety 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 Thailand in 2017)

Genchi Genbutsu at Overseas Affiliates

Toyota's Head Office has worked together with the headquarters of each region and does *genchi genbutsu* (onsite hands-on experience) to confirm the safety status of overseas affiliates based on OSHMS. Toyota promotes improvements in safety by using this system and method to clearly identify any issues.

For example, we confirm if measures are implemented to avoid same accidents that have occurred at the sites of other affiliates, and if a system has been created to make the effort active and continuous. Furthermore, successful examples of effective measures and activities are introduced and used at the sites of other affiliates.

China: Check on construction sites

Europe: Check on equipment improvement activities

Creating a Safe Work Environment for On-premise Business Partners (Construction, Contracting, Outsourcing, Delivery, etc.) (Japan)

At Toyota, improvements to the work environment are made by providing opportunities to communicate and tackle each issue to ensure safety for business partners on the premises.

For example, when performing routine cleaning and inspection of equipment, improvements are made, such as adding lights for dark work spaces or placing gripping on slippery footholds.

We will continue to carry out improvements globally to solve problems confronted by actual workers.

Building Up Good Health (Japan)

Toyota adopted the development of healthy people and healthy worksites as a company-wide policy and in FY2018 promoted the Healthy Lifestyles Challenge 8 program. 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 try one or more issue to raise awareness and adopt healthier practices.

Specific measures include providing individual reports indicating the status of implementing the eight health-related practices within the results of medical exams. Healthy Lifestyles Challenge 8 Implementation Sheets indicate targets and weekly status to encourage awareness of and action for health development by each individual.

In addition, feedback on organization analysis results is provided to each division to clearly show where the low levels of implementation are. Other worksite support such as exercise instruction and health lectures is provided to promote the development of health-related custom and culture at each workplace.

In addition, company cafeterias are offering low-calorie, nutritionally-balanced meals to support improvement in eating habits. Workplace environment is also improved to prevent second-hand smoke.

We are deploying the Toyota Health Handbook, medical exam data and health promotion records as tools to support employee self-management and improvement.

Mental Health Care Activities (Japan)

To actively promote good mental health, TMC conducts 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 for managers, training for newly-appointed general managers to go through case studies. 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 health consultations for industrial health care staff and have been working to standardize and systematize the details of consultations and responses.

In addition, Workplace Return Support Guidelines are enacted companywide, with revisions made to the support systems for leave and return to work. By doing this, employees, their doctors, in-house physicians, persons in charge of health and safety, persons in charge of HR and colleagues have better communication routes to work together. We provide support to facilitate the smooth return to work by employees and after their return.

Health Management of Overseas Personnel

Healthcare institutions available vary depending on the region, so we provide health management support accordingly.

In FY2018, we continued to provide health check-ups for personnel assigned overseas with in-house physicians and providing advice via email to follow up on their health.

The local health environments are confirmed through regular exchanges of information with local contact personnel and visits by in-house physicians and others. Health information is provided to locally-stationed employees via the Internet.

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

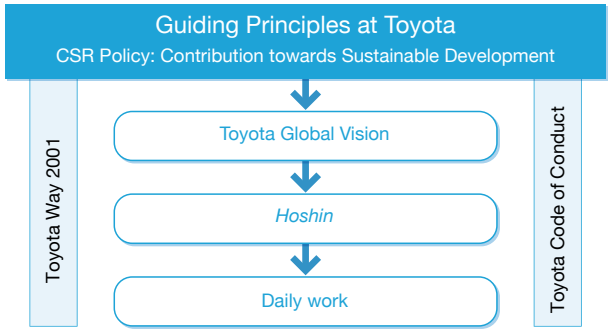
Challenge	*Kaizen*	*Genchi Genbutsu*	Respect	Teamwork

Corporate Principles p. 5

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. By 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



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	
	On-the-job development (OJD)	●A four-step method for promoting human resource development through the practice of regular business activities and guidance	
	Management at Toyota	●Overall image of management at Toyota ●Effective worksite management	
	Skills and roles of management and supervision		●Managing skill of standard operations for managers/supervisors ●Section and team operational knowledge gained from managing irregularities
General employees	Problem solving	●Methods of working using an eight-step method for identifying and solving problems (The Toyota Way)	
	Ji kotei-kanketsu (built-in quality with ownership)	●A three-step method for building in quality in each process	
	Problem solving		●Techniques for improving current conditions to realize ideal working conditions
	Production skills		●Knowledge regarding recognizing irregularities and crucial points ●Trouble-shooting capability
	Basic skills		●Minimum skills necessary for production line work process
	Toyota Way	●Toyota's values ●The fundamentals of all 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 their best in 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 general manager, department manager, or section manager positions undergo one year training.

The training is based on group training and seminars that include discussions in small groups. Officers and general manager class serve as instructors to foster teaching and a learning culture.

Training for selected managers is also conducted to develop executive human resources candidates. Such personnel perform secretarial work for top officers, attend overseas business schools for short periods, work on management issues, 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.

In 2015, OJT and OFF-JT were reviewed and improved for newly graduated, young and mid-career employees.

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 understanding of different cultures, and improve their language skills. During FY2019, 328 employees have been 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 to acquire knowledge and techniques.

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 for employees who 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 elemental technology unit. Start-up seminars are also held to support transferred employees to support efficient acquirement 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.

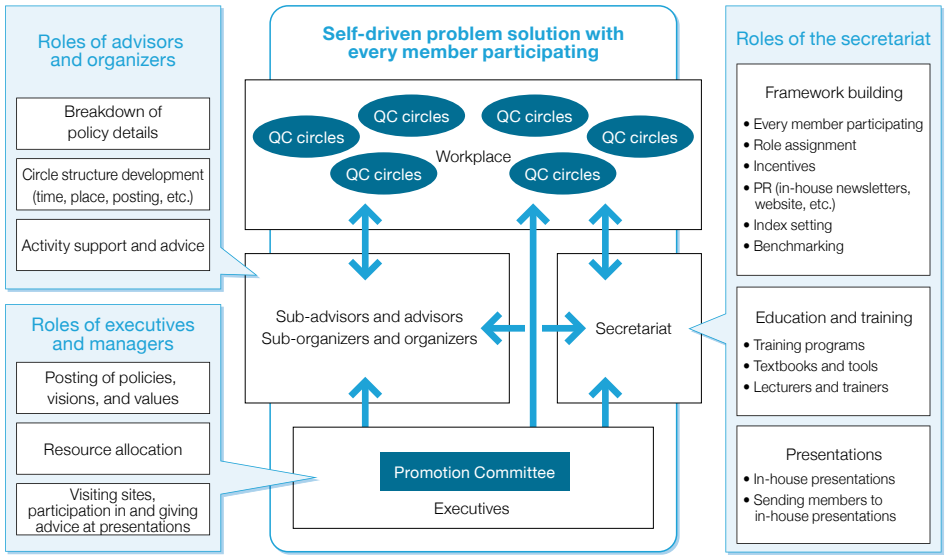
As of June 2018, a total of 461 transferees from 49 affiliates in 28 countries are working in TMC.

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 110,000 participants involved in approximately 14,000 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 make a concerted effort to make continuous improvements, with a 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



QC Conference and Manager Training Held in Toyota Motor North America (TMNA) (U.S.)

Based on QC circle activities aligned with the actual situations in individual countries and regions, overseas affiliates are taking steps to enhance individual abilities and create positive workplaces.

TMNA held a QC circle conference presentation in May 2018. Approximately 100 people from North American affiliates participated in this event, and 13 companies made presentations on their QC activities. In the following week, manager training attended by 11 affiliates was also held.

Manager training

FY2018 Creativity Innovation Award (Minister of Education, Culture, Sports, Science and Technology) Resulting in Becoming the Company with the Most Award Recipients in Japan

The Creativity Innovation Award (Minister of Education, Culture, Sports, Science and Technology) officially recognizes people who make a great contribution to technical improvements and advancements through excellent creativity and innovation.

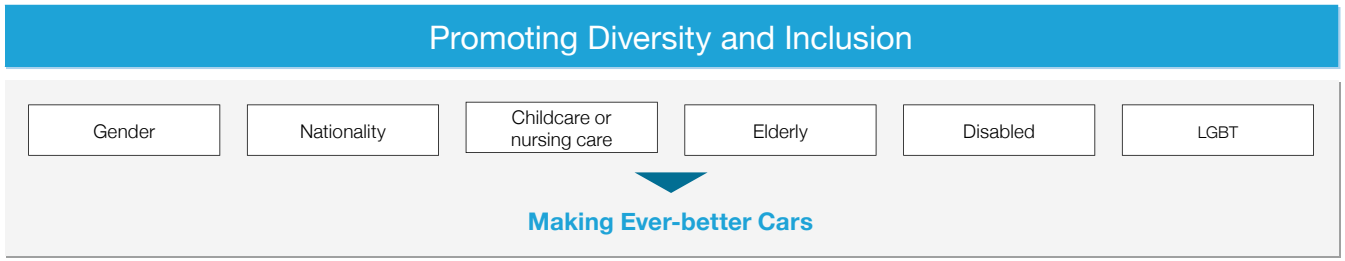
In FY2018, of the 930 award recipients, 78 were from Toyota, making Toyota the company with the largest number of award recipients in Japan. For 59 consecutive years, since the establishment of the award in 1960, Toyota employees have received awards with the total number reaching 1,380.

Even today, the number of proposals continues to increase which contributes greatly to Toyota's advancement.

Recipients of the Creativity Innovation Award (Minister of Education, Culture, Sports, Science and Technology)

Diversity and Inclusion

Fundamental Approach Diversity and inclusion is one of the key bases of management and Toyota is working to create an attractive workplace where employees with various skills and values can achieve self-realization. Our new intranet site, Diversity Net was launched in June, 2018. It provides information to foster a diversified culture within the company. We believe that the new ideas created and the identification of new issues from these diverse perspectives will lead to even greater competitiveness.



"Diversity Net" Intranet

Teleworking at Home Program (Japan)

Work style innovation is intended to raise productivity and support the balance between childcare or nursing care and work. In October 2016, the program for telework at home was expanded to Free Time & Location (FTL) Program. The former program covered only employees with children or those who are providing nursing care, but the FTL Program can be used by employees who wish to use it and meet certain requirements, by obtaining the consent of their supervisors.

As of the end of FY2018, approximately 13,200 employees were eligible, and a total of 3,300 employees were using the program. Employees are commenting that they are able to work more efficiently with better time management and that they can have more time with their family.

From April 2018, we have introduced a new program that enables partial teleworking at home* for *gyomushoku* (staff level). We encourage work style innovations with every member involved.

* Only for childcare or nursing care

Diversity Management (Japan)

Managers promote diversity management to create workplaces where diversified members can perform their best. At Toyota, we call bosses who can carry out diversity management, *Ikubosses*. Toyota fosters supervisors who can manage with flexible minds, while keeping up the performance level and fulfilling their own and team members' private lives.

Starting in FY2017, *Ikuboss* declarations by 1,100 managers have been posted on the intranet. Constant posting of activities or messages to subordinates fosters a culture of mutual support for diversified members.

In 2018, we have implemented Diversity Management Training for those who have been newly promoted to managers. In addition, we have implemented Emotional Barrier-free Training to deepen understanding about LGBT people and people in wheelchairs, targeting young employees.

Our aim is to provide diversity management in all workplaces.

Promoting Women's Participation in the Workplace (Japan)

We are working to support a good work-life balance to be a company to where employees feel comfortable working and having children. The support includes career development and flexible working styles that enable early return to work after taking leave, and childcare.
Toyota Motor Corporation was certified as an "Aichi Josei Kagayaki Company" in 2016 by Aichi Prefecture, as a company working to promote opportunities for women.

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 three fold 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

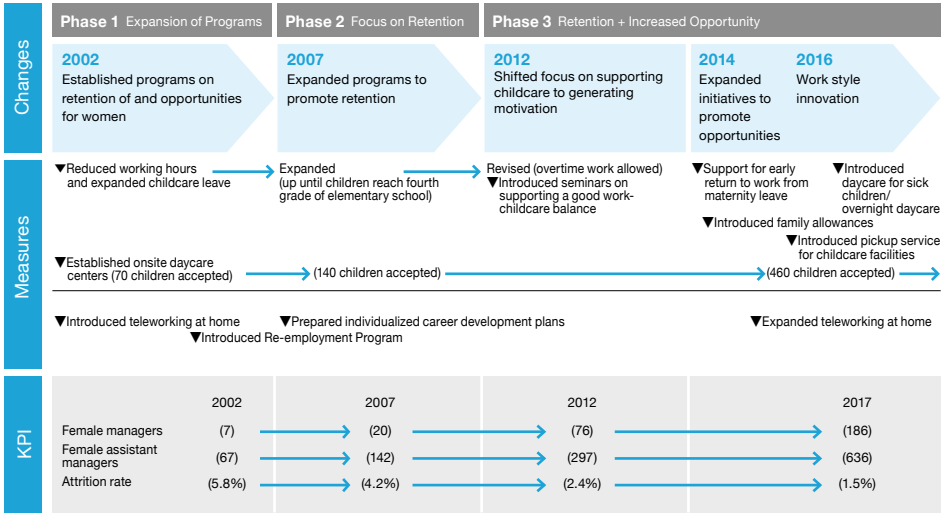
- Continue to provide information through the TMC website (from May 2018)

Aim 2 Promote male employee's participation in childcare

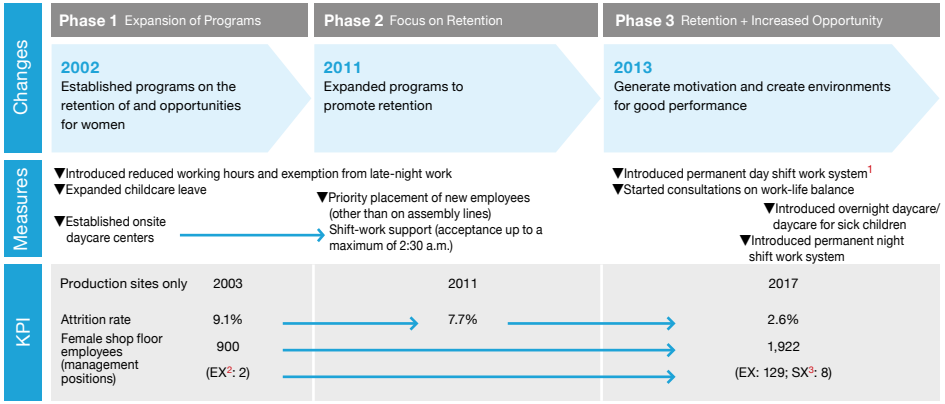
Measures

- 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 childcare (from December 2017)

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)



1 A system that allows employees engaging in childcare to always work during the daytime
2 Expert
3 Senior Expert

Toyota Female Engineer Development Foundation (Japan)

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). For example, our female engineers visit schools in Aichi Prefecture and give lectures to high school students to introduce 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.

Web http://www.toyota-rikeijosei.or.jp/

Childcare Support (Japan)

Pre-maternity Leave Seminars were introduced in FY2016 at TMC. For married couples where both members work in TMC, not only the woman's but also the man's supervisor attend the seminar with the couple to enable sharing of housework and childcare by men and women. At the seminar, participants discuss how they can support each other as a team, including on career planning, childcare leave, housework, and sharing schedules.

In FY2018, TMC expanded its day care centers and started a pickup service by bus between the head office and plants. In addition, six Toyota Group companies collaborated to allow employees of other companies to use their daycare facilities.

"Bubu Forest" Large-Scale Onsite Childcare Facility Opens

In April 2018, Bubu Forest was built in the headquarter area, and it is the fourth childcare facility, for 320 children. Combined with the other three facilities, we have overall capacity for approximately 460 children. Hours of operation of Bubu Forest include early morning as well as overnight hours, to accommodate employees with a diverse range of needs, including shift workers at plants and nurses who work the night shift.

Newly available bus transportation is also provided for children to/from all plants in the TMC Head Office area to ease the burden of pickups and drop-offs for shift-work employees and to enable group care. The facilities also accept 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 childcare facility within the Toyota Memorial Hospital, is available to take in sick children. This childcare facility is available to Toyota City residents and allows TMC to build stronger ties with the local community in support of promoting work-life balance and childcare.


Inside the facility


Exterior view

What I Have Realized through Using Work-life Balance Support

Tomoko Motohashi, Purchasing Planning Division

I returned to work after three years of childcare. I was more than happy to have my child, but considered quitting my job as no one had used childcare in my Division and I had no image of being able to continue work. In spite of these worries, my boss told me, “Why not try working using supports?” I decided to balance work and childcare.

After returning to work, I used the shortened working hours system. While my husband helped out, such as by rushing off to daycare when my child got a sudden fever, every day was a battle against time. I was unable to do either my work or take care of my children the way I wanted. Then, I used full-time teleworking at home. I was released from the pressure of having to leave the office at a certain time. I was the first one who used this support in my Division, but thanks to support from my family and colleagues, I was able to continue working.

There were some hard times, but I realized that the key to work-life balance is time management. After that, I always try to split my work into small steps and list up what I need to do. This lesson has been an invaluable experience for me, and I am actively improving my work now.

Encouraging Men to Participate in Childcare (Japan)

We are actively promoting male employees to take part in childcare.

Starting in February 2017, hand-written messages from superiors, and a letter which includes an explanation on work-life balance support are handed out to celebrate childbirth. In FY2018, about 3,000 employees received them.

The work-life balance support pamphlet also has a page addressed to male employees who are new parents, and lays out the supports for them. In addition, the intranet also shows examples of male employees taking part in childcare and examples of *Ikumen* (men engaged in childcare). Roundtables are held in some workplaces. As a result, in FY2018, the number of male employees utilizing childcare leave (with an average of 2.5 months) was 45 people, increasing by about three times from what it was five years ago. In addition, about 95 percent of males took short-term leave (paid leave, special leave) when their wife gave birth. In this way, more and more men are taking part in childcare.

One Month of Childcare Leave as a Father

Hidemasa Komatsu, Design Div.

I have a daughter, and both my wife and I work. When my daughter was nine months old, I took childcare leave for about a month.

While a month is not long, being able to devote myself fully to my child helped my wife feel relieved that she had someone to take over when necessary. It was a valuable experience for both my family and me. By taking childcare leave, my wife, who had stopped working before she gave birth, was able to return to her job early. I think this had an important meaning for her future career.

In addition, my childcare leave period was a good chance to become aware of the “outside world” as a real experience. It was a chance to realize that values within the company are not everything; that it is important to engage in *monozukuri* (manufacturing) while looking at the “reality” of the world.

Childcare leave is a very valuable opportunity not just as a father, but as a person involved in manufacturing. I expect that how we work will change, and as our work styles advance, it will be normal for anyone to take childcare leave.

Major Initiatives of Nursing Care (Japan)

As nursing care environments are changing, TMC has been expanding company measures on nursing care since 2009 in order to reduce employee anxiety and burdens, and allow employees 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.

In FY2018, TMC held a total of six lectures, two each on three topics: understanding nursing care, preparing for nursing care, and balancing nursing care and work. The lectures were attended by a total of approximately 500 employees and their families.

Use of Childcare and Nursing Care Leave (Japan)

	(FY)	2013	2014	2015	2016	2017	**2018**
Male	(Persons)	19	22	20	43	44	**54**
Female	(Persons)	467	424	469	577	602	**582**

Use of Flexible Working Hours System (Japan)

	(FY)	2013	2014	2015	2016	2017	**2018**
Male	(Persons)	20	17	18	41	342	**935**
Female	(Persons)	817	977	1,140	1,322	1,515	**1,667**

- Data up to and including FY2016 indicates the number of people using shortened working hours or the teleworking at home for childcare or nursing care.
  Data for FY2017 and later indicates the number of people using shortened working hours for childcare or nursing care and teleworking at home, regardless if the purpose is for childcare or nursing care.

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
Provide 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 FY2017, 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, appropriate hiring and contract renewals are conducted with maximum efforts focused 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.

Employment of Persons with Disabilities (Japan)

We believe that persons with disabilities deserve the chance to become socially self-reliant and provide them with opportunities to work together with non-challenged individuals.

As of June 2018, the number of people with disabilities employed was 1,282 accounting for 2.25 percent of the entire workforce (including special-purpose subsidiaries) which is above the legal requirement of 2.2 percent. We are working towards a better workplace to retain employees, by holding sign language classes, assigning consultants, and rolling out best practices.

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 and enclosing catalogues. It also performs tasks on such as issuing visitor and employee identification cards, issuing asset number labels, and shredding documents as well as erasing data from PCs, and providing nursing assistance at Toyota Memorial Hospital.

In April 2016, the Hanamoto Office started full operation. In Nagoya and Tokyo offices, shipping specified correspondence using light goods vehicles started. In these ways, we are working to create new businesses to expand employment of the disabled.

As of April 1, 2018, Toyota Loops employed 244 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. Six Toyota Loops employees participated in the Abilympics (a national technical skills competition for persons with disabilities) in Tochigi Prefecture held in December 2017, winning gold in the Office Assistant division and silver in the Database division.

In addition, employees have won gold in the Women's 400 m Relay and bronze in the 200 m Relay at the international swimming meet held in autumn 2017 in Mexico by the International Sports Federation for Persons with Intellectual Disability.

Japanese team

Haruna Ogawa

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. We can get more time with our patients and provide better service.”

Toyota Loops employees making beds

LGBT (Sexual Minorities)

Toyota has launched initiatives with the aim of creating workplaces with an appropriate understanding and acceptance of LGBT people (sexual minorities). 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 employment 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. For new management-level employees, we have diversity management training to help them deepen their understanding. Furthermore, Toyota has established an internal and external harassment consultation hotline and is making dedicated toilets for LGBT people in Head Office and Nagoya office.

We will continue activities towards the appropriate understanding and acceptance of LGBT people.

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, three are currently headed by non-Japanese chief officers. As of June 2018, TMC has seven 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.

Percentage of Local Employees Comprising Management at Overseas Affiliates

	(FY)	2013	2014	2015	2016	2017	**2018**
Local employees	(%)	60.1	64.7	62.9	62.6	65.8	**67.8**

Non-Japanese Executives Responsible for Overseas Operations

Region	Officer
North America region	James E. Lentz, Senior Managing Officer
Europe region	Johan van Zyl, Senior Managing Officer
Latin America & Caribbean region	Steve St. Angelo, Senior Managing Officer

Creating Attractive Workplaces

Fundamental Approach In order to strengthen its human resource base for sustainable growth, Toyota has 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.

WE LOVE TOYOTA Activity (Japan)

In order to deepen loyalty to the company, We Love Toyota has been carried out since FY2010.
As a part of these activities, WE LOVE TOYOTA seminars were held in June and September 2017. Approximately 400 employees attended, including executives. Teamwork was deepened by forming teams consisting of members who met for the first time and shared the joy of driving in Prius Cup (a race in which participants compete on fuel efficiency after driving a predetermined distance within a specified time) and other games.
Employees on 567 teams, including 12 from overseas affiliates, competed in the 71st Toyota Relay Race (*HURE! hure! Ekiden*) held in December 2017. Runners and members cheering strengthened the bond between the participants and staff. More than 34,000 people participated and their cheering enhanced the unity within Toyota.

Ekiden


WE LOVE TOYOTA Seminar held in June 2017

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' 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 35 sports clubs. Members work and train hard and as a result, have achieved high rankings at competitions.
In addition, Toyota carried out more than 200 programs in 2017, including sending Toyota athletes to lead "Dream Classes" at elementary schools in Toyota City, and providing support for sports classes offered by dealers and sports events held by local communities.


Rugby team


Baseball team

Activities to Express Gratitude to Local Communities

Toyota is fully aware of the support it receives from local communities, including business partners such as dealers and suppliers. To show gratitude for their support, we are carrying out "repayment of the kindness" activity. Employees participate in four areas—business manner, traffic safety, volunteering, and sports. Employees report their activities as gratitude points and we give donations accordingly (employee participation rate: more than 90.7 percent; donation: about 25 million yen in FY2018).

Stakeholder Engagement

Fundamental Approach 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: General conference of suppliers, various meetings with Toyota's 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	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

Toyota Investor Summit 2017 Held for Institutional Investors

In September 2017, the Toyota Investor Summit 2017 was held in Texas at Toyota Motor North America's new headquarters. The event was attended by institutional investors from around 40 companies in North America, Europe, and Asia. Akio Toyoda, President and CEO, talked for 90 minutes, using videos and other tools, to explain about Toyota's sustainable growth vision as we face this Once-in-a-Century Transformational Period. Top management and leaders of each field, such as automated driving, connected technology, electrification, design, and *monozukuri* (manufacturing) also participated. With demos and other activities, the event deepened investors' understanding.

Toyota Investor Summit 2017 Web https://newsroom.toyota.co.jp/en/detail/19030556

Promoting Dialogue with Private Investors

We have dialogue with private shareholders and investors to directly explain and discuss the visions of our top management and the activities towards sustainable growth in order to foster long-term investment minds. For example, we have vehicle displays and explanations by our engineers in addition to explanations of our business at IR events held by the Stock Exchange or events held with securities firms. We do experience-focused, interactive communication. Also, we have "T-ROAD," which is a special website that features the president's messages and our activities for private shareholders and investors.

T-ROAD

T-ROAD Web https://gazoo.com/morizo/

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

In the "estimation of greenhouse gas concentrations and rising temperatures by 2100" scenario from the Fifth Assessment Report of the IPCC Working Group, there are several scenarios in which the atmosphere temperature in 2100 rises will be suppressed by less than 2°C over pre-industrial levels, but in any case, it is estimated that:

- Greenhouse gas emissions in 2050 will be reduced 40–70 percent over 2010
- Greenhouse gases will be almost zero or minus by 2100

Toyota has promoted a wide range of initiatives to address increasingly severe global environmental issues, such as extreme weather phenomena attributed to greenhouse gas emissions, biodiversity depletion due to development, and water shortages caused by population growth. In October 2015, we announced the "Toyota Environmental Challenge 2050," and we have been striving to reduce the environmental burden attributed to automobiles to as close to zero as possible, while developing measures to contribute a positive impact on the Earth and its societies with the aim of achieving a sustainable society.

Serious Environmental Issues of the Earth and Society

- Extreme weather attributed to GHG emissions
- Aggravated air pollution in cities
- Water shortages due to population growth
- Resource depletion such as metals
- Fragmentation of ecosystem due to development progress
- Degrading biodiversity due to ecosystem changes and climate change

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 their importance for both stakeholders and our business.

STEP 1

Collect and Analyze Information

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, leading us to grasp potential risks and opportunities.

STEP 2

Identify Environmental Challenges (Materiality)

We identified environmental challenges (materiality) through analysis of both the external and internal environments. Our analysis of the external environment is derived from ESG investor and research organization surveys and major indices, along with communication with stakeholders including international organizations, NGOs, and consumers, while the internal analysis is based on the Guiding Principles at Toyota, the Toyota Earth Charter, and discussions among internal concerned divisions.

STEP 3

Identify Key Challenges (Materiality)

We identified the key environmental challenges (materiality) by considering two aspects, which are the influence on stakeholders, and impacts on our potential business risks and opportunities. This helped us prioritize the importance of key challenges.

STEP 4

Toyota Environmental Challenge 2050 Formulation, Regular Review, and Information Disclosure

High priority challenges for both stakeholders and Toyota were formulated in the Toyota Environmental Challenge 2050 (Six Challenges) and approved by the Corporate Planning Meeting (current "Sustainability Meeting"), which decides our medium- to long-term strategies. Steady implementation of our challenges requires management's recognition of environmental activities as potential business opportunities and effective investments, in addition to involving Group companies to strengthen collaboration with our business partners. We will review and evaluate our action plans on a regular basis.

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

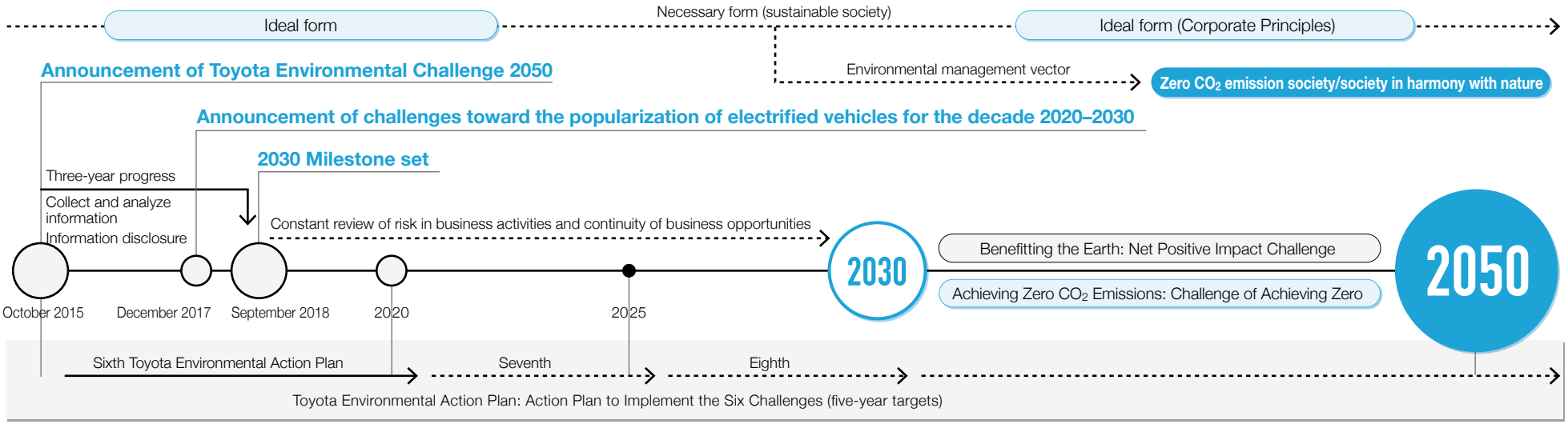
In December 2017, Toyota announced its challenge toward the popularization of electrified vehicles for the decade from 2020 to 2030 as a pillar in the development and expansion of electrified vehicles, which is one of the medium- to long-term initiatives to realize the Toyota Environmental Challenge 2050. The 2030 Milestone indicates how the six challenges will be as of 2030, including the details of this announcement. These activities are being further proceeded along with the Toyota Environmental Action Plan that sets the specific action plans and targets for every five-year period in order to contribute to the realization of a sustainable society.

2030 Milestone Set

Toyota has been proactive in the development and marketing of electrified vehicles by introducing the iconic Prius in 1997, and by working to make it widely adopted for the following 20 years. Cumulative electrified vehicle sales as of April 2018 have reached 12 million units, which has reduced CO_2 emissions by 94 million tons. As the CO_2 emissions volume of Tokyo in 2015 was 60.84 million tons of CO_2[1], the effect of reducing CO_2 emissions contributed by the widespread adoption of electrified vehicles is incredibly large.
For that reason, by achieving the 2030 milestone of "annual total electrified vehicle sales of 5.5 million units, including sales of 1 million or more battery electric vehicles (BEVs) and fuel cell electric vehicles (FCEVs)," we estimate that CO_2 emissions will be reduced by 35 percent over 2010[2].

On the other hand, even though the environmental burden during the operation of electrified vehicles is low, CO_2 emissions during the production stage are greater than those of a gasoline vehicle of the same class. For that reason, it is necessary to set quantitative milestones for the production stage. In addition to reducing CO_2 emissions in every stage of the vehicle lifecycle (production of materials, parts production/vehicle assembly, operation, maintenance and disposal), the 2030 Milestone sets quantitative and qualitative milestones for other challenges, including the establishment of a recycling-based society and living in harmony with nature, which will accelerate further reduction of the environmental burden and accomplish a net positive impact.

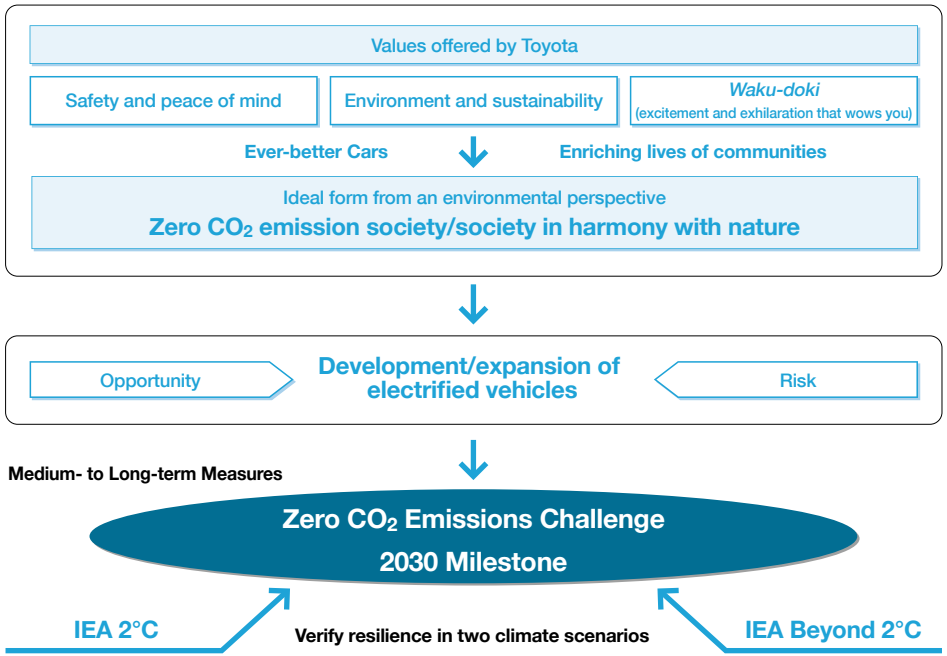
1 Source: Tokyo Metropolitan Government Bureau of Environment "Final Energy Consumption and Greenhouse Gas Emissions in Tokyo"
2 Estimate values. Values may change depending on the market situation and other factors.



Climate-related Scenario Analysis

In order to realize the Toyota Environmental Challenge 2050, the 2030 Milestone was established based on the current situation of Toyota and social trends. In the setting of the Milestone, based on "different climate-related scenarios, including a 2°C or lower scenario," the influence that climate change will have on Toyota was analyzed and resilience of Toyota's medium- to long-term strategy was verified. The climate scenarios mentioned above referred to those equivalent to "2°C" and "Beyond 2°C" in the International Energy Agency (IEA) report, and electrified vehicle sales and production activities at plants were analyzed.

Investigation Process



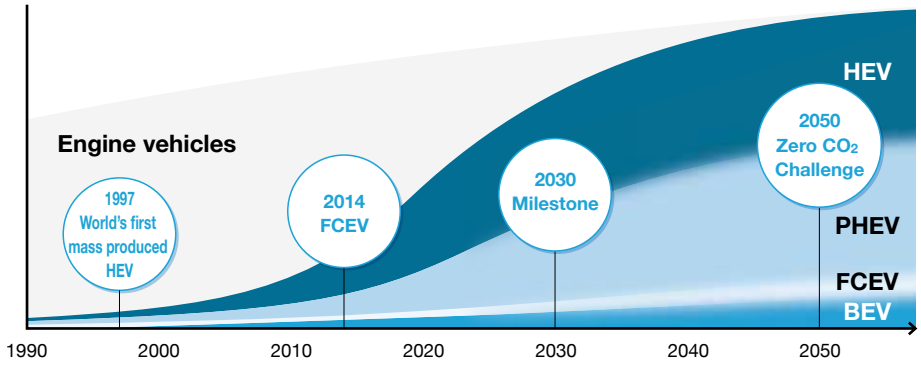
Results of Verification in Two Senarios

■ Electrified vehicle sales

With regard to the ratio of electrified vehicles including hybrid electric vehicles (HEVs), the ratio in the 2030 Milestone exceeds the levels both in the "2°C" and "Beyond 2°C" climate scenarios. On the other hand, although the ZEV* ratio surpasses that in "2°C," it does not reach the level of "Beyond 2°C." 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 will also be applicable to ZEV, and Toyota is capable of making flexible and strategic changes to the powertrains and line-ups according to changes in demand. As we look toward "Beyond 2°C," we will make flexible decisions on the necessity to change the line-ups by monitoring various indicators to grasp global trends.

* ZEV (Zero Emission Vehicle): Vehicles with zero CO_2 emissions at the driving phase

Vehicle Electrification Milestones



■ Production activities at plants

Carbon pricing policies have been in discussion globally toward the achievement of the 2°C target. In terms of the financial risk from this policy, there may be a cost increase due to the carbon price according to CO_2 emissions from energy usage emission. However, Toyota has been globally promoting CO_2 emissions reduction at plants in the Toyota Environmental Challenge 2050 and 2030 Milestone. On this basis, we expect to reduce costs from carbon pricing and energy purchase costs by energy-saving and energy creation. Therefore, measures for the 2030 Milestone can lower the financial impact due to carbon pricing.

The milestones Toward the Toyota Environmental Challenge 2050 as of 2030 are shown below

Toyota Environmental Challenge 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

2030 Milestone

- 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% or more, which may vary depending on market conditions, compared to 2010 levels

Toyota Environmental Challenge 2050

Challenge 4
Challenge of Minimizing and Optimizing Water Usage

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

2030 Milestone

- 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 4 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

Toyota Environmental Challenge 2050

Challenge 2
Life Cycle Zero CO_2 Emissions Challenge

Completely eliminate all CO_2 emissions from the entire vehicle life cycle

2030 Milestone

- Reduce CO_2 emissions by 25% 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

Toyota Environmental Challenge 2050

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

2030 Milestone

- 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

Toyota Environmental Challenge 2050

Challenge 3
Plant Zero CO_2 Emissions Challenge

Achieve zero CO_2 emissions at all plants worldwide by 2050

2030 Milestone

- Reduce CO_2 emissions from global plants by 35% compared to 2013 levels

Toyota Environmental Challenge 2050

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

2030 Milestone

- Realize "Plant in Harmony with Nature"—12 in Japan and 7 overseas—as well as implement harmony-with-nature activities 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

Risks and Opportunity Recognition in Toyota Environmental Challenge 2050

When it comes to making management decisions Toyota recognizes the various risks arising from global environmental problems and then conduct activities against them toward the Toyota Environmental Challenge 2050, taking it as an opportunity for Toyota to enhance its sustainable competitiveness.

Of the risks attributed to climate change, the risk of disasters due to abnormal weather not only affects business continuity but also threatens the lives of people around the world and hinders sustainable development. Regulatory risks such as fuel consumption regulations and energy-saving regulations may also lead to increased costs for vehicle and production activities and lost sales opportunities due to a delay in responding to regulations.

Toyota considers it is possible to create more sales opportunities by promptly responding to regulatory risks, as well as contributing to the world sustainable development through undertaking the zero challenges of Challenges 1 to 3, which will help mitigate the physical risks due to climate changes.

As for water resources, although the details and extent of risks are different in each region of operation, if water is used in excess or if polluted water is discharged, there will be a huge impact on the regional water environment, and operations may not be permitted.

With regard to the use of resources, there is a risk that production will be delayed due to resource depletion, and the risk of the need to impose an unnecessary duty for processing on manufacturers due to the inappropriate treatment of End-of-life vehicles in each country and region.

Risks from the loss of biodiversity also includes the risk of impacting the surrounding ecosystem due to inappropriate development and operation, as well as the risk of damaging sustainable development due to the loss of the affluent natural environment on a global scale.

By means of Challenges 4 to 6, Toyota is not only minimizing these risks and impacts but also making a positive contribution in each region, which we recognize leads to trust being gained from each region and further raises business sustainability and sales opportunities.

Results and Progress of the Six Challenges and Future Activities

	Toyota Environmental Challenge 2050
CHALLENGE 1 CO_2 0 **New Vehicle Zero CO_2**	**Reduce global average CO_2 emissions during operation from new vehicles by 90% from Toyota's 2010 global level** [Activities] Accelerate widespread use of next-generation vehicles to save energy and respond to diverse range of fuels • Accelerate global expansion of hybrid vehicles and plug-in hybrid vehicles • Accelerate widespread use of fuel cell, electric, and other ZEV[1] 1 ZEV (Zero Emission Vehicle): Vehicles which do not emit CO_2 at all during operation
CHALLENGE 2 CO_2 0 **Life Cycle Zero CO_2**	**Completely eliminate all CO_2 emissions from the entire vehicle life cycle** [Activities] Reduce CO_2 emissions along the entire vehicle life cycle, from materials production, parts and vehicle manufacturing to driving and disposal stage • Reduce CO_2 emissions during materials production by developing and expanding use of low-emission materials • Promote eco-friendly actions through wider use of recycled materials
CHALLENGE 3 CO_2 0 **Plant Zero CO_2**	**Achieve zero CO_2 emissions at all plants by 2050** [Activities] At all production plants, develop and adopt low-CO_2 technologies and implement daily *kaizen*, while promoting the use of renewable energy and hydrogen • Reduce CO_2 emissions per unit at newly established plants to one third by 2030 (in comparison to 2001) by simplifying and streamlining production processes and taking innovative energy-saving measures • Adopt renewable energies at plants, including the use of wind power produced on-site at our Tahara Plant by around 2020
CHALLENGE 4 **Minimizing and Optimizing Water Usage**	**Minimize water usage and implement water discharge management based on individual local conditions** [Activities] 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
CHALLENGE 5 **Establishing a Recycling-based Society and Systems**	**Promote global deployment of End-of-life vehicle treatment and recycling technologies and systems developed in Japan** [Activities] 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[2] Project • Toyota Global Car-to-Car Recycle Project 2 Dismantlers: Auto-dismantling businesses operators
CHALLENGE 6 **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** [Activities] Enhance Toyota's long-standing nature conservation activities in the areas of nature fostering, environmental grants, and environmental education 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[3] Project 3 ESD: Education for Sustainable Development

Main SDGs related to Toyota Environmental Challenge 2050:

Results and Progress of Main Activities		Main Future Initiatives
Worldwide Common	Each Region	
• Achieved annual sales of more than 1.5 million electrified vehicles in 2017 with cumulative sales of 12 million vehicles (as of April 2018) • Launched FCEV MIRAI • Started feasibility study with Panasonic Corporation for joint automotive prismatic battery business	• Launched FCEV bus, SORA (Japan) • Concluded MOU with Suzuki Motor Corporation on EV introduction in India • Collected data through trial runs of flexible fuel HEV prototypes using alcohol as fuel, including bio-ethanol, and verified the durability and powertrain performance toward commercialization (Brazil)	• Make cumulative HEV sales of 15 million units in 2020 • Launch 10 or more BEV models worldwide by the early 2020s • Make sales of 30,000 or more FCEV units per year worldwide by around 2020 and thereafter • Launch dedicated electrified models or electrified options of all models by around 2025 • Expand TNGA powertrain models to approximately 80% of total Toyota vehicle sales units by 2023
• Released TOYOTA Green Purchasing Guidelines published for Japan and overseas and requested suppliers to promote activities • Participated in the Hydrogen Council, the world's first global initiatives with regard to hydrogen	• Applied LCA to all models sold since 2004, and reduced CO_2 emissions (Japan) • Reduced CO_2 emissions from logistics by joint transportation and optimization of the routes (India) • Built "Tri-Gen," a fuel cell power generation plant together with a hydrogen station (U.S.) • Started full-scale demonstration project using low-carbon hydrogen generated by wind power (Japan)	• Strengthen development and cooperation toward CO_2 emissions reduction with materials and parts suppliers • Expand modal shift and joint transportation

• Reduced CO_2 emissions by development and introduction of low-CO_2 technologies and daily *kaizen*
  • Promoted introduction of simplified and streamlined equipment along with changes in lines and processes
  • Expanded overseas activities (in-house ESCO activities) to carry out energy diagnostics, *kaizen* proposals and countermeasure implementation (daily *kaizen* promotion)
• Introduced renewable energy
  • Expanded introduction considering national and regional characteristics
	• Introduced new painting line that greatly reduces line volume and CO_2 emissions (Japan)
	• Procured 100% renewable energy for electricity use (Brazil)
	• Installed a zero-energy building using stationary pure hydrogen fuel cell technology (Japan)
		• Expand globally developed technologies to further reduce CO_2 emissions per unit produced
		• Promote installation of in-house power generation facilities such as solar power generation at plants
		• Promote *Tenouchika** (Skill acquisition) and cost reduction for hydrogen-use technology
		* *Tenouchika* (Skill acquisition): Making use of technology and know-how

• Established Toyota Water Environment Policy • Water volume: Evaluated our impact on the local water environment, and set challenge-focused plants • Water quantity: Evaluated the impact of plants that discharge water to rivers	• Introduced water usage reduction and recycling technologies such as collecting rainwater to reduce the amount of industrial water usage, raising the water recycling rate through filtering, and recycling wastewater for reuse (France) • Secured water required for car washing at dealers by introducing water purifying facilities equipped with water retention tanks and solar energy (South Africa)	• Water quantity: Promote water usage reduction activities at challenge-focused plants • Water quality: Conduct impact assessment • Expand globally best practices of water usage reduction
• Adopted continuously Easy to-dismantle designs including pull-tab type ground terminals and Easy-to-dismantle marks • Developed neodymium-reduced, heat-resistant magnet for use in motors that can reduce the amount of rare-earth neodymium by up to 50% • Established HEV battery collection network	• Launched a model facility for proper treatment of End-of-life vehicles first ever in Southeast Asia (Thailand) • Organized courses for hydrogen gas extraction (Japan) • Started establishment of large-capacity storage battery system and demonstration project to recycle used batteries in collaboration with Chubu Electric Power (Japan) • Launched decentralized power generation system that combines used nickel-hydride batteries from Camry hybrid and solar power generation in Yellowstone National Park (U.S.)	• Establish model facilities in regions with insufficient facilities for proper treatment of End-of-life vehicles • Implement proper treatment of End-of-life electrified vehicles such as FCEVs and BEVs • Establish global recycling systems for used batteries including overseas expansion of treatment furnaces
• Expanded afforestation at plants in the Plant in Harmony with Nature project, that continuously monitors indicator species in forest and other habitats • Selected in Japan and overseas model plants set for "Plant in Harmony with Nature" • Signed a Global Corporate Partnership agreement with WWF (World Wide Fund for Nature), a first for an automotive company • Launched five-year partnership with International Union for Conservation of Nature (IUCN) in order to raise awareness of the biodiversity crisis and organized events in several countries	• Started activities at model plants of "Plant in Harmony with Nature" in Japan • Expanded activities, enhanced dissemination of information, and strengthened cooperation in the All-Toyota Harmony with Nature Working Group established by 23 affiliated companies (Japan) • Implemented environmental hands-on learning programs at Toyota Shirakawa-Go Eco-Institute, the Forest of Toyota and the Toyota Mie Miyagawa Forest to foster personnel responsible for environmental conservation activities in the future (Japan) • Launched All-Toyota Harmony with Nature Working Group overseas (Thailand)	• Promote implementation of "Plant in Harmony with Nature" at model plants and *yokoten* to other plants • "Connect communities" by expanding harmony with nature activities to conserve living creatures and their habitats in collaboration with local communities and companies • "Connect with the world" through expansion of biodiversity conservation activities by means of partnerships with private companies, NGOs and other organizations • "Connect to the future" by fostering environmentally conscious persons both in-house and outside

Eiichiro Adachi

Counselor, The Japan Research Institute, Limited

Review Commentary

Three years ago, when I learned Toyota set a target of reducing the environmental burden attributed to automobiles to as close to zero as possible under the Toyota Environmental Challenge 2050, I was confident that the level of corporate sustainability strategy in Japanese industries would steadily be advanced. Toyota overturned our common practice of discussing the future based on past accomplishments and setting goals based on the outlook for fulfilment, and I felt that this was an advanced concept of setting what the future should look like and positioning it as a starting point for considering what needs to be done. Nonetheless, there could still be a gap in employees' understanding between goals for 30 to 40 years ahead in the future, and targets in the Toyota environmental action plan covering a five-year span. This 2030 Milestone now set will serve as an effective means of linking the present with the future and gaining the understanding of stakeholders.

On the other hand, looking at the results and progress regarding the six challenges and action plans, there are some things that I would like to point out. First, it still needs a lot of work to grasp current conditions and manage progress at overseas sites. Considering the status of Toyota's global business development, it will not be possible to achieve the targets through the efforts of TMC alone. Second, there is room for collaboration among the different Challenge items. For example, by transforming the biotechnology and afforestation business into a forestry management business, a path to contributing to achievement of Challenge 2 may be possible. Third, additional priority should be placed on promoting eco-driving. Connected technology will make it possible at some point to assess the level of eco-driving by all drivers. Fourth is to actively commit to the use of clean energy. Companies that adopt RE100 are increasing in Japan and overseas. I understand well the difficulties of connecting the future with the present, but I expect that Toyota will continue to report periodically on its progress as a leading Japanese company.

Review Commentary

Rika Sueyoshi

CEO, Ethical Association

Opportunities to learn are increasing as a result of the internet and social media, and schools are starting to teach students about ethical consumption and the SDGs, leading to changes in the consumption behavior of young people. When purchasing goods with the background of an ethical narrative, many people learn that they too can contribute to help establish an ethical society and feel a sense of pride and enrichment. When the generation with this kind of criteria becomes the core of the consumption society, considerate ways of using money will lead to the development of a society and natural environment where all people can live with peace of mind. Based on this type of ethical concept, the statement "to reduce the environmental burden of automobiles to as close to zero as possible and also to create positive impact on society" set forth in the Toyota Environmental Challenge 2050 is a message that can gain the empathy of consumers with an awareness of ethics.

As I learned about Toyota's environment initiatives, I developed two expectations. Announcing the 2030 Milestone will lead to greater trust by consumers and society, but I would like to see more of this type of "selection criteria" conveyed in various forms so that we on the consumption side can fulfill our own responsibilities. Second, I would like Toyota to help encourage consumers to be ethical. I think that for global companies to gain even more support from consumers, it will be important for companies and brands to be taken as "gifts to local communities"—a positive gift in the sense that it is precisely because of Toyota's presence that local communities can thrive and numerous ethical consumers can be developed in the community. From time to time, I would like to see Toyota support action that enables consumers move forward together with companies, expanding the ethical world and leading to a sustainable society.

As the automobile industry undergoes what is said to be a once-in-a-century transformation, Toyota will continue to innovate so it can provide safety and peace of mind, security, environmental sustainability, and *waku-doki* (excitement and exhilaration that wows you) to its customers. Particularly, with regard to the environment, we have been addressing climate change, water resources, recycling, biodiversity, and other issues under the Toyota Environmental Challenge 2050 since 2015. In this year's Environmental Report, we announced milestones, situations of each of the Challenges as of 2030 to make these measures even more concrete. When taking action going forward, we will deepen our measures in terms of activities, and the acquisition and disclosure of information, taking into account the four points indicated by Mr. Adachi. We also believe that, as pointed out by Ms. Sueyoshi, gaining the sympathy of customers and other stakeholders will be essential for realizing the challenges. We kindly request the continued support of all our stakeholders.

Hironori Kagohashi

Executive General Manager, Toyota Motor Corporation

FY2018 Review of the Sixth Toyota Environmental Action Plan

Area	FY2018 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 13.7% compared to 2010. We achieved the 2020 sales target for next-generation vehicles (1.5 million units per year) ahead of original plan early by improving environmental performance and expanding the lineup of hybrid electric vehicles (HEVs). We also sold 50,000 Prius PHVs in 2017 and started selling the fuel cell electric vehicle (FCEV) bus, SORA. We established a new company with Mazda Motor Corporation and Denso Corporation for joint development of battery electric vehicles (BEVs) and began concrete collaboration.
	Challenge 2 : In the area of product development, we conducted life cycle assessment using Eco-VAS[1] of seven vehicle models sold in Japan. CO_2 emissions from the new Camry were cut by 19% compared to the previous model. In the area of logistics, we promoted activities to reduce CO_2 emissions with a focus on improving transportation efficiency. 1 Eco-VAS (Eco-Vehicle Assessment System): Comprehensive environmental impact assessment system throughout the entire vehicle development process based on the concept of life cycle assessment (LCA) from vehicle production and use to disposal stages. The aim of Eco-VAS is to serve as a valuable environmental management tool for chief engineers.
	Challenge 3 : To reduce CO_2 emissions in production, we achieved cumulative results through comprehensive daily *kaizen*. We expanded reduction effects globally through *yokoten*[2] of best practices and actively developed innovative technologies both in Japan and overseas aiming for further drastic reductions. We are introducing renewable energy on a large scale, and the number of introduction sites and the amount of electricity generated increased steadily. 2 *Yokoten* refers to sharing of improvement practices, know-how, non-compliance and other information within the All-Toyota Group
Recycling (Resources, Water)	**Challenge 4 :** To reduce water usage, we undertook proactive measures including introduction of reduction technologies at plants around the world and implementation of daily water-saving efforts. At water usage challenge-focused plants, we analyzed local water situations and other data, through the discussions with local communities. With regard to water quality, we took into consideration the impact of Toyota's water discharge on local water environment and selected challenge-focused plants.
	Challenge 5 : In the area of production, we continued daily measures to reduce waste such as reducing the volume of sludge. In logistics, we introduced simplified and returnable[3] packaging and wrapping materials, leading to a steady reduction in the amount of waste and the material used in packaging and wrapping. With regard to resource recycling, we deployed the "Waste oil, fluid, CFC/HFC proper Treatment Manual" on dismantling End-of-life vehicles overseas. We also completed responses to the law and regulation on proper treatment utilizing existing facilities in Vietnam, and, in Thailand, completed the launch of a model facility for proper treatment of End-of-life vehicles first ever in Southeast Asia. We continued the reuse and recycling of all recovered batteries and started its globalization in preparation for growing use of electrified vehicles in the future. 3 Returnable: To enable used packaging materials to be returned to original shipping points for reuse
Harmony with Nature	**Challenge 6 :** In the Toyota Green Wave Project, afforestation at plants as a part of sustainable plant activities was expanded to the Plant in Harmony with Nature Project, and activities at model plants in Japan started. The All-Toyota Harmony with Nature Working Group increased the number of activities by individual companies, raised employees awareness, and expanded Group-connecting activities. The Toyota Today for Tomorrow Project continued support for maintenance of the IUCN Red List of Threatened Species™ (IUCN[4] Red List) as well as steady ecosystem conservation efforts and measures for ensuring sustainable natural rubber production in Southeast Asia by WWF[5], and a certain degree of progress was made. The Toyota ESD Project continued environmental education with a focus on children, who will become the leaders of tomorrow. The cumulative number of visitors to the Forest of Toyota reached 170,000 and the number of visitors to the Toyota Shirakawa-Go Eco-Institute reached 209,000. 4 IUCN (International Union for Conservation of Nature): Founded in 1948 through an international initiative, International Union for Conservation of Nature is a global nature conservation network comprising nations, government agencies, and non-governmental organizations 5 WWF: World Wide Fund for Nature
Management	**Environmental Management** Environmental non-compliance issues and complaints that occurred were minor incidents. In response to these incidents, we developed preventive countermeasures and implemented comprehensive *yokoten* of these measures. We started to commend suppliers that made significant contributions. In the sales and service fields, we promoted the formulation of regional environmental guidelines and their deployment to distributors and dealers. We worked to improve information disclosures, and the Environmental Report 2017 received the Excellent Environmental Report Prize of the 21st Environmental Communication Awards.

FY2018 Review of the Sixth Toyota Environmental Action Plan (Details)

✓✓ : 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	FY2018 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 13.7% in global average CO_2 emissions from new vehicles (Japan, United States, Europe, and China) in 2017 compared to 2010 Promoted initiatives toward meeting our 2020 goal by developing low-CO_2-emitting engines and transmissions through TNGA, making further improvements in the environmental performance of HEVs, and expanding the product lineup	✓✓	90
	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	Accelerated development with a target of selling at least 5.5 million electrified vehicles per year (including at least 1 million BEVs and FCEVs) by 2030 (Every model will be available either as dedicated electrified model or have electric option by around 2025) •HEV : Achieved the sales target for 2020 (1.5 million units/year) early by making further improvements in environmental performance and expanding the product lineup (in FY2018, the new JPN TAXI HEV was released in Japan) HEVs accounted for 40% of Toyota vehicles sold in Japan and 16% overseas •PHEV : Sales of the new Prius PHV, which boasts greatly improved marketability, were approximately 50,000 units in 2017, and we are making steady efforts to promote widespread adoption •FCEV : Launched new FCEV bus, "SORA," a mass-sales model We aim to sell at least 100 units, mainly in Tokyo, by 2020 •BEV : Established a new company with Mazda Motor Corporation and Denso Corporation for joint development of BEVs and began concrete collaboration	✓✓	89
	(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 life cycle assessment using Eco-VAS of seven vehicle models including redesigned and new models in Japan Life cycle CO_2 emissions of all assessed models were reduced compared to their reference vehicles. (CO_2 emissions from the new Camry were cut by 19% compared to the 2011 model)	✓✓	93
	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	•Realized a formic acid synthesis reaction from just CO_2, water, and solar energy using a light absorbent material and catalyst by making use of abundant iron rust (iron oxide)	✓✓	—
	5. Raise transportation efficiency and reduce 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 / Item / Base year / Target (FY2021) Japan: Total emissions / FY1991 / 25% reduction Japan: Emissions per transportation volume / FY2007 / 14% reduction (1% reduction) Overseas: Measured performance	•Achieved the goal by promoting *kaizen* activities Region / Item / Base year / FY2018 results Japan: Total emissions / FY1991 / 35% reduction Japan: Emissions per transportation volume / FY2007 / 20% reduction Overseas: Measured performance	✓✓	94
	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 – Micro-grid (F-grid): 24% energy saving and 31% CO_2 reduction after F-grid introduction – Motomachi Plant, Toyota City: Practical application of chemical thermal storage technology through NEDO verification tests in progress – Other plants in Japan, Asia: Continued the collection of information (on conditions for installation, 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 Games Tokyo 2020 and Paralympic Games	•In Toyota City and Okinawa, shifted to commercialization by local operating companies Implemented improvement of profitability and systems, and functional development in Tokyo and Okayama under demonstration phase toward building sustainable business operation models	✓✓	—

<table>
<tr><th></th><th>Action Items</th><th>Specific Actions and Goals</th><th>FY2018 Results</th><th>Evaluation</th><th>Page</th></tr>
<tr><td rowspan="8">Low Carbon (Climate Change, CO_2)</td><td colspan="5">(2) Life Cycle Zero CO_2 Emissions Challenge</td></tr>
<tr><td rowspan="2">7.
Promote an integrated approach to reduce CO_2 emissions in road traffic sectors</td><td>•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</td><td>•In February 2017, the Thai National Transport Policy Board (chaired by Deputy Prime Minister Somkid Jatusriptak) approved a roadmap for implementation of the Sathorn model in Bangkok, and the result was reported to the Council of Ministers (Prime Minister Prayut Chan-o-cha) in April.</td><td>✓✓</td><td rowspan="2">–</td></tr>
<tr><td>•Promote adoption of eco-driving globally
– Promote eco-driving globally among customers and employees</td><td>•Took the following initiatives:
– Continued to promote customer education activities, such as eco-driving advice through dealers and eco-driving support through rental & leasing shops
– Raised employees awareness regarding eco-driving by displaying posters that use animals to convey a strong message, distributing pamphlets, and holding internal lectures presented by outside speakers</td><td>✓✓</td></tr>
<tr><td colspan="5">(3) Plant Zero CO_2 Emissions Challenge</td></tr>
<tr><td>8.
Reduce CO_2 emissions in production activities</td><td>•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 (GHG) emissions from sources other than energy sources
<table>
<tr><th colspan="2">Region</th><th>Item</th><th>Base year</th><th>Target (FY2021)</th></tr>
<tr><td colspan="2">Global*</td><td>Emissions per vehicle</td><td>FY2002</td><td>39% reduction</td></tr>
<tr><td rowspan="2">TMC</td><td>Emissions per vehicle</td><td>FY2002</td><td>48% reduction</td></tr>
<tr><td>Total emissions</td><td>1991</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)</td><td>•Promoted technological development and steadily introduced developed technologies toward achieving the FY2021 goals
•Accelerated shop-oriented daily kaizen activities for each process
•Promoted the introduction of renewable energy
<table>
<tr><th colspan="2">Region</th><th>Item</th><th>Base year</th><th>FY2018 results</th></tr>
<tr><td colspan="2">Global</td><td>Emissions per vehicle</td><td>FY2002</td><td>35% reduction</td></tr>
<tr><td rowspan="2">TMC</td><td>Emissions per vehicle</td><td>FY2002</td><td>46% reduction</td></tr>
<tr><td>Total emissions</td><td>1991</td><td>45% reduction</td></tr>
<tr><td>Overseas</td><td colspan="3">Implemented reduction scenarios that match local situations</td></tr>
</table></td><td>✓✓</td><td>97</td></tr>
<tr><td rowspan="6">Recycling (Resources, Water)</td><td colspan="5">(4) Challenge of Minimizing and Optimizing Water Usage</td></tr>
<tr><td>9.
Reduce water usage in production activities</td><td>•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></td><td>•Promoted introduction of water usage reduction technologies as well as daily water conservation activities in domestic and overseas plants
<table>
<tr><th>Region</th><th>Item</th><th>Base year</th><th>FY2018 results</th></tr>
<tr><td>TMC (vehicle plants)</td><td>Usage per vehicle</td><td>FY2002</td><td>26% reduction</td></tr>
<tr><td>Overseas</td><td colspan="3">Implemented reduction activities that match local situations</td></tr>
</table></td><td>✓✓</td><td>104</td></tr>
<tr><td colspan="5">(5) Challenge of Establishing a Recycling-based Society and Systems</td></tr>
<tr><td>10.
Reduce consumption of dwindling natural resources through use of renewable resources and recycled materials</td><td>•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</td><td>•Petroleum-derived plastics
– Continued trials in collaboration with dismantling companies to collect plastic from End-of-life vehicles, investigated efficient means of removing foreign materials, and took measures to develop materials that can be reused in vehicles.
– Continued to collect and recycle End-of-life bumpers generated through repair work at Toyota dealers
•Promoted reuse of rare resources and use of recycled materials
– Continued to develop technologies for recycling CFRP materials
– Continued to work on reducing the amount of rare earth metals used in hybrid components</td><td>✓✓</td><td>107</td></tr>
<tr><td>11.
Achieve industry-leading levels in easy-to-dismantle design for effective resource recycling</td><td>•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</td><td>•Continued to apply easy-to-dismantle designs to newly developed vehicles such as the JPN TAXI, Prius PHV, Camry, and Lexus LS</td><td>✓✓</td><td>109</td></tr>
<tr><td>12.
Contribute worldwide through End-of-life vehicle treatment and recycling technology developed in Japan</td><td>•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 End-of-life vehicle treatment facilities (seven sites by 2020)</td><td>•Took the following initiatives:
– Created the “Waste oil, fluid, CFC/HFC proper Treatment Manual (Basic Edition)” on dismantling End-of-life vehicles, assuming countries and regions without sufficient dismantling facilities and equipment and deployed it overseas
– Completed responses to law and regulation in proper treatment of End-of-life vehicles utilizing existing facilities (Vietnam)
– Installed a model facility for proper treatment of End-of-life vehicles first ever in Southeast Asia (Thailand)</td><td>✓✓</td><td>110</td></tr>
</table>

<table>
<tr><th></th><th>Action Items</th><th>Specific Actions and Goals</th><th>FY2018 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>13.
Expand original recycling systems for End-of-life vehicles worldwide</td><td>•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</td><td>•Took the following initiatives:
– Since FY1997, collected a total of 98,700 batteries from End-of-life vehicles for total reuse and recycling
– Started measures to globalize battery recycling in preparation for the expanded use of electrified vehicles around the world in the future
– Continued to promote remanufacturing (examination and re-assembly) and reuse of batteries, including application of stationary storage batteries
– Continued to extract rare earths from magnets collected from the market for recycling and reuse as magnetic materials and so on; since FY2013, collected and recycled a cumulative 35 tons of magnets
– Teamed up with an electric power company to investigate large-capacity storage batteries</td><td>✓✓</td><td rowspan="2">111</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>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>Japan</td><td>Waste volume generated per vehicle</td><td>FY2002</td><td>35% reduction</td></tr>
<tr><td>TMC</td><td>Waste volume generated per vehicle</td><td>FY2002</td><td>63% reduction</td></tr>
<tr><td colspan="4">Zero landfill waste[3]</td></tr>
<tr><td>Overseas</td><td colspan="4">No. 1 regionally in reduction promotion</td></tr>
</table>
1 Waste at cost, incinerated waste, landfill waste 2 TMC + worldwide consolidated subsidiaries (manufacturing)
3 Zero means direct landfill waste equal to 1% or less the amount generated in FY1995</td><td>•Continued to reduce the dust from casting processes and reduced the volume of sludge by increasing the recycling rate
<table>
<tr><th colspan="2">Scope</th><th>Region</th><th>Item</th><th>Base year</th><th>FY2018 results</th></tr>
<tr><td rowspan="5">Waste</td><td>Valuables</td><td>Japan</td><td>Volume generated</td><td colspan="2">Promoted yield improvement and reliably collect scrap materials</td></tr>
<tr><td rowspan="4">Waste</td><td>Japan</td><td>Waste volume generated per vehicle</td><td>FY2002</td><td>31% reduction</td></tr>
<tr><td>TMC</td><td>Waste volume generated per vehicle</td><td>FY2002</td><td>62% reduction</td></tr>
<tr><td colspan="4">Zero landfill waste</td></tr>
<tr><td>Overseas</td><td colspan="4">Promoted various activities, such as reuse</td></tr>
</table></td><td>✓✓</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>•Promoted simplified and returnable wrapping materials
(Japan) Continued kaizen as in the past (35% reduction from FY2007)
(Overseas) Assessed kaizen best practices</td><td>✓✓</td><td>112</td></tr>
<tr><td rowspan="4">Harmony with Nature</td><td colspan="5">(6) Challenge of Establishing a Future Society in Harmony with Nature</td></tr>
<tr><td>16.
Promote nature conservation activity “Connecting regional conservation activities with region and community”</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 preserve 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 (WG) at group and other companies (23 companies)
(Connecting activities)
– Expanded harmony-with-nature activities by carrying out a total of 217 activities (84% increase from the previous year) at all Toyota companies in Japan
– Held a joint event twice annually to strengthen group collaboration (May 2017: tree-planting festival; October 2017: riverside bamboo forest maintenance)
(Enhancement of awareness)
– Distributed volume 2 of the Green Wave Project activities booklet to employees in Working Group companies and posted on the company website in June 2017 to steadily raise internal awareness of biodiversity and the activities of each company
– Launched a website for public in June 2018 in order to raise awareness further
•Commenced “Plant in Harmony with Nature” activities
– Applied the knowledge obtained through biodiversity conservation activities from the new Toyota R&D Center project to each plant implementing sustainable plant project activities, in order to improve the level of harmony-with-nature activities
– Commenced its activities by developing new biotope and trial survey of indicator species conducted by employees at the model plant in Japan (Tsutsumi Plant)
– Expanded activities at the model plant in Japan to other domestic and overseas plants</td><td>✓✓</td><td>113</td></tr>
<tr><td>17.
Boost nature and biodiversity conservation grants to connect environmental activities to 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 environment field 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 two events in collaboration with IUCN
Event to raise awareness of biodiversity in Asia (May, Bangkok)
Red List Project progress report press conference (December, Tokyo)
– As a part of its support for the Red List Project, donated vehicles to BirdLife International and Conservation International. Presentation ceremonies were held in March in Vietnam and Indonesia.
– Seminar on natural rubber held as a part of the WWF Living Asian Forest Project (July, Tokyo)
Also, social media was used to disseminate images of animals and plants that live in Living Asian Forests and scenes of activities
•In addition to collaborating with the major NGOs above, continued the Toyota Environmental Activities Grant Program to support small- and medium-size NGOs and NPOs</td><td>✓✓</td><td>116</td></tr>
</table>

	Action Items	Specific Actions and Goals	FY2018 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 business bases and company property, and thereby connect environmental conservation activities to the future —Toyota ESD Project— – Globally expand education of local residents and children using 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 (6,054 children in FY2018) – The cumulative number of visitors reached 170,000 as of March 31, 2018 – Conducted lectures on development of wetland environments for dragonfly preservation and considering how people can live in harmony with them (Toyota Shirakawa-Go Eco-Institute) – The number of visitors who stayed at the Institute in FY2018 reached 16,718 The cumulative number of visitors reached 209,000 as of March 31, 2018 – Strengthened programs for nurturing children for the future, held eight different children's camps including a new camp for junior high school students with 353 children participating (45% increase from 243 children of the previous fiscal year) (TOYOTA Mie Miyagawa Mountain Forest) – With a local NPO, conducted a course on the roles of forest management for limpid streams and the inhabiting species (New Toyota R&D Center) – Conducted a rice paddy living creature survey and charcoal making experience event for employees as an environmental education program	✓✓	118
	19. Promote environmental contributions through biotechnology and afforestation business automotive peripheral technologies, and forest conservation activities	•Respond to environmental issues with bio technology – Promote cellulose ethanol development by further improvement of yeast ferment capacity – Contribute natural capital creation by applying to farming biomass business and agriculture area •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)	•Initiatives in biomass and agriculture fields – Conducted verification tests at overseas cellulosic ethanol pilot plants – Expanded market acceptance of the resQ45 series, a manure composting and deodorizing material for the livestock industry* – Provided Housaku Keikaku (an agricultural IT management tool and site improvement tool) to more than 50 agricultural corporations Concluded cooperative agreements with multiple local governments including Nagano Prefecture – Concluded licensing agreement for Toyota's proprietary GRAS-Di® DNA analysis technology, which dramatically accelerates selective varieties •Promoted urban greening initiatives – Promoted market acceptance of Smart Green Parking (SGP), a special urban greening material, and TM9, a low-management turf grass* * Sold by Toyota Roof Garden, a consolidated subsidiary	✓✓	119
		•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 – Developed educational programs using wood products and conduct the programs at Toyota facilities (Toyota Automobile Museum, MEGA Web, etc.) – Used local lumber products at Toyota facilities •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 the Mikawa District Confirmed successful breeding of owls, as well as oriental dollarbirds, very few of which had successfully bred in the region, in the nest boxes that had been installed – Publicized the knowledge obtained through conservation activities in environmental reports (four times) and an academic society meeting (one 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: – Regularly held the (annual) All-Toyota Production Environment Conference and Liaison Committee (Board of Directors meeting) – Held an environmental global award ceremony (to promote *kaizen* activities at overseas affiliates) – Held the Sixth Toyota Global Environment Conference in November 2017 and discussed the Toyota Environmental Challenge 2050 and others with managers from various regions	✓✓	123
		•Thoroughly comply with environmental laws and regulations and strengthen proactive prevention measures for environmental risks •Improve chemical substance management by carefully monitoring legal trends in each country and region	•Took the following initiatives: – Held seminars targeting those responsible for environmental initiatives at Toyota Group companies in Japan – Seven instances of environmental non-compliance (1 at TMC, 3 in Japan, and 3 overseas) All were minor non-compliance issues and complaints, and corrective measures and *yokoten* to other departments were completed	✓	
		•Improve chemical substance management by carefully monitoring legal trends in each country and region	•Deployed chemical substance management globally – Complied with Toyota standards – Ensured entry of chemical substance data into the IMDS – Audited and investigated suppliers' processes and evaluated and improved chemical substance management systems	✓✓	

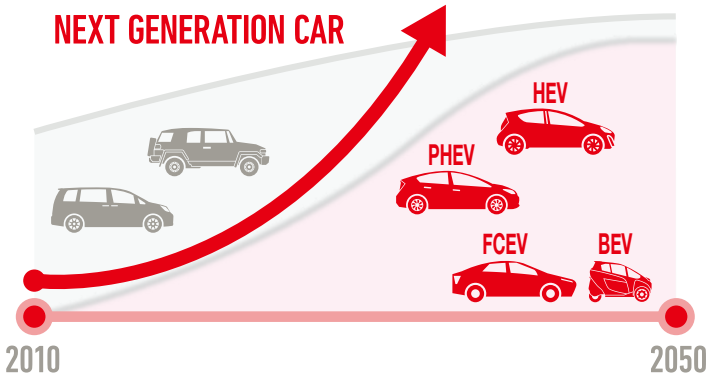
<table>
<tr><th></th><th>Action Items</th><th>Specific Actions and Goals</th><th>FY2018 Results</th><th>Evaluation</th><th>Page</th></tr>
<tr><td rowspan="6">Management</td><td colspan="5">Environmental Management</td></tr>
<tr><td>21.
Reduce vehicle exhaust emissions to improve urban air quality in each country and region</td><td>•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</td><td>•In response to stricter emissions regulations intended to improve the urban environment in various countries and regions, steadily introduced vehicles that satisfy those regulations</td><td>✓✓</td><td>124</td></tr>
<tr><td>22.
Reduce VOC emissions in production activities</td><td>•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
<table><tr><th>Scope</th><th>Region</th><th>Item</th><th>Target (FY2021)</th></tr><tr><td rowspan="3">Vehicle body painting</td><td>Japan*</td><td>Emissions volume per area painted</td><td>26 g/m² or less (average for all lines)</td></tr><tr><td>TMC</td><td>Emissions volume per area painted</td><td>19 g/m² or less (average for all lines)</td></tr><tr><td>Overseas</td><td colspan="2">Promote regional No. 1 reduction activities</td></tr><tr><td>Bumper painting</td><td>TMC</td><td>Emissions volume per area painted</td><td>310 g/m² or less (average for all lines)</td></tr><tr><td>Other painting</td><td>Japan/overseas</td><td colspan="2">Promote VOC emissions reduction activities</td></tr></table>* TMC + consolidated subsidiaries in Japan (manufacturing)</td><td>•Continued efforts to limit the use of cleaning solvents and to increase the percentage of solvent recovery
Promoted switching bumper-painting processes to water-borne paints in conjunction with facility remodeling
<table><tr><th>Scope</th><th>Region</th><th>Item</th><th>FY2018 results</th></tr><tr><td rowspan="3">Vehicle body painting</td><td>Japan</td><td>Emissions volume per area painted</td><td>21.5 g/m²</td></tr><tr><td>TMC</td><td>Emissions volume per area painted</td><td>14.4 g/m²</td></tr><tr><td>Overseas</td><td colspan="2">Promoted coating efficiency improvement and other activities</td></tr><tr><td>Bumper painting</td><td>TMC</td><td>Emissions volume per area painted</td><td>176 g/m²</td></tr><tr><td>Other painting</td><td>Japan/overseas</td><td colspan="2">Promoted painting condition optimization, and so on</td></tr></table></td><td>✓✓</td><td>125</td></tr>
<tr><td>23.
Promote environmental activities in cooperation with business partners (suppliers)</td><td>•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 initiatives 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</td><td>•Took the following initiatives:
– Requested implementation of activities (at 36 affiliates in 15 countries) based on the revised TOYOTA Green Purchasing Guidelines (January 2016)
– Requested suppliers in Japan to conduct self-assessments in order to ensure thorough chemical substances management, and carried out activities to enhance future initiatives
Conducted similar activities at major overseas sites
– Continued to implement the CDP Supply Chain Program (to address climate change and the water environment)
– Conducted various joint studies with suppliers through various study groups and discussions
– Implemented company-wide environmental initiatives throughout the supply chain and commenced commendation of suppliers that made substantial contributions</td><td>✓✓</td><td>126</td></tr>
<tr><td>24.
Promote environmental activities in cooperation with business partners (dealers and distributors)</td><td>•Promote environmental management in cooperation with dealers and distributors
(Japan)
– Promote environmental initiatives 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 initiatives led by each regional headquarters and distributor in each country (CO_2 reduction, etc.)
– Promote and strengthen Dealer Environmental Risk Audit Program (DERAP)</td><td>•Took the following initiatives:
(Japan)
– Promoted environmental initiatives by updating the content of the Toyota Dealer CSR Checklist, and promoted CO_2 emissions reduction and others by using external environmental certification systems and improving environmental management
(Overseas)
– Currently creating environmental guidelines for the sales and services fields in each region
Promoted and strengthened environmental initiatives (CO_2 emissions reduction, etc.)
– 92 distributors and 4,296 dealers from 89 countries worldwide participated in the Dealer Environmental Risk Audit Program (DERAP), and 95% of participating dealers satisfied the five requirements (up 4% from the previous fiscal year)</td><td>✓✓</td><td rowspan="2">127</td></tr>
<tr><td>25.
Bolster global employee education and awareness activities</td><td>•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</td><td>•Took the following initiatives:
– During Toyota Global Environment Month, which was first introduced in 1973, conducted environmental education for employees around the world
At TMC, used internal digital signage and PC screens, loaned environmental films, subsidized eco-test fees, and took other measures to raise employees awareness of the environment
Continued environmental lectures conducted by outside speakers, environmental seminars for employees, and environmental education for new employees
– Developed an internal environmental education plan in line with the Sixth Toyota Environmental Action Plan in each country and region</td><td>✓✓</td></tr>
<tr><td>26.
Enhance active disclosure of environmental information and communication</td><td>•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</td><td>•Took the following initiatives:
– Based on 2016 three-year plan for enhancing environmental information disclosure approved by the Production Environment Committee, continued development of a mechanism for collecting and verifying newly disclosed information
– Effectively described the status of progress in line with the Toyota Environmental Challenge 2050 and the Sixth Toyota Environmental Action Plan in the Environmental Report 2017
Received the Excellent Environmental Report Prize of the 21st Environmental Communication Awards
– Continued to produce and publicly release videos effectively spotlighting employees who are striving to carry out the Toyota Environmental Challenge 2050
– TMNA produced and publicly released videos which contents are linked with its North America Environmental Report</td><td>✓✓</td><td>128</td></tr>
</table>

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. It has been reported* that if further efforts are not made to reduce greenhouse gas emissions and current conditions remain unchanged, average global temperatures could rise by 3.7 to 4.8°C by 2100 compared to pre-industrial levels and that in order to keep the temperature increase to less than 2°C, reducing CO_2 emissions to zero will not be enough—we must reduce emissions to less than zero. Amid global efforts to hold the temperature rise less than 2°C, 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.

* 5th Assessment Report of IPCC Working Group III (2014)



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

Eco-friendly Vehicles Contribute to the Environment Only When They Come into Widespread Use

Toyota has undertaken serious measures to address global environmental issues including global warming, air pollution, and resource and energy problems. In order to solve these social issues, we believe that effective vehicle electrification is essential for the efficient use of energy, and encouraging the use of alternative fuels. Based on the belief that eco-friendly vehicles can contribute to the environment only when they come into widespread use, Toyota has taken the initiative in developing and promoting the use of electrified vehicles. In 1997, we launched the Prius, a predecessor to electrified vehicles, and over the following 20 years, we have improved the performance of the Toyota Hybrid System (THS) and expanded the models on which it is used, developed electrified vehicles based on hybrid technologies, and supported the widespread adoption of these technologies.

In December 2017, we announced the "challenge to promote widespread use of electrified vehicles" covering the period from 2020 to 2030 and are working to encourage broader adoption.

Challenge to Promote Widespread Use of Electrified Vehicles

We aim to achieve global sales of at least 5.5 million electrified vehicles including at least 1 million zero-emission BEVs and FCEVs 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 at least 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 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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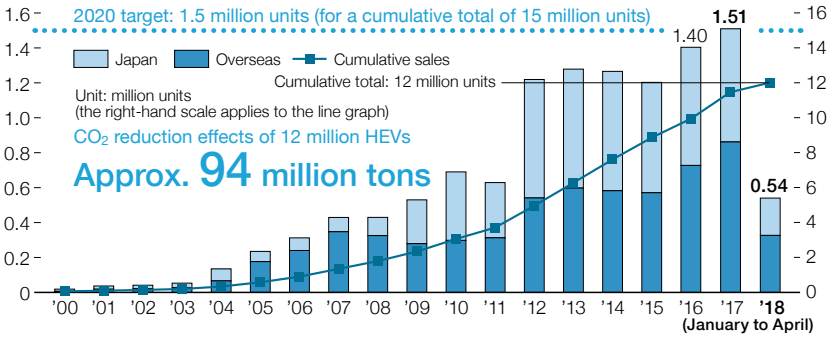
Annual HEV Sales and Cumulative Sales (Global)

Third-Party Assurance



Column SORA Production Model Fuel Cell Electric Vehicle Bus Launched

Toyota obtained vehicle type certification for the SORA fuel cell electric vehicle (FCEV) bus, a first for a fuel cell electric vehicle bus in Japan, in March 2018. Precisely because the SORA is a vehicle that works for society, the environment has been taken into consideration and it is equipped with the Toyota Fuel Cell System, which can be used as a power supply in the event of a disaster.

Toyota considers FCEVs, which emit no CO_2 or substances of concern during operation and have the potential to achieve massive CO_2 reductions through the use of CO_2-free hydrogen derived from renewable energy, to be core next-generation eco-friendly vehicles.

Toyota plans to deliver at least 100 FCEV buses, primarily in Tokyo, in advance of the Olympic and Paralympic Games Tokyo 2020. We expect that as FCEV buses operating in urban areas increase, understanding of the FCEV buses among the general public will rise.

Column Toyota Achieves the 2020 Sales Target for HEVs Under the Toyota Environmental Challenge 2050, Three Years Ahead of Schedule

Sales of HEVs reached 1.51 million units, a record high in 2017. We achieved the Toyota Environmental Challenge 2050 target for HEV sales in a single year—1.5 million units by 2020—three years ahead of schedule. In addition, cumulative HEV sales since the launch of the Prius in 1997 reached 12 million units (as of April 2018).

Developing Technologies to Achieve the Leading Fuel Efficiency Performance

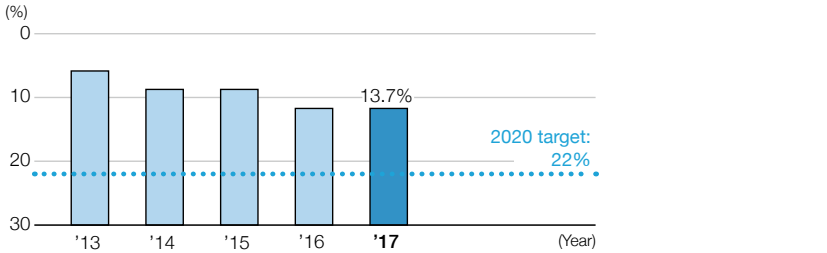
Toyota is committed to reducing the global average CO_2 emissions from new vehicles more than 22 percent by 2020 from the 2010 level to steadily proceed with our challenge. As specific initiatives, we will further improve the environmental performance of electrified vehicles and expand their use in line with developing and deploying powertrains with high environmental performance, based on our next-generation platform strategy known as TNGA*.

In August 2017, Toyota launched the new Camry, which boasts vastly improved fuel efficiency performance, in Japan. We are expanding hybrid systems, including the October 2017 launch of the JPN TAXI equipped with the newly-developed liquefied petroleum gas (LPG) hybrid system. Along with measures to improve the environmental performance of conventional engine vehicles, we are conducting steady development to achieve our 2020 targets.

* Toyota New Global Architecture (TNGA): 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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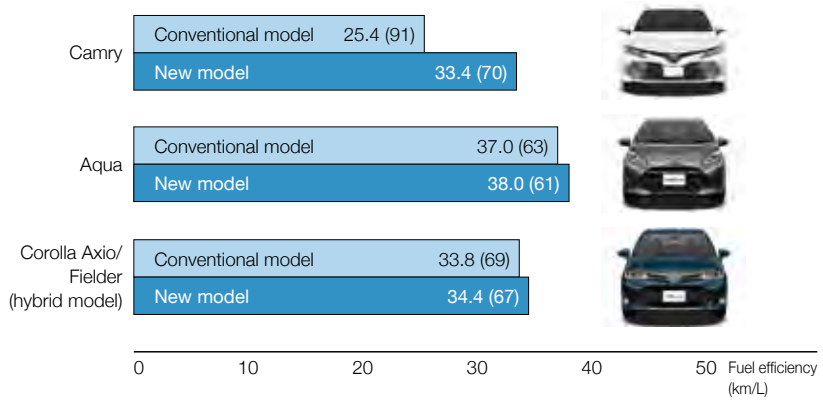
Fuel Efficiency Comparison Between Selected New Models Introduced in FY2018 (in Japan) and Old Models



- 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

Column JPN TAXI with Exclusive LPG Hybrid Engine Launched

Toyota launched the JPN TAXI in October 2017. The JPN TAXI embodies the spirit of Japanese hospitality and was developed specifically for use as a taxi to provide usability and comfort to a wide range of people including children, seniors, wheelchair users, and visitors to Japan from abroad. The aim is to change the landscape of Japan, develop barrier-free cities, and contribute to the environment through the widespread use of the JPN TAXI. With regard to environmental performance, the JPN TAXI achieved low fuel consumption of 19.4 km/L in the JC08 test cycle by employing a newly developed LPG hybrid system that runs on LPG based on the THS II hybrid system that Toyota developed over many years. This is approximately double the fuel efficiency of the Crown Comfort (9.8 km/L in 10.15 mode), which has been sold for use as a taxi until now.

Column New 2.0-Liter Class TNGA-based Powertrain Developed

Toyota has been developing and promoting the use of new powertrains and platforms that offer both superb driving performance and high environmental performance based on the TNGA, a development framework aimed at making ever-better cars. Toyota has developed a new 2.0-liter engine, 2.0-liter hybrid system, transmissions (CVT and six-speed manual), and 4WD systems.

Going forward, Toyota will expand models equipped with TNGA powertrains globally, with a target of approximately 80 percent[1] of annual vehicles sales by 2023. Toyota forecasts these TNGA powertrains will have CO_2 reduction effects of at least 18 percent[2].

■ The new Dynamic Force (2.0L) 2.0-liter direct-injection, inline 4-cylinder gasoline engine

The new 2.0-liter direct-injection, inline 4-cylinder gasoline engine, known as the 2.0-liter Dynamic Force Engine, employs high-speed combustion technology, a variable control system, and other features, achieving the world's highest thermal efficiencies of 41 percent for hybrid vehicles and 40 percent for gasoline vehicles.

■ New 2.0-liter Toyota Hybrid System (THS II)

Toyota has developed the new 2.0-liter Toyota Hybrid System (THS II). This new system preserves the compact, lightweight, and low-loss technologies adopted on the fourth-generation Prius and enhances driving performance while maintaining high environmental performance.

■ New Direct Shift-CVT continuously variable transmission

The new Direct Shift-CVT continuously variable transmission reduces mechanical loss and adopts a wider gear range, achieving transmission efficiency and transmission gear ratio range at the world's highest levels in its class, and improving fuel efficiency by 6 percent.

■ New six-speed manual transmission

The new six-speed manual transmission has been developed to meet needs in Europe and around the world. Compared to conventional products, this new transmission is 7 kg lighter and features a world-leading compact size, contributing to improved fuel efficiency.

■ New Dynamic Torque Vectoring AWD 4WD System

The new Dynamic Torque Vectoring AWD system, a 4WD system for use on gasoline engine vehicles, adopts the ratchet-type dog clutches for the first time in the world. When operating in 2WD mode, the clutches stop rotation of the drive system that transmits driving force to the real wheels, substantially reducing losses.

1 Toyota-brand sales volume in Japan, the U.S., Europe, and China
2 The reduction rate in 2023 compared to average CO_2 emissions per new vehicle sold by Toyota in 2015

The new Dynamic Force (2.0L) 2.0-liter direct-injection, inline 4-cylinder gasoline engine

2.0L THS II

New Direct Shift CVT continuously variable transmission

Six-speed manual transmission

Toyota Marks 20th Anniversary of Prius Launch

Since its launch in 1997 as the world's first mass-produced hybrid passenger vehicle, the Prius has endeavored to carve open a new era. It celebrated its 20th anniversary in 2017. The Prius name, derived from the Latin for "to go before," was adopted to embody the idea of a vehicle that will shape the future of the Earth. The Prius has gained the support of many customers who are in agreement with this concept. Based on the concept that eco-friendly vehicles can contribute to society only when they come into widespread use, the Prius and the electrified vehicles that have inherited environmental technologies will strive to contribute to the global environment with the support of its many users.

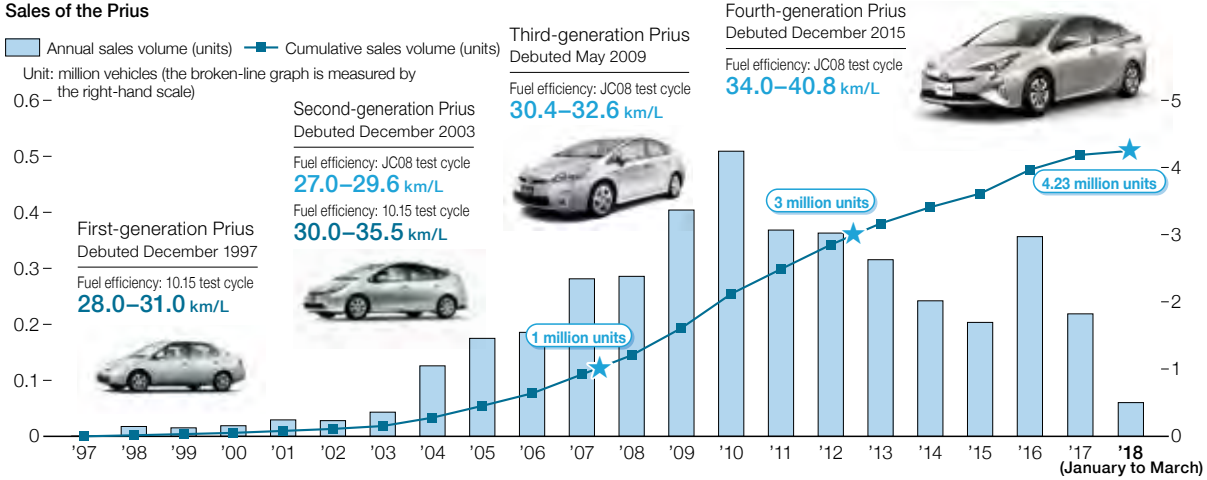
Looking Back on the Birth of the Prius

The development of the first-generation Prius had a two-fold mission: build a car for the 21st century and transform the way Toyota makes cars. Among the many issues facing the automotive world at the time, we anchored our efforts on two themes—the environment and natural resources. We faced numerous hardships developing an unprecedented vehicle, but we announced the first-generation Prius in October 1997 under the banner "In time for the 21st century" in advance of COP3 (the third United Nations Framework Convention on Climate Change, where the Kyoto Protocol was adopted).

The Prius boasted fuel efficiency approximately double that of gasoline vehicles in the same class at the time and was a pioneering first step not just for the widespread adoption of Toyota hybrid electric vehicles, but also for the current global trend toward widespread use of electrified vehicles.

With each new generation, Toyota is enhancing environmental and driving performance and has increased the number of units sold.

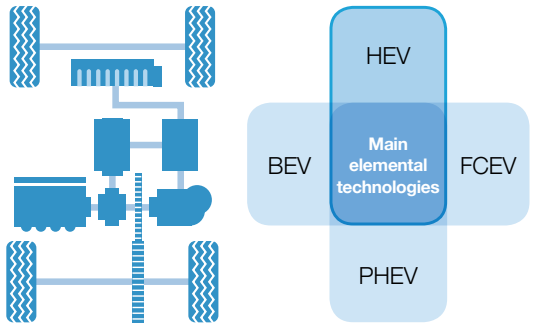
Sales of the Prius



Inheriting Hybrid Technologies

The Toyota Hybrid System (THS) adopted on the first-generation Prius evolved into the second-generation THS II, and later, use was expanded to other models. Toyota positions hybrid technologies as core technologies and is developing a range of electrified vehicles including PHEVs, BEVs, and FCEVs.

Each type of electrified vehicles has its own characteristics and each alternative fuel also has unique strengths and weaknesses. Furthermore, energy conditions and policies vary among countries and regions, and accordingly, Toyota is creating mobility opportunities with an emphasis on energy efficiency by developing and promoting the use of vehicles optimized for each application and each country and region.

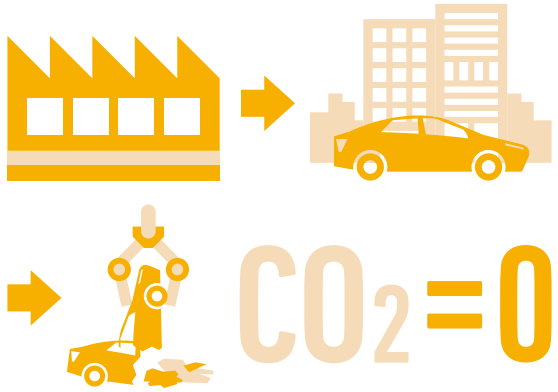


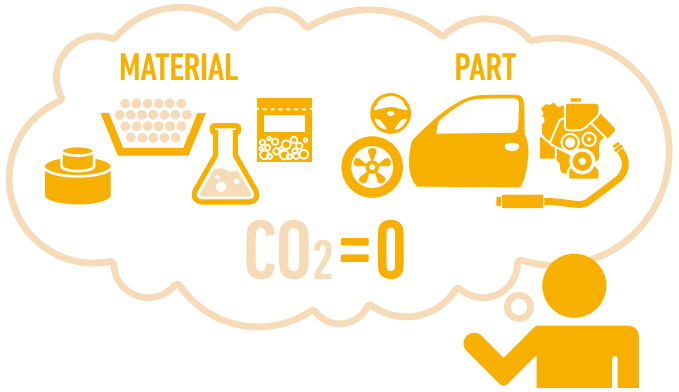
Challenge 2 Life Cycle Zero CO_2 Emissions Challenge

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."





Promoting Environmental Management in Product Development (Eco-VAS)

Steady Promotion of Environmental Target Management

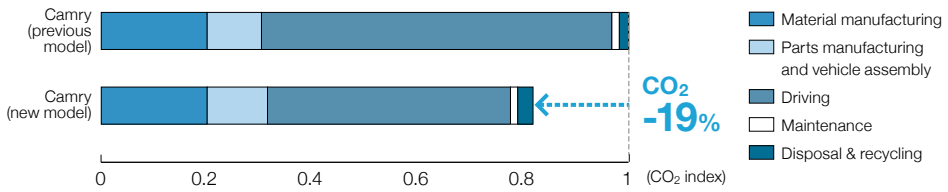
To reduce the environmental impact of its vehicles, Toyota has introduced the Eco-Vehicle Assessment System (Eco-VAS) to set and achieve environmental targets such as life cycle CO_2 and recyclability, under the guidance of the chief engineer, including at the development stage.

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 FY2018, we conducted LCA for one new model, three redesigned models (Camry, Pixis Epoch, and Lexus LS), three partially redesigned models (Aqua, Corolla Axio, and Corolla Fielder), and one improved model (Lexus RS).

The new Camry, launched in August 2017, has life cycle CO_2 emissions that are approximately 19 percent lower compared to the previous Camry.

* LCA (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

Camry LCA Results



- 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 FY2018 are overall Scope 3 CO_2 emissions of 412.01 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 (FY2018 Global Basis) Third-Party Assurance

Category	Emissions volume (million tons-CO_2)	Emissions ratio (%)
1. Purchased goods and services	**61.19**	14.9
2. Capital goods	**4.18**	1.0
3. Fuel- and energy-related activities (not included in Scope 1 or 2)	**0.95**	0.2
4. Upstream transportation and distribution	**0.87**	0.2
5. Waste generated in operations	**0.12**	0.0
6. Business travel	**0.15**	0.0
7. Employee commuting	**0.66**	0.2
8. Upstream leased assets	**—**	—
9. Downstream transportation and distribution	**0.01**	0.0
10. Processing of sold products	**1.41**	0.3
11. Use of sold products	**338.51**	82.2
12. End-of-life treatment of sold products	**3.79**	0.9
13. Downstream leased assets	**—**	—
14. Franchises	**—**	—
15. Investments	**0.17**	0.0
Total for categories 1 through 15	**412.01**	100

- The calculation range mainly covers financial consolidated automotive businesses
- 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 FY2018; 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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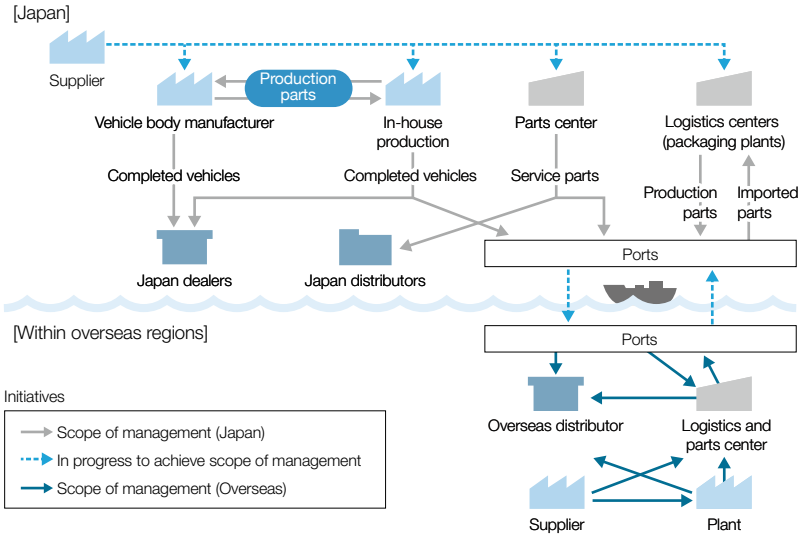
Pursuing Transportation Efficiency and Reducing CO_2 Emissions in Logistics Activities

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 FY2018, we continued fuel efficiency initiatives, including loading efficiency improvement activities, shortening logistics routes, and so on, reducing CO_2 emissions per unit of workload (transported volume) to 104.2 g-CO_2/tkm (down 1.0 percent year on year). CO_2 emissions from logistics operations totaled 0.286 million tons (up 1.4 percent year on year), due largely to an increase in completed vehicles shipments 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 FY2018 totaled 2.17 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	2014	2015	2016	2017	**2018**
CO_2 emissions from logistics (million tons)	0.290	0.278	0.275	0.282	**0.286**
CO_2 emissions per ton-kilometer (g-CO_2/tkm)	106.6	109.6	108.4	105.2	**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* activities	Reduction volume (thousand tons)
Completed vehicles	Transportation distances decreased as a result of increased use of maritime transportation and review of production sites	2.4
Production parts	Expansion of railway, etc.	3.1
Service parts	Use of return trips to return empty pallets, etc.	0.4
Total		5.9

Global Logistics CO_2 Emissions

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

- 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
- Errors in FY2017 data were corrected

Column Modal Shift to Ships Implemented Using Port at New Site

To implement a modal shift that will reduce CO_2 emissions by shifting from overland transportation of completed vehicles using car carriers to maritime transportation on ships, Toyota created a port site in Amagasaki City, Hyogo Prefecture and started operations in January 2018.

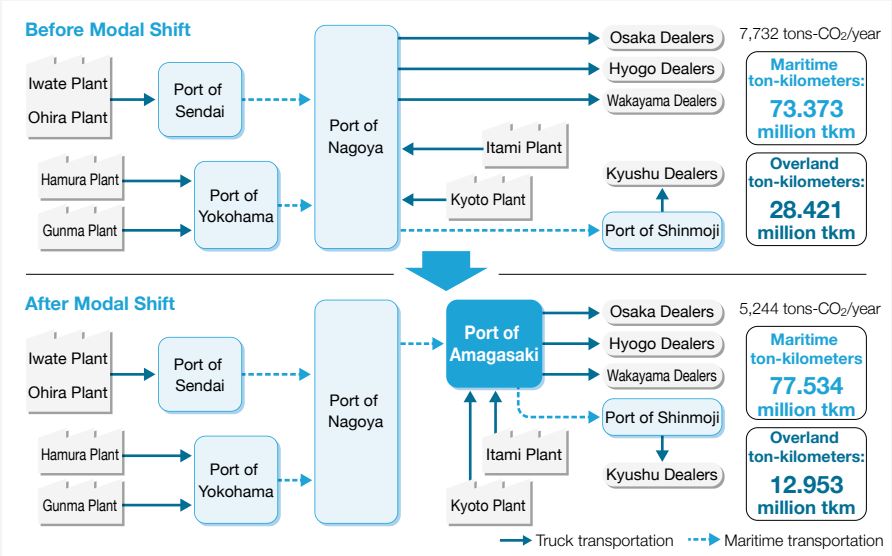
Previously, completed vehicles were transported from the Tohoku and Kanto regions to the Kansai region went overland from the Port of Sendai or the Port of Yokohama to the Port of Nagoya by sea, and from there the vehicles were transported overland to individual dealers.

With the recent creation of the Amagasaki Port Service Branch, vehicles are transported by ship from Nagoya to Amagasaki and then transported overland to dealers.

Also, until now, completed vehicles from plants in the Kansai region shipped to Kyushu were transported by ship via the Port of Nagoya to Shinmoji in Fukuoka Prefecture, but now this route uses the Port of Amagasaki, resulting in shorter distances overland from plants to the port and at sea to the Port of Shinmoji.

These modal shifts are expected to cut CO_2 emissions from 7,732 tons annually to 5,244 tons annually, a reduction of 2,488 tons.

Cargo ton-kilometers in overland transportation are expected to decline 15,468 thousand tkm.



Column CO_2 Reduction Through Joint Transportation (India)

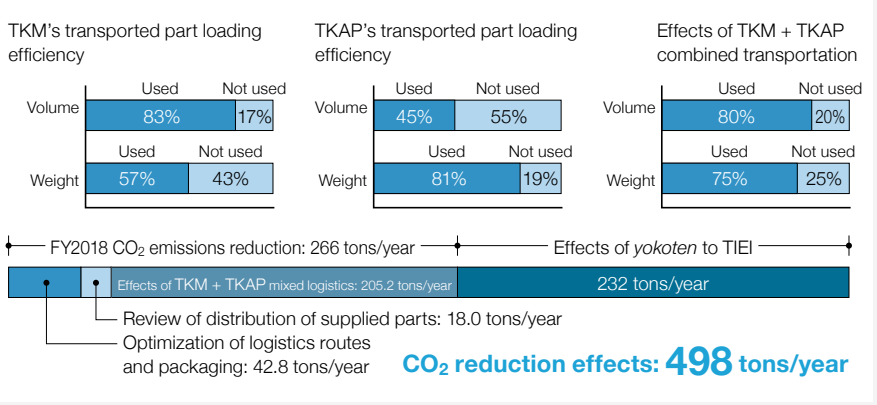
TKM, an affiliate that assembles vehicles, and TKAP, an affiliate that manufactures parts, are both located in Bangalore in southern India. Their plants are 2 km from each other. They are separate companies, however, and each plant conducted its own transportation of production parts.

Recently, the two companies began joint transportation efforts to reduce CO_2 emissions in logistics. Not only do the companies have many suppliers in common, but also TKM transports many large, lightweight items, while TKAP transports numerous small but heavy objects. With the utilization of joint transportation, it is possible to reduce the number of transportation trucks by carrying mixed loads of heavy and light parts.

However, there were various challenges in order to realize joint transportation, such as different ordering systems used by TKM and TKAP, different plant operating days, and the cost allocation method for joint transportation. The two companies held discussions and were able to take countermeasures such as setting suitable inventories.

In conjunction with the start of joint transportation, they also reviewed transportation routes, and as a result, CO_2 emissions were reduced by a total of 266 tons per year. Furthermore, the joint transportation was expanded through *yokoten** to Toyota Industries Engine India (TIEI), reducing emissions by an additional 232 tons per year. Ongoing efforts will be made to cut CO_2 through further reviews of routes and the application of *yokoten* to other plants.

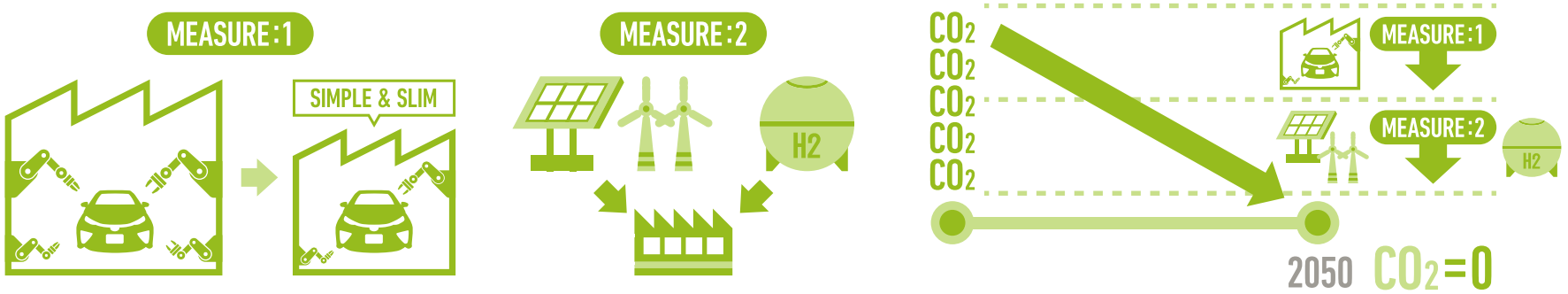
* *Yokoten* refers to sharing of improvement practices, know-how, non-compliance and other information within the All-Toyota Group



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 is introducing innovative technologies, conducting daily *kaizen*, introducing renewable energy, and utilizing 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 energies such as solar power and wind power along with hydrogen energy.



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 FY2018, 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. *Yokoten* places particular emphasis on adoption of steamless and airless processes and shifting to LED lighting, thereby increasing examples that can be expanded from common processes to multiple processes and sharing information on best practices to accelerate daily *kaizen*. As a result, we reduced total CO_2 emissions to 1.14 million tons (down 1.4 percent year on year), and CO_2 emissions per unit produced to 0.394 tons (down 1.1 percent year on year).

Globally, measures for the development of overseas human resources as activity leaders were taken and *genchi genbutsu* training was conducted to make internal ESCO activities more autonomous and accelerate them. *Kaizen* was also achieved by increasing TMC best-practice (from 29 examples to 62 examples) and expanding it to subsidiaries in Japan and to overseas plants.

Affiliated companies in Japan actively implemented internal ESCO activities, but some companies had higher energy consumption as a result of increased aluminum wheel production in conjunction with efforts to make vehicles lighter. Also, CO_2 emissions reduction effects were achieved through the purchase of renewable energy and installation of solar panels and in-house power generation for internal consumption. As a result of these measures, total CO_2 emissions were 7.79 million tons (down 0.2 percent year on year), and CO_2 emissions per unit produced were 0.740 tons (down 0.2 percent year on year).

In order to reduce CO_2 emissions from production activities, we will strive to accelerate our energy saving activities, carrying out internal ESCO activities and other activities.

* *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	2014	2015	2016	2017	**2018**
Total CO_2 emissions (million tons)	1.20	1.18	1.15	1.16	**1.14**
CO_2 emissions per unit produced (tons/unit)	0.414	0.413	0.408	0.398	**0.394**

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

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Plant and Work Site Environmental Data
Web https://www.toyota-global.com/sustainability/environment/data/sitedata18_full_en.pdf

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	2014	2015	2016	2017	**2018**
Total CO_2 emissions (million tons)					
Japan (TMC)	1.26	1.25	1.21	1.20	**1.19**
Japan (consolidated EMS and its subsidiaries)	3.73	3.66	3.55	3.57	**3.61**
North America	1.13	1.17	1.13	1.21	**1.19**
China	0.66	0.65	0.69	0.70	**0.73**
Europe	0.29	0.29	0.27	0.30	**0.30**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	0.77	0.77	0.72	0.83	**0.77**
Total	7.84	7.79	7.57	7.81	**7.79**
Direct emissions (Scope 1) (million tons)	2.80	2.72	2.49	2.55	**2.55**
Indirect emissions (Scope 2) (million tons)	5.04	5.07	5.08	5.26	**5.24**
CO_2 emissions per unit produced (tons/unit)	0.757	0.753	0.744	0.741	**0.740**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 121 companies
- Errors in FY2017 data were corrected
- GHG Protocol was used to calculate emissions
- Conversion factors:

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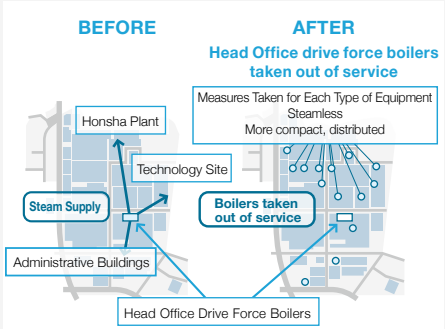
Introducing Renewable Energy and Utilizing Hydrogen

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 FY2018, we generated 17,578 MWh of renewable energy globally (see pp. 100–102 for information on hydrogen use).

Column Steamless Processes at Head Office (Japan)

Boiler facilities at TMC Head Office supply steam to three locations—the Honsha Plant, administrative office building, and Head Office Technology Site. In FY2015, the total volume of steam supplied reached 120,000 tons. The supply losses with steam are high, and half or less of the energy can be effectively used, so TMC starting planning measures to eliminate the use of steam under the CO_2 zero challenge in FY2016. Specifically, in order to stop steam emissions from the Head Office drive force boiler, energy-saving measures were taken in that facilities used in each process were converted to those that do not use steam, and high-efficiency small-scale boilers were installed for facilities that require steam.
As a result of taking energy-efficient measure, it was possible to cease the use of the Head Office drive force boiler facilities by March 2018, and air conditioning CO_2 emissions fell by 10,000 tons, from 18,000 tons to 8,000 tons, in FY2018.



Column Measures to Reduce Energy Usage Through Temperature and Humidity Control in Painting Booths (India)

TKM, an Indian affiliate, won the Best Kaizen Award in the Kaizen Conference & Competition held by the Confederation of Indian Industry (CII) in June 2017.
Controlling temperature and humidity in painting booths according to the type of paints used is crucial for maintaining painting quality. TKM improved this by installing programmable logic controllers (PLC). Based on daily changes in temperature and humidity over the course of a year, the PLC are programmed to control temperature and humidity at appropriate levels in painting booths.
The result was a decrease in wasteful cooling and reheating and a 390,000 kWh reduction in annual energy consumption (approximately 15 percent).

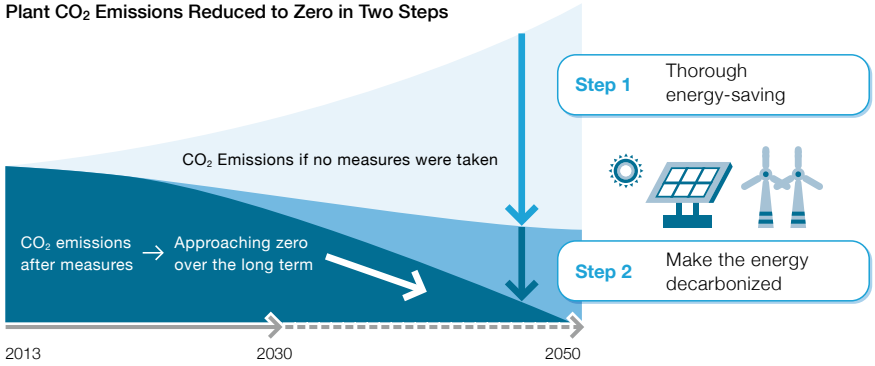
TKM receiving the Best Kaizen Award

Toward Realizing a Decarbonized Society in 2050: Effective Use of Renewable Energy

These days, one means of decarbonization that holds particular promise is renewable energy. Toyota is working to reduce CO_2 through comprehensive energy-saving measures by deploying innovative technologies and daily *kaizen*. However, it is not feasible to reduce the amount of energy used to zero only by introducing these energy-saving activities in manufacturing. To decarbonize the remaining energy, it is necessary to introduce renewable energy and use hydrogen.

The use of renewable energy is an issue that needs to be addressed by all of society, and accordingly, we are collaborating with many parties including the national and local governments as well as local communities and other businesses.

Plant CO_2 Emissions Reduced to Zero in Two Steps



Refer to Challenge 3 (pp. 97–98) for examples of specific measures.

Three Perspectives on the Effective Use of Renewable Energy

The effective use of renewable energy requires comprehensive investigation from the perspectives of environmental, regional, and economic factors. First, we introduce in-house power generation (such as solar power generation) at our own plants and other facilities. Then we consider external purchases. Already, TDB, our affiliate in Brazil, has introduced energy sourced from hydropower generation, and we will proceed with implementation in stages starting with high-suitability areas, taking into regional and environmental characteristics into consideration.

Toyota will strive to introduce systems and mechanisms that will lead to the widespread use of renewable energy. Our objective is to achieve zero CO_2 emissions at plants all over the world by 2050.

* When contracting for and purchasing electric power, we carefully check the type of source and select the one with the lower environmental impact

Main Affiliates That Use Renewable Energy in Each Region of the World

Europe region
TMUK (U.K.)
TMMF (France)

China
TFAP
GTMC
TMCAP

Asia-Pacific region
TMCA (Australia)
Kuozui (Taiwan)
TKM (India)
TKAP (India)
IMC (Pakistan)
ASSB (Malaysia)
TMMIN (Indonesia)

South Africa region
TSAM (South Africa)

Japan
Toyota Motor Corporation*
JTEKT Corporation
Toyota Motor East Japan, Inc.
Denso Corporation
Toyota Boshoku Corporation
Toyota Housing Corporation
Primearth EV Energy Co., Ltd.
Toyota Auto Body Co., Ltd
Admatechs Co., Ltd.

* Honsha Plant, Motomachi Plant, Tsutsumi Plant, Higashi-Fuji Technical Center

North America region
TMMK (U.S.)
TMMBC (Mexico)

South America region
TDB (Brazil)

Renewable Energy Covers All Electric Power at North American Headquarters Campus

Toyota Motor North America, Inc. (TMNA), which marked 60 years of business in the United States, constructed a new headquarters campus in Plano, Texas. The designs feature exterior walls made predominantly from glass to maximize use of natural lighting. 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 energy covers all electric power usage. These efforts were recognized by the U.S. Green Building Council, and the facility received LEED Platinum, the highest level of LEED environmental certification.

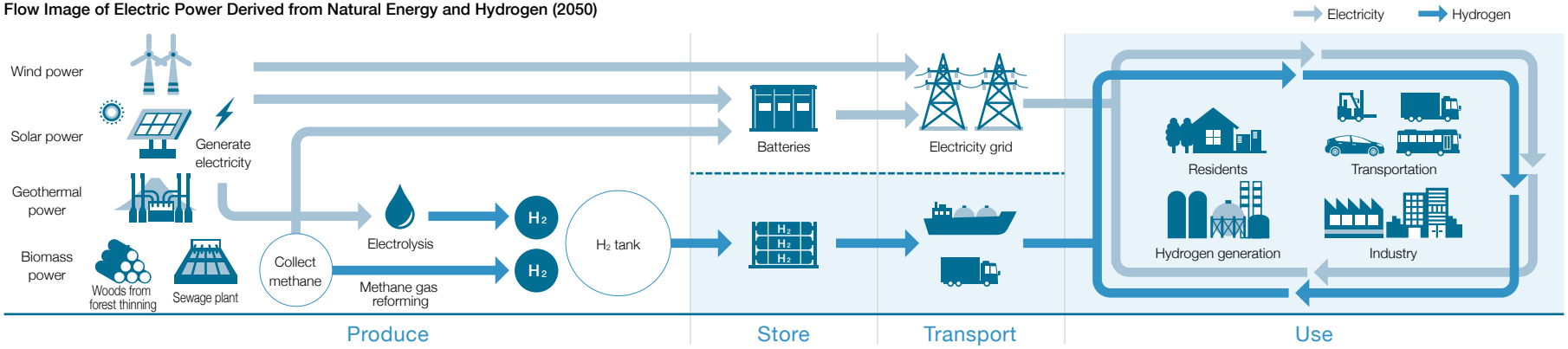
TMNA's new North American Headquarters Campus (solar panels installed on the building)

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)



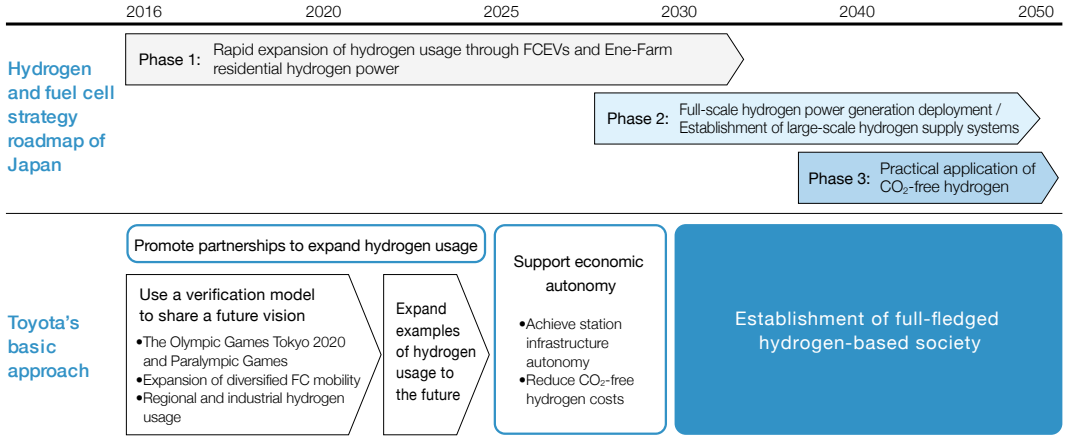
Strategies and Steps

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 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)

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

Green hydrogen network for local production and local consumption Fukuoka Prefecture-led initiative to promote collaborative activities among industry-government-academia

(Fukuoka Prefecture, since March 2017)
Use of CO_2-free hydrogen produced from solar power in fuel cell fork lift trucks

Toyota's role
Toyota Motor Kyushu participated in the verification tests for hydrogen use at plants, representing the industry model

Plants

Development of low-carbon hydrogen supply chain in Aichi Prefecture starts

(Aichi Prefecture, since May 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
Certification received for first project to transport biomass gas from the Chita City Purification Center to the Toyota Motomachi Plant and manufacture and use hydrogen

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

Energy creation

Fukushima Concept for a New Energy Society Conference

(Fukushima Prefecture, since March 2016)

Toyota's role
Provide means of mobility such as fuel cell electric vehicle buses (FCEV buses) and fuel cell forklift trucks

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

KIX Project, Kansai International Airport Verification of airport model for hydrogen grid (large-scale, centralized model)

(Osaka Prefecture, since May 2014)
Use of CO_2-free hydrogen produced from solar power in fuel cell fork lift trucks

Toyota's role
Toyota Motor Corporation, Toyota Industries Corporation, and Toyota Tsusho Corporation will support the KIX Hydrogen Grid Committee of Kansai International Airport with their knowledge on hydrogen and fuel cell technologies

Energy creation

Keihin Project, Keihin Coastal Area Renewable energy Supply chain verification from hydrogen production to usage (small- to medium-scale dense office model)

(Kanagawa Prefecture, since September 2015)
Use of CO2-free hydrogen produced from solar power in fuel cell fork lift trucks

Toyota's role
Toyota will represent business users of hydrogen

Community

Olympic and Paralympic Games Tokyo 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

SORA production model fuel cell electric vehicle bus launched (March 2018). Toyota plans to deliver more than 100 FCEV buses for the Olympic Games Tokyo 2020 and Paralympic Game.

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

Country	Project Name
Australia	MIRAI test launch (July 2016)
UAE	Participated in joint research for realizing a hydrogen-based society (January 2017)
China	Started driving experiment by launching MIRAI on a test basis (January 2017)
Canada	Started driving experiment by launching MIRAI on a test basis (February 2017)
U.S.	Shell and Toyota collaborate on building a hydrogen station network in California (February 2017)
U.S.	Started verification tests for large-scale FC trucks at the Port of Los Angeles (April 2017)
U.S.	TMNA, an American affiliate, establishes Tri-Gen to produce hydrogen, electricity, and water from biomass (December 2017)

Expansion of the Hydrogen Council

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 dollars in business annually, and creating jobs to 30 million people. Eleven leading companies in the petroleum, gas, energy, chemicals, technology, and automotive fields in Asia, North America, and Europe joined the Council as new members in March 2018. The number of members reached 39 companies in one year since the Council's establishment, which is sure to spur innovation in hydrogen-related technologies.

Forecast of the Effects of Hydrogen-related Technologies

Percentage of final energy accounted for: **18%**

Converted amount of annual business: **$2.5 trillion**

CO_2 emissions: **6.0 billion tons**

Projected employment creation effects: **30 million jobs**

TMNA Builds Tri-Gen to Produce Hydrogen, Electricity, and Water from Biomass

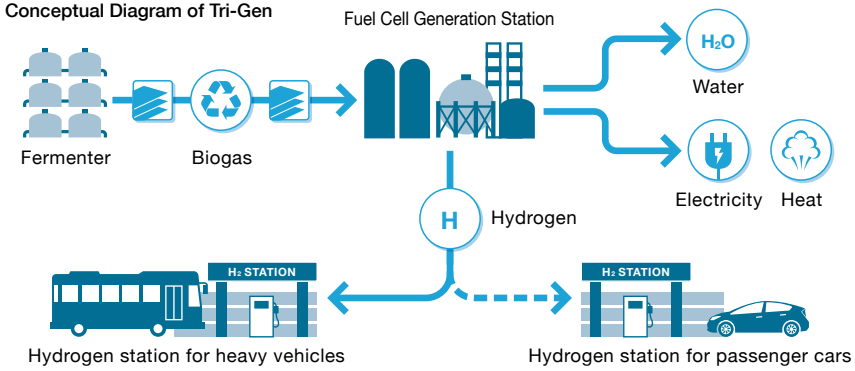
TMNA, a U.S.-based affiliate, will build Tri-Gen, a fuel cell power generation plant (2.35 MW) and hydrogen station, at the Port of Long Beach in California in collaboration with Fuel Cell Energy, Inc. Tri-Gen will extract hydrogen from biogas derived from livestock waste and sewage and generate electricity from molten carbonate fuel cells*, producing electricity, heat and water entirely. Construction will begin in 2018, and operations are scheduled to commence around 2020.

The daily generating capacity will be enough to power approximately 2,350 average-sized homes, and the 1.2 tons of hydrogen produced will meet the daily driving needs of approximately 1,500 fuel cell electric vehicles. A portion of the electricity generated and the water produced will be supplied to the Long Beach site of Toyota Logistics Service, meeting all of the site's electric power needs with renewable energy. The hydrogen will be supplied via the adjacent hydrogen station to fuel pre-delivery new deliveries of Mirai FCEVs and the heavy-duty commercial fuel cell trucks that have been in trial operation since 2017.

* Molten carbonate fuel cell:
A fuel cell that uses molten carbonate as the electrolyte and operates at 600°C to 700°C. Households and automobiles use polymer electrolyte fuel cells, which operate at temperatures of approximately 80°C.

Heavy-duty commercial fuel cell truck

Conceptual Diagram of Tri-Gen



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*.

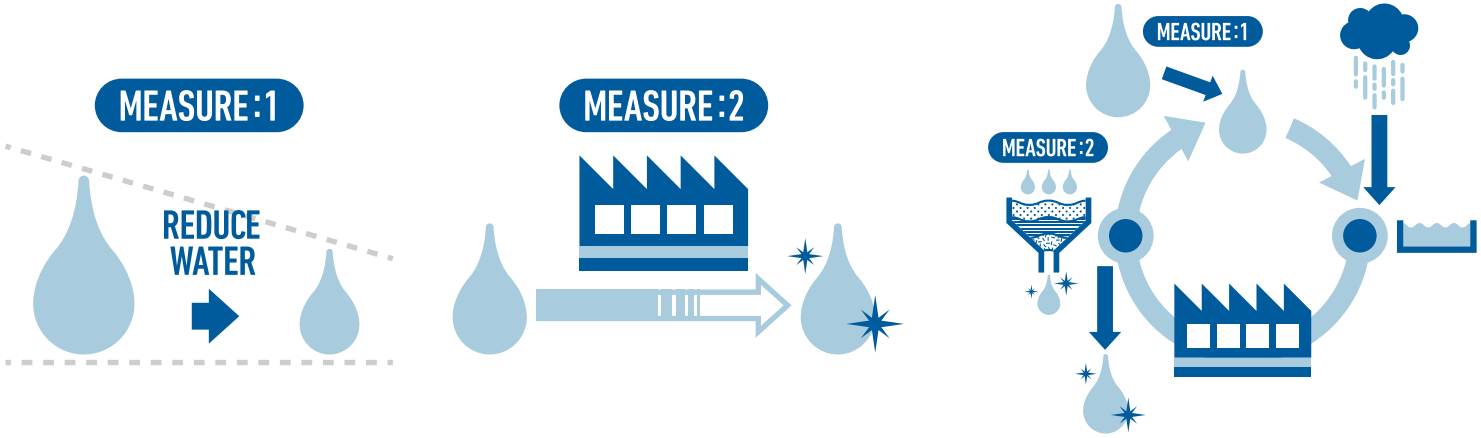
Water problems such as increases in water stress in conjunction with rising populations and stricter regulations in response to deterioration of water quality in rivers and other water sources are important issues from the perspective of risks in corporate activities.

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 used and comprehensively purify water and return it to the environment. 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.

* According to Toyota data



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.

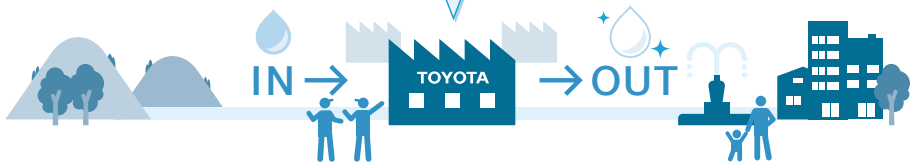
Under the Toyota Water Environment Policy, we are assessing our impact on water environments and working to minimize those impacts from two perspectives: the input side, where we are taking thorough measures to reduce water usage, and the output side, where we are taking comprehensive measures to purify water.

We take action from three directions—the pursuit of environmental technologies, community-rooted operations, and cooperation with society—and strive to be the region's leading plant linked to regional prosperity.

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 the prosperity of entire societies



Thoroughly reduce the amount of water usage

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

Clean 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 FY2018, Toyota Motor Corporation (TMC) took measures in painting pretreatment processes, which use large amounts of water, such as implementing recycling of water discharge in chemical coating processes and optimizing washing nozzles in electrodeposition coating processes to raise the efficiency of use within processes. As a result, total water usage was 10.3 million m^3 (down 3.2 percent year on year). Water usage per unit produced was 4.0 m^3 (down 7.6 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. However total water usage rose to 32.9 million m^3 (up 0.4 percent year on year) because of increased washing in pretreatment processing due to quality measures implemented in conjunction with model redesigns and process changes. Water usage per unit produced was 3.1 m^3, up 1.2 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	2014	2015	2016	2017	**2018**
Total water usage (million m^3)	11.6	11.5	10.9	10.7	**10.3**
Water usage per unit produced (m^3/unit)	4.9	4.9	4.7	4.3	**4.0**

- 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	2014	2015	2016	2017	**2018**
Total water usage (million m^3)					
Japan (TMC)	5.3	5.2	4.9	4.7	**4.5**
Japan (consolidated EMS and its subsidiaries)	12.1	11.9	11.3	12.6	**13.1**
North America	5.0	5.3	5.0	6.0	**5.7**
China	2.6	2.5	2.5	2.6	**2.7**
Europe	1.4	1.2	1.1	1.4	**1.6**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	4.8	4.9	4.5	5.5	**5.3**
Total	31.2	31.0	29.3	32.8	**32.9**
Water usage per unit produced (m^3/unit)	3.1	3.0	2.9	3.1	**3.1**

- Scope of coverage: Vehicle assembly plants of TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 37 companies
- Errors in FY2017 data were corrected

Toyota's Water Environment Challenge: Connecting with Society

Thoroughly Reduce the Amount of Water Usage (Policy 1)

Evaluate Impact on the Water Environment Through Dialogue with Local Affiliates

Based on evaluations of the impact of water usage volume on the water environment, we set four plants (see p. 106) in three regions as challenge-focused plants and are taking action. Some regions have few water resources but in fact water is stably supplied, and therefore, the impact evaluation and local understanding were not in agreement in those regions. Discussions regarding these regions had been conducted over the course of six months, taking into consideration issues that have arisen and potential future impacts from climate change and other factors of concern.
In addition, we collected more detailed regional water-related information and continuously updated impact evaluations to reach mutual understandings. This led to enhanced awareness of our efforts to reduce water usage and invigorate activities.

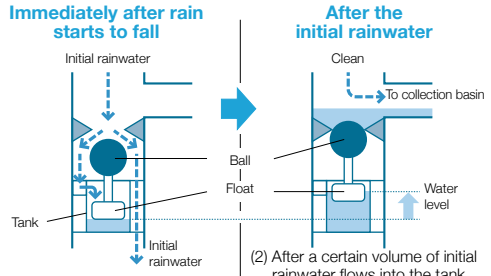
■ Case study 1: *Karakuri** used to develop initial rainwater separation system (Japan)

Using rainwater is an effective means of reducing the amount of industrial water used in production processes, but reuse as industrial water requires filtering and other purification and treatment, giving rise to issues regarding the treatment costs. The initial rainwater in particular washes contamination off buildings and needs to be treated. To address this issue, *karakuri* was used to develop a device that can separate the initial rainwater, which contains large amounts of contaminants.

Verification tests began in December 2016. They confirmed the quality of the recovered water and the maintainability and durability of the device. From now on, the initial rainfall that descends onto the roof of a plant, etc., will be separated in order to reuse clean rainwater, which will lead to a reduction in the amount of water used at plants.

* *Karakuri* refers to mechanisms that do not use electricity or other energy sources

Initial Rainwater Separation Technology

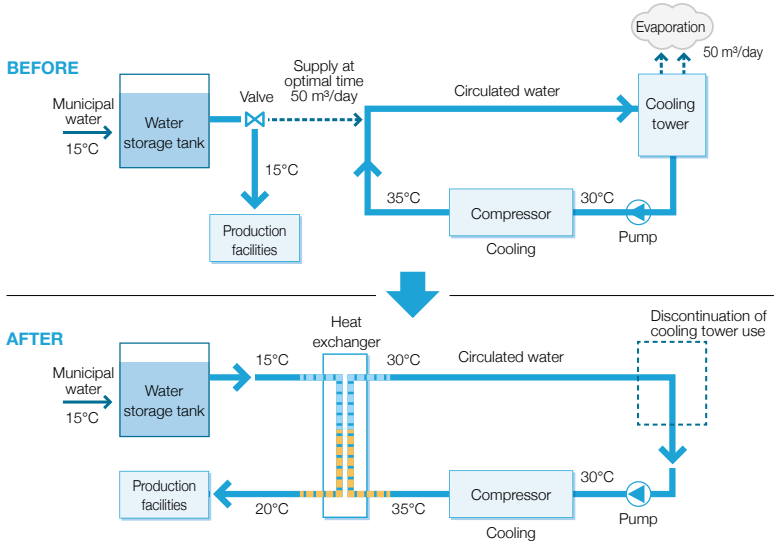


(1) The initial rainwater flows down and a portion starts to collect in a tank.

(2) After a certain volume of initial rainwater flows into the tank, the float rises, and a ball floats and stops the water, and the rainwater flows to the collection tank.

■ Case study 2: Reducing water usage by eliminating water cooling towers (Turkey)

At TMMT, an affiliate in Turkey, *kaizen* activities are reducing water usage.
Until now, the temperature of the water circulated in order to cool the compressor that makes compressed air was cooled by means of a cooling tower. However, it was necessary to supply approximately 50 m^3 in additional water each day to cooling towers that evaporate water in order to lower the temperature.
Now, using low-temperature municipal water (15°C), we have introduced a new cooling system that lowers the temperature of circulated water through a heat exchanger.
This *kaizen* made it possible to discontinue the use of cooling towers and supply water became unnecessary, so water usage was reduced by 0.06 m^3 per unit produced, and annual water usage is down 16,500 m^3.



Clean Water Thoroughly and Return (Policy 2)

Priority Regions for Water Quality Selected

Not only do we comply strictly with laws and regulations regarding the water discharge quality, we are working to maintain and control water quality including setting voluntary control standards that are even more stringent than laws and regulations.

In FY2018, we positioned 22 “water-quality” challenge-focused plants in three regions where water discharge is released into rivers for implementing measures intended to achieve the Challenge goals, taking into consideration the local impacts of Toyota’s water discharge. We will strive to reinforce water quality control even further by surveying water quality in the surrounding areas of the target plants and confirming the impact attributable to our water discharge.

Challenge-focused Regions

Water quality: Asia, North America, Europe
(Water volume: Asia, North America, Southern Africa)

Four Approaches to Water Purification

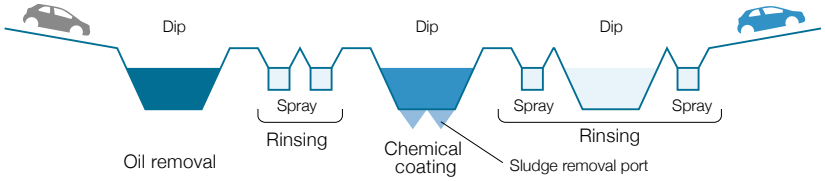
We take measures from four approaches in order to return clean water to rivers and other public waters.

A. Reduction of substances of concern

Chemical coating is performed as a vehicle body undercoat treatment. Until now, Toyota has developed technologies such as chemical coating agents compatible with bodies containing aluminum and steel as well as a nickel- and phosphorous-free treatment agent that reduces environmental impact.

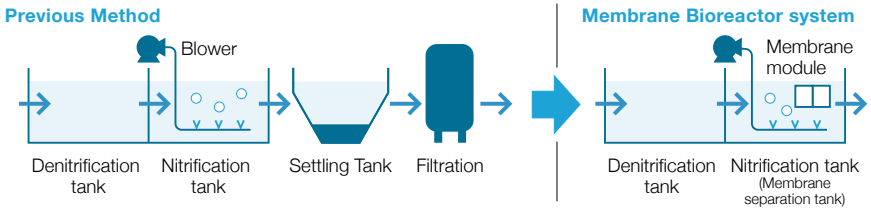
By switching to processes that do not include materials that place a burden on the environment such as nickel, the impact on water quality has been reduced. It was first introduced in 2013 in conjunction with the retooling of production lines and was introduced in 2017 at the Tahara Plant, which produces the Land Cruiser and the Lexus LS, GS, and IS.

Automobile Painting Pre-treatment Process



B. Proper treatment of wastewater

A Membrane Bioreactor system, an advanced treatment technology, was introduced to the wastewater treatment facilities at the Meiko Center and Kamigo Center. This treatment technology employs a membrane to separate sludge, reducing the release of sludge more than before and achieving stable treatment water quality.




Wastewater treatment facilities


Membrane module


Before treatment


After treatment

C. Water quality control

At wastewater treatment facilities, monitoring equipment continuously monitors the quality of treated water discharge and checks for any equipment abnormalities, and personnel conduct daily inspections. Workers conduct onsite inspections on a daily basis, checking color (oil films, turbidity), odor (oil contamination), sound (equipment operating status) etc.

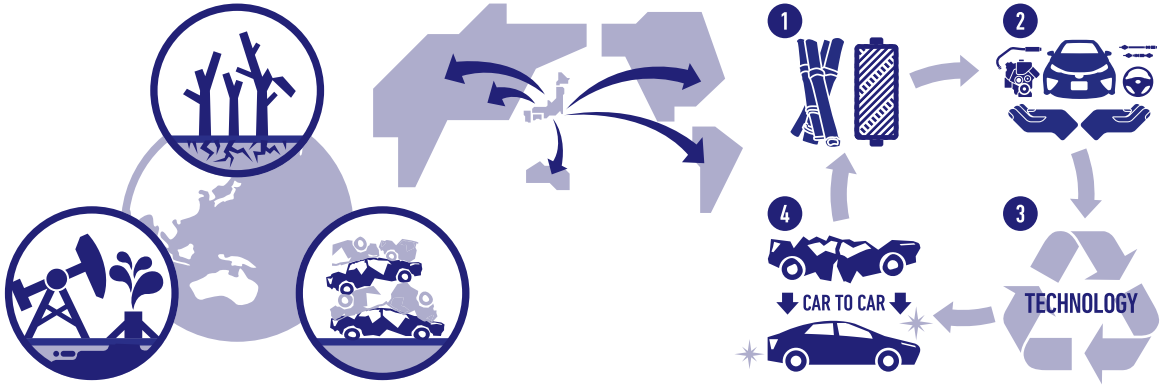
In addition, to ensure that there are no contaminants with pollutants due to accidents and so on in rainwater, which is normally clean and does not go through a water discharge treatment facility, water quality, analysis is periodically performed.

D. Prevention of leaks

We take measures to prevent leaks of contaminated water from plant sites even in the event of an accident including (1) creating ditches at plant entrances to prevent leaks, (2) installing pipes above ground so they can be examined for leaks, and (3) building dikes around oil and chemical tanks.

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 (TCCR) so that we can use resources from End-of-life vehicles for manufacturing new vehicles.



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

Reduce the Use 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 were reused for energy as a heat source except using for used parts. Others were recycled into plastics for non-automobile use after going through a machine-automated sorting process.

In FY2018, we teamed up with dismantling companies to continue implementation of trial tests for collecting End-of-life vehicles-derived plastics, investigated the efficient removal of foreign substances, and undertook measures to create recycled materials that can be utilized in vehicles.

Amid the growing need to further promote plastic recycling, we will continue to study new technologies for collecting and recycling plastics from End-of-life vehicles to support sustainable economic growth globally.

↗ Environment Data p. 131-I

Promote the Reuse of Rare Resources and Recycled Materials

Hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles, fuel cell electric vehicles, and other electrified vehicles use significant amounts of rare resources compared with 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 resources and the adoption of 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 2018, we collected 98,700 End-of-life HEV batteries in total.

The collected batteries undergo inspection to determine which parts can be remanufactured into 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 2018, we collected a cumulative 35 tons of magnets, recycling rare earth.

For cemented carbide tools, we launched a system to extract and recycle tungsten[1] in 2010. As of March 2018, we recycled a cumulative total of approximately 170 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. We have made progress toward effective thermal recovery[2] for this material, and development of technologies for material recycling of waste CFRP is ongoing.

As electrified vehicles become further widespread, the amount of End-of-life parts, such as batteries and motors that contain rare resources, is expected to rise. We will continue material recycling activities for End-of-life parts and CFRP.

1 Tungsten: Japan imports all of its demand for tungsten, which is used in the cutting edges of 80% of cemented carbide tools
2 Thermal recovery: During the incineration of waste, thermal energy generated is recovered and reused

Cumulative amount of automobile motor magnets recycled **35 tons**

Cumulative amount of End-of-life batteries collected **98,700 units**

Column

Toyota Teams Up with Electric Power Company to Investigate Large-capacity Storage Batteries

Toyota and Chubu Electric Power Co., Inc. commenced verification project in FY2018 to construct a large-capacity storage battery system that reuses electrified vehicle batteries and recycle End-of-life batteries.

In the verification project, batteries collected from Toyota electrified vehicles that still have storage capacity will be reused in Chubu Electric Power's storage battery system. The objective is to use the batteries in meeting various challenges posed by the electric power system. When combined in large numbers, used batteries, even with reduced performance levels, can be repurposed for energy supply-demand adjustment, frequency fluctuation management, and voltage fluctuation management in distribution systems, all factors that accompany widespread introduction of renewable energy.

Based on the results of the verification tests, the two companies aim to introduce power generation capacity of approximately 10,000 kW, equivalent to 10,000 batteries, in FY2021. The batteries used will be nickel-metal hydride batteries, which are currently being used in large quantities, mainly in HEVs, with plans to also use lithium-ion batteries starting by around 2030.

Column

Toyota Develops Neodymium-reduced, Heat-resistant Magnet for Use in Motors, Can Reduce Neodymium Use up to 50 Percent

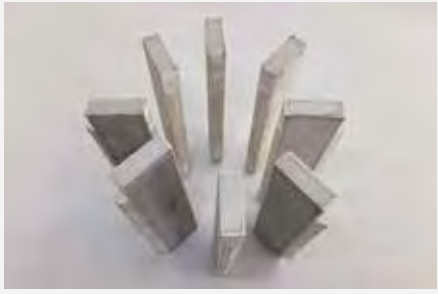
The magnets used in automobile motors and other components are powerful magnets that contain approximately 30 percent neodymium, a rare-earth element. The powerful neodymium magnets used in automotive and other applications must have high coercivity even at high temperatures. As a result, in addition to neodymium, which is produced in relatively high volumes, rare-metal elements like terbium (Tb) or dysprosium (Dy) are also added.

Rare earth elements range from the plentiful and inexpensive to the scarce, but the rare earth elements used to enable magnets to be employed at high temperatures are expensive rare metals with high geopolitical risks. To address this, considerable efforts have been made to develop magnets that do not use these metals and positive results have been achieved. In contrast to this, production volumes of neodymium are relatively high, so there have been few such initiatives, but there are concerns that the supply and demand balance may break down as electrified vehicles become increasingly popular in the future.

The newly-developed magnets do not use scarce rare metals and replace a portion of the neodymium with low-cost and abundant rare earth elements, thereby reducing the amount of neodymium used in the magnet. In addition, new technology that can suppress the deterioration of coercivity and heat resistance was developed so that there is no loss of performance in motors at high temperatures as a result of the replacement of the neodymium. The same heat resistant performance as earlier neodymium magnets is achieved, while reducing the amount of neodymium used by up to 50 percent.

This new type of magnet is expected to be useful in expanding use of motors in various areas such as automobiles and robotics, as well as maintaining a balance between the supply and demand of valuable rare earth resources. Development of elemental technologies for motors, inverters, batteries, and other components will require steady research and development in anticipation of the future. Toyota positions these technologies as essential for electrified vehicles and will continue making steady progress in each and every area, while working to build the foundation that will support the increased use of electrified vehicles in the future.


Motor


Magnet

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 make 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 Camry, JPN TAXI and Lexus LS unveiled in FY2018 adopt the Toyota New Global Architecture (TNGA)[1], a new concept for car manufacturing which ensures superior stability and control along with a comfortable ride with minimal vibration and sway. 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 TNGA: Toyota's company-wide global initiative 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

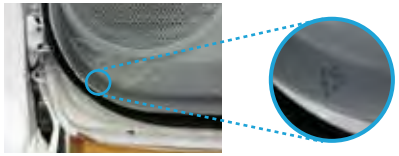
Removal of heavy battery components from hybrid electric vehicle

Component removal times for the Prius are further reduced. The new easy-to-dismantle mark has been added to assist in hoisting heavy components with good balance.

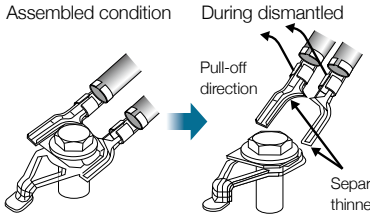
Removal of door trim[2]

The easy-to-dismantle mark indicates places where the load required for removing the door trim is 30 percent less than usual.

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



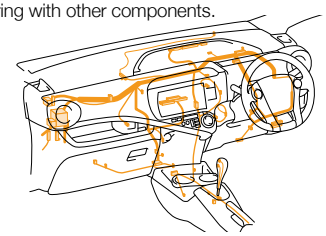
Wiring harness[3]
Use of pull-tab type ground terminal for wiring harness



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.

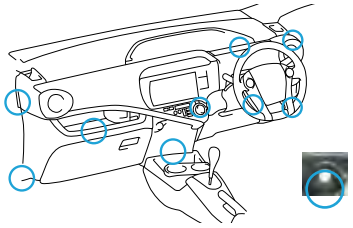


Use of "Easy-to-dismantle mark"

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

Removal of instrument panel

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



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

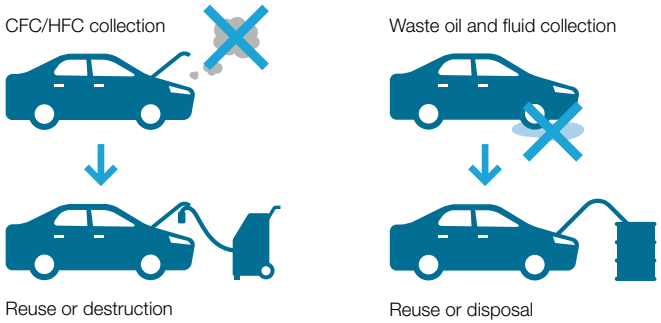
When End-of-life vehicles are not properly disposed or dismantled, this may not only affect regional environments, but also cause risks to the health and safety of local residents. To prevent these problems, we promote the Toyota Global 100 Dismantlers Project. Through this project, we aim to establish social systems for properly treating of End-of-life vehicles without imposing regional environmental impact. Our long-established End-of-life vehicle dismantling technologies and know-how contribute to the establishment of social systems.

In FY2018, we prepared a manual on proper dismantling of End-of-life vehicles and a video manual on airbags deployment for countries and regions that lack suitable dismantling facilities. Responses to the regulation on proper End-of-life vehicle recycling in Vietnam were completed, and a model facility for proper End-of-life vehicle dismantling was established in Thailand.

We have been constantly researching the flow of End-of-life vehicles and setting an each target level according to the conditions of regional infrastructure in cooperation with local affiliates.

We will strive to establish recycling-based societies with proper treatment of waste oil, fluids, CFC/HFC gas and efficient resource recycling by expanding the Toyota Global 100 Dismantlers Project gradually.

Image of Appropriate End-of-life Vehicle Treatment



Column

Establishment of Vehicle Dismantling Facility as a Model for Southeast Asia (Thailand)

Green Metals (Thailand) Co., Ltd., an affiliate of Toyota Tsusho Corporation, established a model End-of-life vehicle dismantling facility on its site in March 2018. This is the first model facility in Southeast Asia supporting the Toyota Global 100 Dismantlers Project, following a facility established in Beijing, China.

Infrastructure for the proper treatment of End-of-life vehicles has not been established in Thailand, 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. The establishment of the model End-of-life vehicle dismantling facility is an effort to prevent water and soil contamination through the proper treatment of waste oil and fluids and prevent global warming through collection and destructive processing* of CFC/HFC gas.

Thailand does not have a legal system regarding End-of-life vehicles such as Japan's End-of-Life Vehicle Recycling Law, and Toyota, TDEM, which is the Asian regional headquarters, and TMT, an affiliate in Thailand, are cooperating with the Pollution Control Department of the Ministry of Natural Resources and Environment, the Department of Industrial Works of the Ministry of Industry, and the Industrial Estate Authority of Thailand to design systems for the proper treatment of End-of-life vehicles. Through these efforts, the entire Group is working together and taking the initiative regarding the proper treatment of End-of-life vehicles.

* Thermal treatment by Bangpoo Environmental Complex (operated by Waste Management Siam Ltd., an affiliate of Dowa Eco-System Co., Ltd.)

Model End-of-life vehicle dismantling facility

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

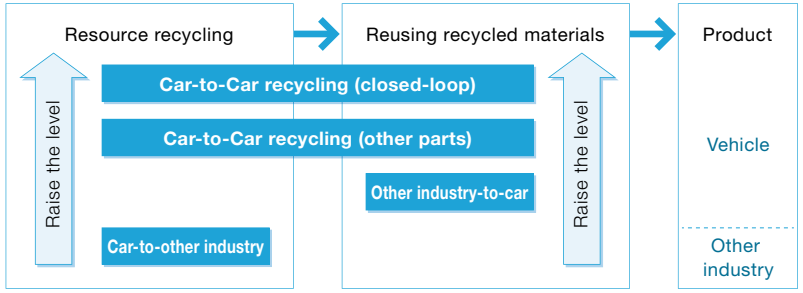
In order to realize an ultimate recycling-based society, we promote the Toyota Car-to-Car Recycle Project (TCCR) that is based on the concepts of reduce, reuse, and recycle, aiming specifically at elimination of resource-related risks and global warming.

In FY2018, we conducted trials with a model in Japan as a blueprint toward the establishment of a global recycling-based society. We are identifying issues for the creation of optimal social systems in 2030.

Batteries for HEVs are expected to increase overseas in the future, and in FY2018, we started initiatives to globalize battery recycling systems, establishing collection and recycling schemes 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 volume of waste 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 FY2018, Toyota Motor Corporation (TMC) continued waste reduction activities through improvement measures such as sludge volume reduction. The total waste volume, as a result, was 32.7 thousand tons (down 3.3 percent year on year), and the waste volume per unit produced was 11.3 kg (down 3.1 percent year on year).

Globally, Toyota continuously undertook waste reduction measures and made efforts that lead to cost reductions. Due to changes in the recycling market, however, a shift from selling recycling materials as valuable goods to paying for recycling and so on, the total volume of waste was 499 thousand tons (up 5.3 percent year on year), and the waste volume per unit produced was 47.4 kg (up 5.4 percent year on year).

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

FY	2014	2015	2016	2017	**2018**
Total waste volume (thousand tons)	36.0	35.9	35.2	33.8	**32.7**
Waste volume per unit produced (kg/unit)	12.4	12.5	12.5	11.6	**11.3**

- 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

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

FY	2014	2015	2016	2017	**2018**
Total waste volume (thousand tons)					
Japan (TMC)	36	36	35	34	**33**
Japan (consolidated EMS and its subsidiaries)	365	353	348	359	**383**
North America	32	29	29	30	**29**
China	20	17	17	17	**18**
Europe	14	14	11	12	**14**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	27	26	21	22	**22**
Total	494	475	461	474	**499**
Waste volume per unit (kg/unit)	47.7	46.0	45.3	45.0	**47.4**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 121 companies

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- Waste volume: Waste at cost + incineration + landfill

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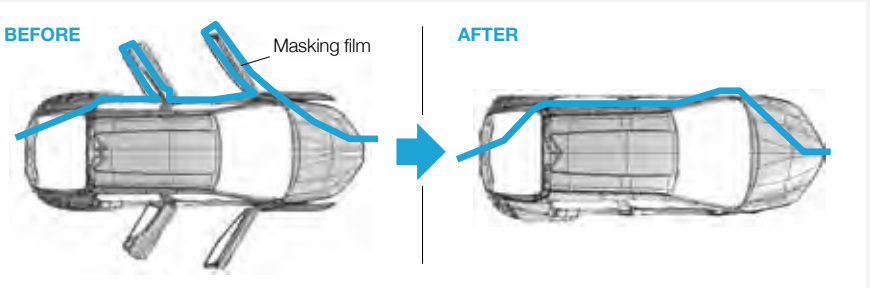
Column Reducing Waste in C-HR Painting Process (Turkey)

At TMMT, an affiliate in Turkey, the need to perform masking during the painting process arose in conjunction with the introduction of the two-tone C-HR, and the volume of used masking film waste increasing. To address this issue, the company investigated methods of winding the masking film that can maintain paint quality and managed to reduce the volume used through innovations. The amount used per vehicle produced was cut from 1,300 cm to 670 cm, and the labor time was also reduced. The amount of waste generated per vehicle produced was halved from 1,482 g to 723 g, resulting in a 39-ton decrease annually.

TMMT was also able to reduce the number of paint protection plastic caps used when painting bottom surface of vehicle by modifying the movement of painting robot sprayers.

The company also plans to address the reuse of masking film.

Commemorative tree-planting for winning the gold award of the Global ECO. Award by *kaizen* members



Column Disposal Companies Reviewed and 100 Percent Battery Recycling Achieved (Argentina)

TASA, an affiliate in Argentina, used to sell approximately 45 tons of End-of-life industrial batteries to several disposal companies as hazardous waste each year. These disposal companies recycled the lead that comprises 65 percent of batteries, and, furthermore, TASA examined the processing methods, processing capacity, and so on of the disposal companies and re-selected the disposal companies that can recycle 100 percent.

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 FY2018, TMC succeeded in reducing the amount of packaging and wrapping material per shipment unit to 6.21 kg/m^3 (down 9.6 percent year on year) by making packaging and wrapping materials smaller and adopting returnable shipping containers. The total volume of packaging and wrapping materials used amounted to 45.8 thousand tons (down 10.9 percent year on year).

Also, 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 volume of packaging and wrapping materials.

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

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

FY	2014	2015	2016	2017	**2018**
Usage of packaging and wrapping materials (thousand tons)	56.3	51.7	50.9	51.4	**45.8**
Usage of packaging and wrapping materials per shipment unit (kg/m^3)	6.97	6.98	7.36	6.87	**6.21**

Results of Activities to Reduce Usage of Packaging/Wrapping Materials at TMC (FY2018, Japan)

Products	Main improvement activities	Reduction volume (thousand tons)
Production parts	Use of returnable containers, simplification of packaging specifications	0.4
Service parts	Use of returnable containers and lighter-weight packaging, reuse of packaging and cushioning materials, etc.	0.5
Total		0.9

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 habitats of diverse species, 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 society as a whole including Toyota. In light of this risk, Toyota launched three "connecting" projects and is taking action to expand activities various regions of Japan and overseas in order to "enrich the lives of communities" in each region. We will expand these activities at group, regional, and organizational levels using the insights we have gathered so far, aiming for a future where people and nature live in harmony.

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

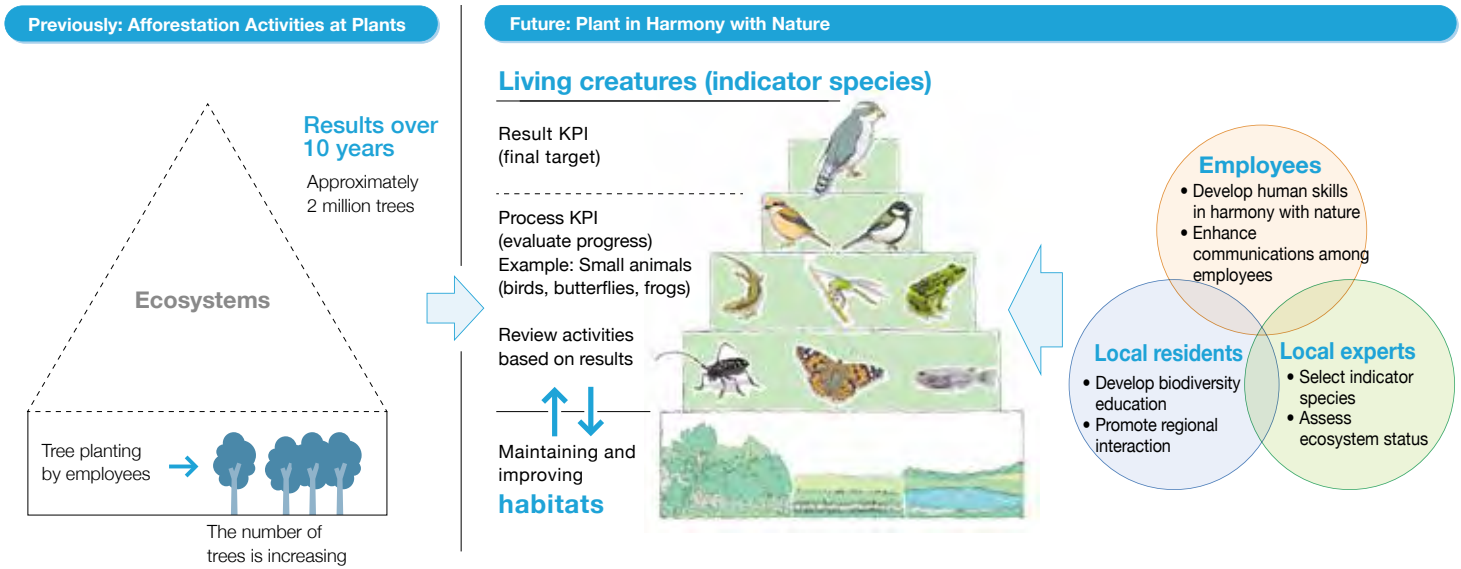
Promote Expansion of Nature Conservation Activities Connecting Communities —Toyota Green Wave Project

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 regions 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 natural 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.

Evolution from "Afforestation Activities at Plants" to "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.

A recalculation of results from the past 10 years indicated that approximately 2 million trees have been planted in Japan and overseas, creating sites that foster nature and living creatures.
We expanded activities in FY2018, and in the future will carry out the Plant in Harmony with Nature Project. These activities are not limited to forest environments covering forests at plants, but are being expanded to cover the habitats of various living creatures. In addition, species that serve as indicators (indicator species) are selected to quantitatively assess ecosystems and are continuously monitored.
The Plant in Harmony with Nature Project is being carried out by not only employees but also employees working under the guidance of local experts and in collaboration with local residents. Specific actions include periodically surveying indicator species according to the level in the ecosystem pyramid and reviews of activities based on the survey results. Continuation of these activities contributes to the preservation of regional biodiversity.
We expect that these activities will build and develop positive relationship between the plants and local ecosystems and promote good communications among employees and interaction with local communities.

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



Plant employees conduct surveys of living creatures

Column Toyota Facilities Win Japan Greenery Research and Development Center Chairman's Award

The Kinuura Plant and Tajimi Service Center won the Japan Greenery Research and Development Center Chairman's Award at the 36th National Factory Greenery Promotion Conference. The award is presented to plants, organizations, and individuals that promoted afforestation at plants and made significant contributions to improving the environment in and around plants. The aim is to encourage further afforestation at plants.

The Kinuura Plant manufactures transmissions and other drive-related components. Since 2008, the plant has been conducting environment classes at an on-site biotope for all second grade elementary school student in Hekinan City, Aichi Prefecture. In addition, approximately 5,000 trees were planted since 2010 as a part of afforestation activities.

The Tajimi Service Center was established in 2013 to train dealer staff in Japan and overseas and for other purposes. When the facility was constructed, harmony with the local environment and restoration of forested areas that had been lost to former clay mining sites were raised as issues. The site was divided into six zones and activities are being carried out with the aim of restoring the forested areas with a focus on species native to Tajimi City. In line with this concept, approximately 1,100 trees were planted in 2013 as an afforestation project.

Toyota will continue to undertake plant afforestation with the aim of maintaining and improving the habitat environments of living creatures in order to create a plant that makes use of and is in harmony with nature.

The Kinuura Nature Observation Park, a biotope at the Kinuura Plant

The biodiversity zone at the Tajimi Service Center

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 to expand activities in harmony with nature, enhance the dissemination of information, and strengthen cooperation by participating companies.

In FY2018, individual companies in Japan expanded the types of activities and steadily progressed by undertaking 217 projects, 1.8 times more than in FY2017. In addition, collaborative activities or All-Toyota unified activities were conducted. In May 2017, 30 employees from 18 companies participated in a tree planting festival held at Millennium Hope Hill in the Tohoku region. In October 2017, bamboo forest maintenance was performed at the Yahagi River with the participation of 54 employees from 18 companies. Due to these activities, river-based activities have been added to ongoing forest maintenance and estuary cleanup programs, establishing a new “connecting” activity that links living creature preservation in different river zones of forest, river, and ocean.

In the future, the activity areas of All-Toyota programs will be expanded and “connecting” activities will be undertaken such as preserving living creatures that is common to multiple areas.

The fourth “Connecting” Activity: The Millennium Hope Hill Tree Planting Event in Tohoku


The fifth “Connecting” Activity: Logging of Yahagi River bamboo forest

All-Toyota Harmony with Nature Working Group Activities

	FY2017	FY2018	Two-year total	2006–2018 total
Number of participants (persons)	41,118	**47,440**	**88,558**	
Number of trees planted	31,089	**27,645**	**58,734**	**12,158,734**
Conservation target forests (ha)	1,798	**3,019**	**4,817**	
Environmental education (participants)	26,486	**32,302**	**58,788**	

Booklet Published and Website Created

The All-Toyota Green Wave Project volume 2 was published following volume 1 published in 2016 and distributed to employees throughout the Toyota Group. As a result of this activity, it was found from an employee questionnaire that the recognition of biodiversity reached 81 percent. Starting in June 2018, which was Toyota Environment Month, in addition to distribution of the booklet (volume 3), a dedicated website was launched to disseminate information on the activities of each company in a timely manner. From now on, we will strengthen activity sharing so as to improve the degree of recognition in each company.

Dedicated website

Column Little Tern Conservation Project in Kinuura Bay

Toyota Motor Corporation, JTEKT Corporation, and Toyota Industries Corporation, which have plants in the Kinuura region, collaborated and launched a program to protect the little tern.

The little tern is a migratory bird that spends spring and summer in Japan to breed and raise its young. In the past, they were common birds, but more recently, their breeding environment has diminished and they are at risk of extinction (the little tern is classified on the Red List of Ministry of the Environment of Japan as a Category II (Vulnerable) and as Category I B (Endangered) on the Red List Aichi 2015).

The three Toyota Group companies are collaborating with Nishimikawa Bird Club and we are carrying out conservation activities for coastal biodiversity with a focus on the nesting environments of little terns. Nesting area development and attraction activities began at the JTEKT Tadomisaki Plant in the winter of 2015. Nesting area development on idle land began at the Kinuura Plant in 2017, and Toyota Industries Corporation participated in 2018.

In FY2017 decoys were installed, CDs of the birds’ cries were played, and other activities were conducted at the Kinuura Plant. It was confirmed that little terns flew into the area, but unfortunately, they did not build nests.

Starting in March 2018, employees created gravel beds, drinking locations, and hiding spots for chicks and conducted other activities to improve the nesting environment and set additional decoys to attract more birds. As a result, birds built nests and laid eggs, and the chicks are now steadily growing as of July 2018.


Little terns (the two on the left) and decoys (two on the right)


Parent and chick little terns

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

Toyota has conducted cooperative activities in Japan and overseas with environmental NGOs including the Toyota Environmental Activities Grant Program and afforestation programs in China and the Philippines. We have established Toyota Today for Tomorrow Project to bolster our long-standing grant program 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.

Launch a Five-year Partnership with WWF on Living Asian Forest Project

In July 2016, Toyota entered into a five-year partnership with WWF (World Wide Fund for Nature) 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 1 million US 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 initiatives.

WWF | WORKING TOGETHER ON BIODIVERSITY & CLIMATE CHANGE | TOYOTA

■FY2018 Activities (1): In July 2017, a WWF seminar on sustainable natural rubber production and procurement was held in Japan as an educational event. With the expectation that providing information on conditions at natural rubber production sites and conveying local opinions to involved people will expand the movement for sustainable natural rubber, relevant people were urged to participate in. Numerous participants from Japanese tire makers as well as locals from Thailand, Indonesia, and Myanmar discussed the current conditions of natural rubber production. Also, a tire maker from Europe, whose procurement guidelines on natural rubber were issued at an early stage, presented information on examples of applications that improve traceability in the natural rubber supply chain.

Comment from WWF Thailand

- There is a correlation between the loss of forests in Thailand and the increase in land area used for natural rubber plantations
- Ninety percent of natural rubber farmers (1.4 million households) are small-scale farmers with an average land area of 4 ha

Comment from WWF Myanmar

- There are many issues including low quality, low productivity, and low added value
- There has been some movement by the government including the announcement of zero deforestation, but the instability of the government is proving to be a bottleneck

Comment from WWF Indonesia

- Most deforestation is illegal, and much of it is for production of palm oil and other products

Rubber is produced by making a cut near the surface of a rubber tree using a knife or other tool, collecting the white sap that seeps out, and solidifying and processing it

Orangutans are endangered due to the rapid loss of forests

■FY2018 Activities (2): A website for the Living Asian Forest Project in both Japanese and English was launched in November 2017. The site introduces a summary of the project as well as information on recent activities, plants and animals inhabiting the living Asian forests.

It is believed that there are no more than 100 Sumatran rhinoceroses


A veterinarian cares for eight elephants that are part of a patrol team

Living Asian Forest Project Website https://www.wwf.or.jp/campaign/lafp/english/

Toyota Collaborates with IUCN to Enhance Data on Biodiversity Preservation Status

Toyota began a five-year partnership with International Union for Conservation of Nature (IUCN)[1] in May 2016 to raise awareness of the biodiversity crisis. Under the partnership, we provide annual grants of approximately 1.2 million dollars and began supporting the IUCN to enrich the IUCN Red List of Threatened Species™ (the IUCN Red List)[2]. With this support, the IUCN will conduct assessments of more than 28,000 species at risk of extinction, accounting for 35 percent of species requiring assessment. This represents a major step forward in the IUCN's goal of gaining a comprehensive view of the conservation status of biodiversity on the Earth.

1 IUCN: Founded in 1948 through an international initiative, International Union for Conservation of Nature is a global nature conservation network comprising nations, government agencies, and non-governmental organizations

2 IUCN Red List: The IUCN Red List of Threatened Species™ (IUCN Red List) is a list of threatened species in the world managed by the international organization IUCN

■ FY2018 Activities (1): We jointly organized an event held in Bangkok, Thailand in May 2017 with IUCN to raise awareness of biodiversity and the IUCN Red List in Thailand. Various stakeholders including officials from the Thai government, university academics, students, and NGOs participated. Representatives from each sector gave speeches in which they expressed hope that activities will be expanded through collaboration between the public and private sectors, welcomed the participation of persons of like mind, and conveyed their wishes for increasing such persons in the future. The participants emphasized the importance of cooperation in undertaking conservation activities.

■ FY2018 Activities (2): The IUCN released the latest version of its IUCN Red List at an event held in December 2017. Forty-six species of snakes and lizards endemic to Japan were newly assessed, and it was indicated that 15 species of reptile including snakes and lizards that inhabit the Nansei Islands are endangered. During a panel discussion at the event, Toyota highlighted that the IUCN Red List is an important pillar of Challenge 6.

■ FY2018 Activities (3): Environmental NGOs BirdLife International (BL) and Conservation International (CI) conduct IUCN Red List surveys and preservation activities. Toyota has been supporting activities for the Red List and has provided vehicles to the two organizations since 2016. Based on local needs, in FY2017, Toyota made donations to BL in Vietnam and Brazil and to CI in Indonesia and Brazil, supporting local surveys.

Local use of Toyota vehicles

Toyota Environmental Activities Grant Program

In 1999, Toyota was honored with the Global 500 Award from the United Nations Environment Programme (UNEP). 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 overseas projects (up to seven million yen per project) and projects in Japan (up to three million yen or one million yen per project).

Over the 18 years since the program was established, we have supported 360 projects in 53 countries and regions worldwide.

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■ FY2018 Activities (Domestic project): One domestic project supported a nature club that seeks to foster the specialists of the future and utilize local capabilities to protect wildlife. The event, conducted by the Wildlife Partnership Office, includes nature courses for children, small groups, and lifelong learning and target elementary school children. Its objectives are to promote education on living creatures management that takes into consideration preservation of biodiversity and to foster local leaders.

The event specializes in wildlife management training and enables participants to learn local, environment, experiencing techniques on the university level.

Inquiries from non-local administrative officials, NPOs, and companies, with which there were no prior ties have increased and networks are expanding, leading to new activities.

Children participating in the program and university students participating as interns

■ FY2018 Activities (Overseas project): For one overseas project, the Organization for Industrial Spiritual and Cultural Advancement International (OISCA) is carrying out the Children's Forest Program in Sri Lanka to create plant nurseries and conduct environmental education. It aims to protect and nurture areas in an attempt to revitalize the local original biodiversity and to rebuild affluent lives in harmony with nature.

The program provides practical training on tree planting starting with growing saplings mostly by younger generation, and environmental education. Before trees are planted, local residents cooperate with ground preparation and hole digging, and the wholehearted efforts of the children inspire the adults, leading to the development of activities that involve entire regions, and there have been reports of the expansion of voluntary activities as well.

Trees are planted with a focus on native species

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

Toyota Shirakawa-Go Eco-Institute, located at the Shirakawa-Go world heritage site, opened in 2005 with the goal of widely promoting locally rooted environmental education valuing nature's inherent wisdom. The concept of "living in harmony" is central to the Institute, which is located in rich nature at the foot of Hakusan (Mt. Haku), and which provides many adults and children visiting Shirakawa-Go with hands-on nature programs as well as working on ecosystem surveys of wildlife, along with forest conservation activities. In 2015, to commemorate the institute's 10th anniversary, we enhanced the hands-on nature programs under the slogan, "Trail walking for adults. Forest play helps kids grow stronger." The Institute aims to provide opportunities and education to enable individuals to understand and take action on their own initiative through shared education that enhances growing and learning together toward living in harmony with nature. There is a special emphasis on "children's camp" that nurtures children's environmental awareness, self-reliance, and ability to take action.

In FY2017, the Old-Growth Forest Insect Survey Camp and Hakusan Outdoor Journey camp programs for junior high school students were added. A total of eight camp programs were conducted, drawing 353 participants. The total number of people staying overnight at Shirakawa-Go in FY2018 was 16,718, and 13,046 people participated in institute programs during the year. Since opening in 2005, the institute has welcomed more than 209,000 visitors.

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.

Children participating in the Hakusan Outdoor Journey program

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.

Since 1997, the forest has been open to the public. Anyone can walk freely through the forest and take part in various events to experience the satoyama environment and learn about nature through their five senses. In 2017, we celebrated 20 years since the forest opened to the public. Since 2001, we have also provided hands-on learning events for regional elementary schoolchildren. In 2017, these events were attended by 5,538 children.

■FY2018 Activities: Nationwide Dragonfly Park Project

In June 2017, we held the "Future of Harmony between People and Nature as Learned from Dragonflies" event, the second in a series held to learn about the ecology of living creatures of satoyama. Dragonflies are familiar creatures that make use of the waterside environments that people create in their lives. By learning about dragonfly ecology and habitats, we considered the importance of biodiversity and human living in harmony with nature. An expert discussed the causes of decreases in dragonfly populations. They presented research results such as new findings on the ecology of dragonflies and efforts to expand paddies using reduced agricultural chemicals to preserve dragonflies.

During a field tour to the Forest of Toyota, participants observed dragonfly nymphs living in the soil, the smallest dragonfly in Japan. Information was also presented on methods of developing water environments that are employed on a daily basis in the Forest of Toyota.

Finally, the participants discussed methods of environmental preservation that they can undertake. One participant commented, "I hope to create biotopes that take living creatures into consideration and conduct environmental education for children that conveys the interesting ecology of dragonflies."

We will continue to conduct environmental education programs that use dragonflies as inspiration to learn about nature in our immediate surroundings and lead to action.

An observation tour

The scarlet dwarf is about 2 centimeters long

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

Cooperation with Preservation of Peat Swamp Forests in Indonesia

Indonesia is the third largest emitter of CO_2 in the world when forest fires, peat fires, and other factors are included. Emissions from peat as a result of peat fires and other causes account for 37 percent of the total, equal to more than half of the total CO_2 emissions in Japan. On the other hand, preserved peat swamp forests are not only carbon sinks, but are an important habitat for species at risk of extinction including the orangutan and proboscis monkey. In order to preserve swamp forests and prevent CO_2 release, in addition to fire prevention and monitoring activities, we are carrying out activities to prevent the depletion of forest resources by supporting the economic independence of local residents in the Katingan region of central Kalimantan.

As part of the support activities, Toyota has brought in an improved fast-growing Napier grass in rural villages where beef cattle are raised and began on-site cultivation tests in 2016. The tests verified that the Napier grass produces yields that are more than double those of the varieties grown locally. We also confirmed that not only can the tips of the Napier grass be used as forage grass, but the lower portion of the stems can be used as a source of fuel as an alternative fuel and as biogas. Utilization of this developed variety of Napier grass is expected to support economic independence by local residents and lead to preservation of peat swamp forests.

In the future, we will confirm the effectiveness of selected developed varieties and cooperate with local companies to verify effectiveness on a practical scale such as expanding self-sustaining models to other rural villages.

Program participants with Napier grass three months after cultivation

A Napier grass cultivation test

TOYOTA Mie Miyagawa Mountain Forest

To its own forest site in Odai Town, Taki District of Mie Prefecture, Toyota has introduced automobile manufacturing expertise for management, such as soil and water conservation* and providing other functions which benefit the public. We are also conducting programs to learn about forestry and the deep relationship between the forest and human beings fully using the nature properties of Miyagawa region which has the history of timber industry.

In FY2018, we started a new project, the Forest Challenge and Development, aiming for connecting forests with future generations. Taking on a challenge for utilization of trees and spaces as well as lumber production, business plans were collected widely from the public. Also, three participants selected through a screening implemented forest-based programs starting in April 2018. To raise awareness of some wisdom from forests and trees as well as promote the use of wood, we planned workshops to produce sculpted furniture and day-to-day goods made of wood with good designs.

We are also planning events that will enable more people to enjoy maintained mountain forests.

We will continue to invigorate local communities and forests by increasing the number of people involved with forests.

* Water conservation: The ground penetration and storage of rainwater that slowly flows as underground water and rivers

The Forest Challenge

A hands-on forest program (a walk-through a 100-year forest)

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

Toyota is constructing a new research and development facility 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 preserved as areas for the regeneration of forests and management of yatsuda rice paddies (paddies in low-lying areas) in collaboration with the local community. Toyota is also actively sharing information including the status of these activities and findings gained from them.

Overall diagram of the new Toyota R&D Center

The Japanese pond frog is an important species for the regeneration of yatsuda paddies

■ FY2018 Activities (1): Acorn tree planting activity at business site

In June 2017, Toyota held a tree plating activity with the participation of 90 prefectural and municipal personnel and others local concerned persons including fifth and sixth grade students and teachers from the Hanayama, Tomoegaoka, and Onuma Elementary Schools in Toyota City and the Shimoyama Elementary School in Okazaki City. The saplings, grown at elementary schools in milk packs, were raised from konara oak and Japanese blue oak acorns collected on the business site. On the day of the event, a total of 600 saplings were planted. By growing saplings from collected acorns and returning them to the mountain, we are preserving acorn mountain. The Karen Forest Development Promotion Association, a member organization of the Shimoyama Satoyama Conference, plays a central role in this program, and Toyota employees participate as volunteers each year. We will continue to support local proactive activities that lead to the preservation of Satoyama and will take measures to make the new R&D facility a sustainable technical center in harmony with nature and local communities.

Children planting saplings grown from acorns

Personnel from schools, local government, and the local community at the tree-planting event

■ FY2018 Activities (2):

Rice paddy living creatures survey team

In July 2017, we conducted a survey of the living creatures in rice paddies. We used landing nets and plastic bottle traps to capture living creatures in three kinds of waterside areas with different environmental conditions: rice paddies (with agricultural chemical use), biotope (without agricultural chemical use), and waterways. We examined the species and numbers living in each environment and compared the differences. Participants learned from explanation by an expert that there is a relationship between the living creatures living in rice paddies and surrounding forests, and when living creatures decrease due to changes in the environment, food chains collapse, and ultimately there is an impact on human food supplies.

Observation of captured living creatures

Explanation by an expert

Bamboo charcoal making and searching for spring living creatures in satoyama

In March 2018, we conducted a program on making charcoal from bamboo and searching for spring living creatures in satoyama. The objective was to inform participants about earlier lifestyles in satoyama, which used natural resources cyclically, and raise awareness about current satoyama issues. Members of the Nukata Charcoal Making Group, a member organization of the Shimoyama Satoyama Conference, demonstrated bamboo charcoal making techniques using pail can and discussed uses for charcoal in daily life. Participants learned about damage caused by animals and one of the solutions is to hunt and eat. They tasted a lunch of wild boar stew prepared by local mothers. During the search for living creatures, participants learned about the various environments of satoyama and the many creatures inhabiting them by finding signs of living creatures in forests and grasslands, and observing egg masses of montane brown frogs in rice paddies.

Bamboo charcoal making using pail cans

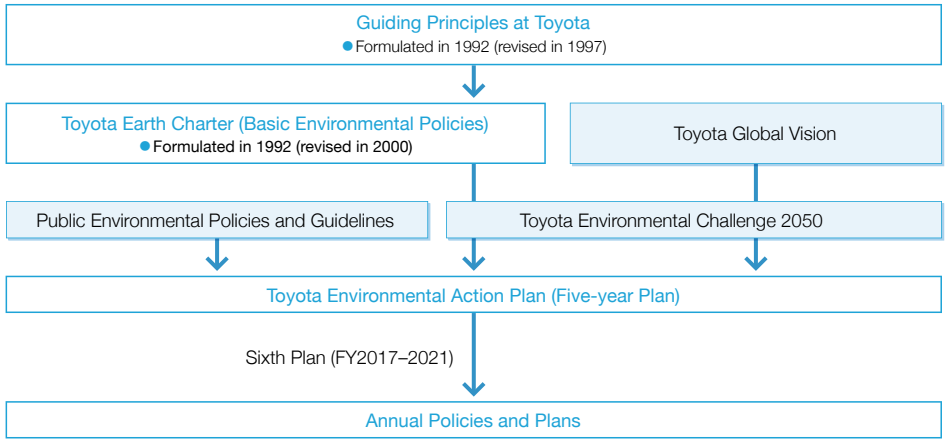
Observing montane brown frog egg masses

Environmental Management

Fundamental Approach Toyota's environmental philosophy and policies are based on the Guiding Principles at Toyota established in 1992 (revised in 1997). Policies for environmental initiatives were formulated in 1992 as the Toyota Earth Charter (revised in 2000). This Charter is shared among 671 Toyota affiliates* subject to the Consolidated Environmental Management System (consolidated EMS) around the world.
The Toyota Global Vision announced in 2011 emphasizes the importance of "Respect for the Planet." Based on its philosophy and policies, Toyota formulated the Toyota Environmental Challenge 2050 in FY2016 as its first long-term vision for environmental initiatives. In FY2017, Toyota launched the Sixth Toyota Environmental Action Plan (FY2017–2021). Under this structure of environmental management system, Toyota is identifying environmental risks and opportunities that can affect business operations and is working for sustainable development in harmony with society toward the year 2050.

* Since FY2017, in addition to the subsidiaries based on the formal standards, those based on the effective control standards have also been added due to the amendment of the Japanese Companies Act

Structure of Toyota's Environmental Management System



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

Promotion Structure

Toyota Motor Corporation (TMC) holds Sustainability Meetings to deliberate on and make determinations regarding key issues such as corporate governance and risk management and responses. Deliberations on environment-related risks and opportunities and measures to address them are also conducted at the same meeting and by the ESG Committee, an affiliate organization.
In addition, TMC has three core environment-related 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.
Environment Committees have been established in six regions around the world where Toyota operates business (Europe, China, North America, Africa, Asia and Oceania, and South America). These committees steadily promote environmental initiatives and enhance our global responses. In Japan, the All-Toyota Production Environment Conference, the All-Toyota Production Environment Meeting, and the All-Toyota Logistics Environment Conference have been set up to promote our initiatives.

Organizational Structure (as of July 2018)

Scope of Companies Subject to Consolidated EMS

The consolidated EMS scope covers all consolidated subsidiaries* on the financial accounting basis and non-consolidated subsidiaries considered material from the viewpoint of environmental management. The 671 consolidated EMS companies consist of 246 production and sales companies under the direct control of TMC (12 production and sales companies, 77 production companies, and 157 non-production companies), as well as 425 companies managed by way of consolidated subsidiaries.

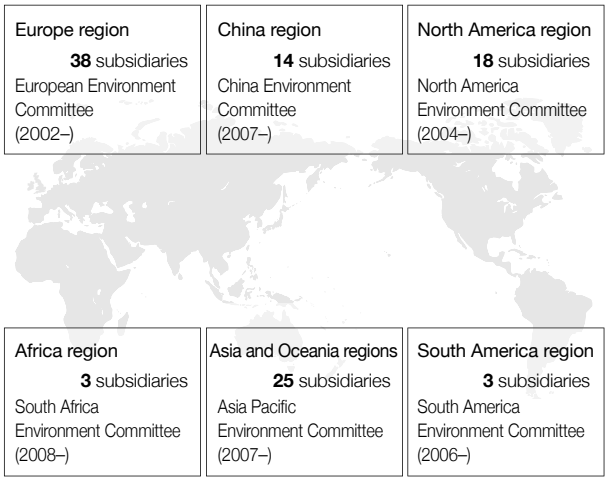
* Since FY2017, in addition to the subsidiaries based on the formal standards, those based on the effective control standards have also been added

Details of Actions

1. Jointly adopt the Toyota Earth Charter and draft individual environmental policies
2. In production, set quantitative goals and follow up on those goals
3. In sales, develop environmental management systems, and carry out environmental communication and other initiatives
4. Implement top-level environmental responses based on actual conditions in each country and region

- TMC's requirements for non-consolidated companies on the financial accounting basis may vary according to region and the nature of business

Scope of Overseas Consolidated EMS (as of the End of March 2018)



Main Companies Subject to Consolidated EMS in Japan (Alphabetical Order)

(as of March 31, 2018)

Production Companies

Group 1
- Consolidated subsidiaries
- Automotive production companies and others
- TMC secondary companies

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
- Companies not subject to consolidated accounting
- Main parts manufacturers
- Body manufacturers, etc.

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 Tsusho Corporation
Toyota Boshoku Corporation

All-Toyota Production Environment Conference Members

Group 3
- Consolidated subsidiaries
- Parts manufacturers

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

Group 4
- Consolidated subsidiaries
- Various other products production companies

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

Group 5
- Companies not subject to consolidated accounting
- Parts manufacturers

FTS Co., Ltd.
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.
Futaba Industrial Co., Ltd.

All-Toyota Production Environment Meeting Members

Logistics Companies
- Consolidated subsidiaries
- Finished vehicle distribution
- Parts distribution

Aichi Rikuun Co., Ltd.
Tobishima Logistics Service, Inc.
Toyota Transportation Co., Ltd.
Toyofuji Shipping Co., Ltd.

All-Toyota Logistics Environment Conference Members

Sales Companies

Fukuoka Toyopet Corporation
Toyota Corolla Aichi Co., Ltd.
Total: 50 companies

Other Business

TACTI Corporation
Toyota Enterprises Inc.
Toyota Central R&D Labs, Inc.
Delphys Inc.
Aero Asahi Corporation
Total: 48 companies

- Including one company not subject to consolidated accounting

Promote Strengthening of Consolidated Environmental Management

Environmental Performance in Each Country and Region

Toyota formulates annual policies and conducts initiatives based on the policies to ensure that all business activities achieve top levels of environmental performance.
In FY2018, each of our production and sales companies formulated fiscal year plans and promoted measures to ensure achievement of the plan goals.

Action Policies and Results of Major Affiliates Implementing Consolidated Environmental Management in FY2018

	Action Policy	Goals	Activity Results

Overall	• Promote environmental management through strengthened cooperation with each region	• Achieve goals in all areas	• Strengthened consolidated environmental management
			  • Carried out environmental meetings in Japan and overseas
			  • Conducted global ECO. Awards
			• Promoted activities under the Sixth Toyota Environmental Action Plan

Production (83 companies) Japan (40 companies) Overseas (43 companies*)	• All companies to implement initiatives toward achieving FY2018 goals • All companies to strengthen activities to prevent recurrence of non-compliance and complaints • Maintain and improve environmental management systems	• Achieve goals in Japan and other regions • Zero non-compliance and complaints • Renew ISO 14001 certification	• All companies implemented systematic measures and nearly all the goals were achieved • While there were no major issues, there were six minor incidents of non-compliance (three incidents in Japan and three overseas) • ISO 14001 acquisition: 100% in Japan and overseas
Sales (101 companies) Japan (50 companies) Overseas (51 companies*)	• Promote environmental initiatives by ensuring thorough implementation of Toyota dealer CSR checklist, reducing CO_2 emissions by improving environmental management, and supporting third-party certification	• Increase number of dealers acquiring EMS certification	• Dealers acquiring Eco-Action 21[1] certification: 5
	• Promote and strengthen environmental initiatives led by regional headquarters and distributors in each country (reducing CO_2 emissions etc.) • Promote and strengthen Dealer Environmental Risk Audit Program (DERAP)[2]	• Build environmental initiative promotion frameworks in each region • Percentage of dealers achieving goals: 100%	• Environmental activities framework under way according to plans in each region • Percentage of dealers achieving goals: 95%

1 Eco-Action 21: An easy-to-adopt guideline by Ministry of the Environment of Japan under which companies raise their environmental awareness, set goals, and take action. The guideline integrates environmental management systems, environmental performance assessment, and environmental reporting into a single system.
2 DERAP: Toyota uses DERAP to reduce environmental risks at overseas dealer service shops
* Includes the 12 production and sales companies

Eco-factory Activities

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. We go to local sites to directly confirm necessary items regarding environmental consciousness and make improvements to address any issues to ensure our environmental measures are performed.
In FY2018, we carried out eco-factory measures at six plants in Mexico, the United States, China, Indonesia, 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		Indonesia	Malaysia
Office, plant	TMMGT	MTMUS	GTMC Plant No. 3	TFTM new plant	TMMIN new engine plant	ASSB Plant No. 2
Planning stage		2019				
Audits of facility specifications	2018	2019				2018
On-site audit (building)	2019	2020	2018	2018		2019
On-site audit (equipment)	2019	2020	2018	2019		2019
Compliance and risk assessment	2020	2022	2019	2020		2020
Performance assessment	2021	2023	2020	2021	2018	2021

• The years indicate activities implemented in FY2018 or planned for fiscal years thereafter
: Completed

Global ECO. Awards

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*[1] of the best improvement practices.

In FY2018, six finalists out of 19 teams selected from six regions around the world were invited to give their presentations in Japan. The team from Toyota do Brasil (TDB) won the Platinum Award for its VOC[2] reduction initiatives. Even among the award winners, best practices regarding uniqueness, effectiveness, and potential for application at other sites, in particular, were selected by a vote of all attendees to receive special prizes.

Members of the Platinum Award winning team from TDB with TMC Executive General Manager Toshio Niimi

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

2 VOC (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.

Award Results

Award Categories		Award for On-site *Kaizen* Activity
Platinum Award		TDB (Brazil) ↗ Environmental Management p. 125
Gold Awards	Innovation Award*	TMMC (Canada)
		TMMT (Turkey) ↗ Challenge 5 p. 112
	Yokoten Award*	GTMC (China)
	Zero Challenge Award*	TKM & TKAP (India) ↗ Challenge 2 p. 96
		TASA (Argentina) ↗ Challenge 5 p. 112
Silver Awards		TMMC (Canada) TMMMS (U.S.) TMMF (France) SFTM Chanchun (China) FTEC (China) SFTM Sichuan (China) TKM (India) TAP (The Philippines) TMT-BP (Thailand) TMT (Thailand) TSAM (South Africa)

* Special Awards

Legal Compliance Activities

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 (ODS), and no significant releases have been found.

In FY2018, Toyota was not involved in any major environmental incidents causing air or water pollution, nor was the Group subject to fines or penalties. However, rainwater came in contact with cement during piling work on a building construction site at Honsha Plant, and alkaline runoff flowed through rainwater ditches into a river, causing environmental non-compliance. A report was immediately made to the administrative authorities and improvement to neutralize rainwater runoff was implemented at the construction site that was the source.

To prevent reoccurrence in the future, construction of water discharge plans will be comprehensively put into operation companywide in anticipation of water discharge occurring as a result of rain or other causes during the planning and construction stages.

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 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.

↗ Environmental Data p. 132-P, Q

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

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

Volatile Organic Compounds (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.

For FY2018, as a result of continuous day-to-day activities to reduce VOC emissions, the volume of VOC emissions per area painted in TMC body painting processes (average for all lines) was 14.4 g/m^2 (down 1.0 percent year on year). For TMC and its consolidated subsidiaries in Japan, VOC emissions volume was 21.5 g/m^2 (up 0.2 percent year on 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 8.8 percent year on year).

* VOC (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 in Japan (Average for All Lines) Third-Party Assurance

FY	2014	2015	2016	2017	**2018**
VOC emissions per area painted (g/m^2)	18.8	17.2	15.8	14.6	**14.4**

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

FY	2014	2015	2016	2017	**2018**
VOC emissions per area painted (g/m^2)	24.1	22.6	21.8	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 in Japan (Average for All Lines)

FY	2014	2015	2016	2017	**2018**
VOC emissions per area painted (g/m^2)	310	282	253	193	**176**

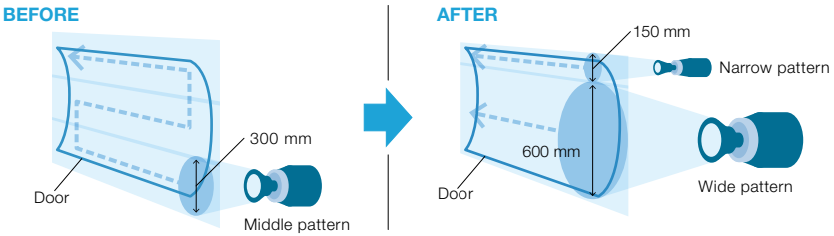
Column VOC Reduction Initiatives at TDB Plant (Brazil)

Toyota do Brasil (TDB), a vehicle production and sales company in Brazil, takes measures to reduce VOC emissions in painting processes on a daily basis.

All team members participated in identifying issues in painting processes and proposing countermeasures. VOC emissions have been steadily reduced through the cumulative results of 12 improvement measures. The measures were formulated while making reference to examples of best practices from other TMC and Toyota plants. Among the measures, using a combination of different spray sizes for the door trim clear and intermediate-edge painting processes eliminated wasteful painting width. When two types of sprays are used in combination, it is extremely difficult to maintain uniformity of the paint film, but repeated improvements were made until uniform paint quality was achieved through a process of trial and error regarding the distance from the painted surface, the rotation speed of the sprays, spray pressuring during rotation, and other painting robot settings.

In addition, a detailed review of recovery methods for solvents used in washing processes was conducted and improvements to prevent solvents from spilling were repeatedly implemented including reviewing the size and number of receptacles. Each worker conducted recovery work with an awareness to prevent VOC emissions. As a result, VOC emissions per unit produced was cut from 33.9 g/m^2 to 31.5 g/m^2, a reduction of 6.9 percent.

These initiatives won the Platinum Award of the TMC Global ECO. Awards.



Promote Environmental Activities in Cooperation with Business Partners (Suppliers)

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 a broad range of environmental initiatives to reduce greenhouse gases (GHG), assess water risks and reduce impact on water environments from those risks, encourage resource recycling, and protect ecosystems in support of the Challenge. We have been working even closer with suppliers to that end.

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

1 Green Purchasing Guidelines: Prioritizing the purchase of parts, materials, equipment, and services with a low environmental footprint when manufacturing products

Completed Revision of the Green Purchasing Guidelines Globally

Toyota conducts purchasing not only in Japan, but in regions around the world. Each affiliate has its own Green Purchasing Guidelines. After the revision of the TOYOTA Green Purchasing Guidelines in Japan (completed in January 2016), we completed revision of guidelines at overseas sites in FY2017 and requested that suppliers implement measures.

Mutual Study About the Environment

Each year, we hold a forum for studying environmental issues with suppliers.

In FY2018, a management roundtable conference on the environment was held in June with the participation of the management from many key suppliers. Toyota gave a briefing on the Toyota Environmental Challenge 2050 and renewed its request to suppliers for their cooperation and collaboration in carrying out the Challenge. There were also presentations by participating companies on examples of their own environmental initiatives, a question and answer session, and an exchange of opinions, deepening understanding of common issues.

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. The awards were presented at the Global Suppliers Conference, which also serves as a forum for Toyota to explain its action policies.

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

We introduced the CDP Supply Chain[2] Program in FY2016 to support the continual implementation and improvement of environmental initiatives conducted with suppliers. The program enables us to assess environmental risks and opportunities across the supply chain.

We have been enhancing the program's activities through briefings and other types of communication with suppliers.

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

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 usage 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 FY2018 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 ELV 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 (REACH) 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)

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. Therefore, we are fully implementing a Toyota dealer CSR checklist in Japan and taking measures to enhance environmental controls to reduce CO_2 emissions. In overseas regions, we strongly promote environmental management through environmental activities led by regional headquarters and distributors along with continual DERAP implementation.

Promoting Environmental Initiatives at Domestic Dealers

The Toyota National Dealers' Advisory Council (TNDAC) promotes unified efforts among all dealers in Japan to implement voluntary activities based on the Toyota Dealer CSR Guidelines set forth in 2005. To further promote environmental initiatives, TNDAC encourages dealers to attain third-party certification of their environmental management systems and accelerate the development of environmentally conscious dealerships and human resources, in which we aim to bolster customer trust in Toyota dealers.
In FY2018, we used the Toyota dealer CSR checklist to promote thorough environmental assessments at dealers while also encouraging the acquisition of Eco-Action 21 accreditation. As a result, five additional dealers attained Eco-Action 21 accreditation.
Moving forward, we will strive to improve environmental initiatives by working together with dealers to enhance environmental performance and planning Toyota's new initiatives.

Raise Ratio of Dealers Achieving DERAP

Toyota continues the Dealer Environmental Risk Audit Program (DERAP) to reduce environmental risks at overseas dealer service shops. These audits aim to establish a framework to deal with five fundamental environmental requirements, including the proper management of waste and treatment of water discharge. From FY2018, as new items, checking for and keeping records on the presence of oil on the surface of water in final separation tanks, and maintaining records through periodically washing all tanks were added, enhancing the quality of activities.
In FY2018, 92 distributors and 4,296 dealers from 89 countries worldwide participated in DERAP, representing an increase of nine distributors and 63 dealers from FY2017. The five requirements were satisfied by 4,086 dealers, 95 percent of all participating dealers (up 4 percent year on year). Globally, there are still many Toyota distributors and dealers which do not participate in the program. We will continue to support expansion of DERAP participation and promote the activities of the participating companies. We will also be responsible for creating environmental guidelines of each overseas region based on global environmental guidelines for dealers and distributors, tracking the progress of their operation.

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. During the "know" phase, in order to raise employees' awareness, digital signages installed at each company site disseminate environmental information, educational splash screens are displayed when PCs are started up, and stickers encouraging energy saving by setting air conditioning temperatures appropriately in conference rooms and by closing the lids of electronic bidets seats in rest rooms are placed.

Stickers placed in conference rooms and rest rooms

During the "learn" phase, we provide opportunities to learn throughout the year such as holding environmental lectures presented by outside instructors, conducting internal environmental seminars by the general manager of the Environmental Affairs Division, and reimbursing test fees for employees who pass the environmental specialist certification test (Eco Test).


An environmental lecture

In the “act” phase, 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. Company-wide, more than 25,000 suggestions were received, serving as an opportunity to raise awareness. In addition, inspirational posters that depict the gazes of animals were created as an approach that will spontaneously generate interest in order to raise employees’ awareness and understanding of eco-driving. Posters were displayed five times starting in June, which is Toyota Global Environment Month, in employee cafeterias, employee entrances and communication spaces, employee dormitories, company housing, and other locations. At the same time, we renewed the eco-driving introduction section on the website of the Environmental Affairs Division to provide fun and easy to understand explanations.
In November, which has been designated Eco-Driving Month by the Japanese government, a pamphlet that includes all of the posters previously displayed and information from the website as well as 10 key points on why eco-driving is recommended was produced and distributed to all employees (approximately 80,000 persons).

Posters (three items to the left)


Pamphlet

New Employee Training Program Raises Sense of Ownership

In FY2018, new employee training program was conducted three times in April. The current status and risk of and issues concerning Toyota’s environment undertakings were explained to 756 new administrative and engineering employees. The aim is to instill the knowledge necessary for carrying out work with the same high level of awareness of the environment as safety and quality.
In addition to conventional classroom instruction, time is spent on group discussions and presentations on topics such as “environmental risks that Toyota should prioritize” and “countermeasures and actions” to address risks so that the participants see the environment as a personal issue. Later, employees discuss their personal environmental dreams and hopes that they would like to achieve.
Participants commented that the training raised their sense of ownership regarding environmental issues and that they plan to continue working with dedication to achieve their dreams.


Classroom lecture in new employee training program


A group discussion in new employee training program

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 2018, our Environmental Report 2017 won the Excellent Prize in the Environmental Reporting Category of the 21st Environmental Communication Awards sponsored by Ministry of the Environment of Japan and other organizations. Toyota was awarded for two consecutive years following the Excellence Prize in the Global Warming Countermeasure Reporting Category won by the Environmental Report 2016.
On its website, TMC released seasons 2 and 3 of “econohito,” which is a web movie content featuring employees who strive to carry out environmental activities toward achieving the Toyota Environmental Challenge 2050. At events, Toyota’s environmental initiatives were presented in easy to understand formats and workshops and other programs raised environmental awareness. Toyota will continue to enhance content even further, activating communications.

econohito Web https://www.toyota-global.com/sustainability/environment/econohito/

Awards ceremony for the 21st Environmental Communication Awards

An environmental event at MEGA WEB

Environmental Data

Challenge 1: New Vehicle Zero CO_2 Emissions Challenge

A Sales of Electrified Vehicles (Global)

Third-Party Assurance

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

Challenge 3: Plant Zero CO_2 Emissions Challenge

B Calorific Energy Use Ratio at TMC (Japan)

Third-Party Assurance

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

- Conversion factors: Environmental Data p. 133-Y

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

Third-Party Assurance

FY	2016	2017	**2018**
Total CO_2 emissions (million tons)			
Japan (TMC)	1.52	1.51	**1.49**
Japan (consolidated EMS and its subsidiaries)	4.03	4.23	**4.29**
North America	0.93	1.00	**0.99**
China	0.63	0.64	**0.66**
Europe	0.25	0.28	**0.28**
Asia (excluding Japan), Australia, Middle East, South Africa, Latin America	0.73	0.82	**0.77**
Total	8.09	8.48	**8.48**
CO_2 emissions per unit produced (tons/unit)	0.795	0.805	**0.806**

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 121 companies
  Environmental Data p. 132-R
- GHG Protocol was used to calculate emissions
- Conversion factors: Environmental Data p. 133-X
- Revised due to an error in past data

D Global Energy Consumption (at Stationary Emission Sources)

Third-Party Assurance

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

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

1 PJ (Peta joule):
Peta represents 10^{15} and a joule is a unit of energy
2 GJ (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 121 companies

↗ Environmental Data p. 132-R

- Conversion factors: ↗ Environmental Data p. 133-Y
- Revised due to an error in past data

- Revised due to an error in past data

Challenge 4: Challenge of Minimizing and Optimizing Water Usage

E Global Water Withdrawal Volume by Source

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

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 113 companies
- Prior results were revised in conjunction with changes to the scope of coverage

F Global Water Discharge by Destination

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

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 101 companies
- Prior results were revised in conjunction with changes to the scope of coverage

G Global Recycled Water Discharge

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

- Scope of coverage: TMC and consolidated subsidiaries and other companies in Japan and overseas, a total of 113 companies
- Prior results were revised in conjunction with changes to the scope of coverage

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	2014	2015	2016	2017	**2018**
Vehicle recovery rate[2] (converted into a per-vehicle value) (%)	99	99	99	99	**99**
ASR recovery rate[3] (%)	96	97	97	98	**98**

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	2014	2015	2016	2017	**2018**
Amount collected (thousand pieces)	912	855	809	770	**775**
Collection rate (%)	72.5	72.9	69.4	67.4	**68.3**

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

FY	2017	**2018**
Volume of raw materials used (million tons)	13.9	**13.75**
Ratio of recycled materials used (%)	24	**24**

K Damaged and Removed Parts Collected and Recovered at TMC (FY2018, Japan)

Bumpers	775,000 units (collection rate of 68.3%)
Lead wheel balance weights[4]	28.4 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 (FY2018, Japan)

Parts name		Number of parts supplied: Used and remanufactured parts	Number of parts supplied: New parts (reference)
Remanufactured parts	Automatic transmissions	1,368	68
	Power steering gear	3,932	1,784
	Torque converters	1,196	4,328
Used parts		32,679	—

M Breakdown of Total TMC Waste Volume

Third-Party Assurance

FY	2014	2015	2016	2017	**2018**
Breakdown of total waste volume (thousand tons)					
Waste at cost	34.9	34.8	34.1	32.8	**31.7**
Incinerated waste	1.1	1.1	1.1	1.0	**1.0**
Landfill waste	0.0	0.0	0.0	0.0	**0.0**
Total	36.0	35.9	35.2	33.8	**32.7**

N Breakdown of Global Total Waste Volume

FY	2014	2015	2016	2017	**2018**
Breakdown of total waste volume (thousand tons)					
Waste at cost	417	400	386	394	**417**
Incinerated waste	60	58	56	59	**63**
Landfill waste	17	17	19	21	**19**
Total	494	475	461	474	**499**

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

O Results of Toyota Environmental Activities Grant Program (Global)

FY	2014	2015	2016	2017	**2018**	**Cumulative total**
Country/region covered (programs)						
Asia-Pacific	8	7	5	7	**5**	**110**
North America, Latin America	0	0	1	0	**0**	**20**
Africa	2	1	3	1	**3**	**32**
Europe	0	2	1	2	**2**	**14**
Japan	14	11	16	18	**18**	**184**
Total	24	21	26	28	**28**	**360**

* FY2018 grant topics: Biodiversity, climate change

Environmental Management

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

	FY	2014	2015	2016	2017	**2018**
Non-compliance incident	(Cases)	1[1]	0	0	1[2]	**1**
Complaint	(Cases)	0	0	0	0	**0**

1 See P15 of the Environmental Report 2014
2 See P46 of the Environmental Report 2017
- Number of non-compliance incidents and complaints are determined based on internal standards

Q Trichloroethylene Levels at TMC (FY2018, Japan)

Third-Party Assurance

Plant	Levels of groundwater before remediation
	mg/L (Environmental standard value: 0.01)
Honsha	Less than 0.002-0.88
Motomachi	Less than 0.002-0.11
Kamigo	Less than 0.002-0.05
Takaoka	Less than 0.002-0.20
Miyoshi	Less than 0.002-0.08
Tsutsumi	Less than 0.002-0.31

- 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 (One Company) and Consolidated EMS in Japan (77 Companies Including Subsidiaries) and Overseas (43 Companies), a Total of 121 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 Home Co., Ltd.
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 Co., Ltd.
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)
TMCA (Australia)
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)*

* Japan Environmental Management Association for Industry, "Carbon Footprint Communication Program, Basic Database" (version 1.01)
- "Greenhouse Gas Emissions Accounting and Reporting Manual" (version 4.3), 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, "Emissions Units Database for Accounting for Organizations' Greenhouse Gas Emissions, etc. Throughout the Supply Chain" (version 2.4)
Category 2: Capital goods	· Japan Environmental Management Association for Industry, "Carbon Footprint Communication Program, Basic Database" (version 1.01)
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), Japanese Act on Promotion of Global Warming Countermeasures
Category 5: Waste generated in business operations	· Ministry of the Environment of Japan, "Emissions Units Database for Accounting for Organizations' Greenhouse Gas Emissions, etc. Throughout the Supply Chain" (version 2.4)
Category 6: Business travel	
Category 7: Employee commuting	· Ministry of the Environment of Japan, "Emissions Units Database for Accounting for Organizations' Greenhouse Gas Emissions, etc. Throughout the Supply Chain" (version 2.4) · Japan Environmental Management Association for Industry, "Carbon Footprint 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), Japanese Act on Promotion of Global Warming Countermeasures
Category 11: Use of sold products	· Japan Environmental Management Association for Industry, "Carbon Footprint 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), 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/kg

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	Coke	3.2426 kg-CO_2/kg
Heavy oil A	2.6958 kg-CO_2/L	Coal	2.3557 kg-CO_2/kg
Heavy oil C	2.9375 kg-CO_2/L	Hot water	0.0570 kg-CO_2/MJ*
Kerosene	2.5316 kg-CO_2/L	Cold water	0.0570 kg-CO_2/MJ
LPG	3.0040 kg-CO_2/kg	Steam	0.0570 kg-CO_2/MJ
City gas	2.1570 kg-CO_2/Nm^3		

* 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, the 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 2015 conversion factor from the "CO_2 Emissions from Fuel Combustion" from IEA, Paris, France (2017 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)

Environmental Accounting

Environmental Costs Scope of coverage: Toyota Motor Corporation

FY2017 and FY2018 Results Based on Format of Ministry of the Environment of Japan

		Toyota				Five vehicle body manufacturers[1]			
		2017		2018		2017		2018	
		Investments	Costs	Investments	Costs	Investments	Costs	Investments	Costs
	(billion yen)								
Category	(1) Pollution prevention costs	0.3	1.4	0.4	1.4	0.3	2.3	0.5	2.1
Costs within business area	(2) Global environmental conservation costs	75.4	0.8	63.0	0.7	1.8	0.6	0.2	0.8
	(3) Resource recycling costs	0.1	2.0	0.1	2.1	0.1	1.6	0.0	1.7
Upstream/downstream costs	Recycling-related costs, industry organization shared costs	0.0	0.5	0.0	0.5	0.0	0.1	0.0	0.1
Management activities costs	Costs for environmental advertisements, environmental reports publishing, full-time environment-related employees, etc.	0.0	15.5	0.0	13.4	0.0	2.2	0.0	2.2
R&D costs	R&D costs to lower environmental concern	0.0	395.2	0.0	370.2	0.5	42.0	1.7	43.0
Social activities costs	Grants, etc. to environmental conservation organizations	0.0	0.6	0.0	0.5	0.0	0.0	0.0	0.0
Environmental damage response costs	Soil and groundwater remediation costs, etc.	0.2	9.1	0.1	3.8	0.0	0.0	0.0	0.0
Total		76.0	425.1	63.6	392.6	2.7	48.8	2.4	49.9
		501.1		456.2		51.5		52.3	

1 Five vehicle body manufacturers: Toyota Motor East Japan, Inc., Daihatsu Motor Co., Ltd., Toyota Auto Body Co., Ltd., Hino Motors, Ltd., Toyota Motor Kyushu, Inc. (total based on each company's respective calculation standards)

- Errors in FY2017 data were corrected

Economic Effect

Substantial Effect

FY	2017	2018	Five vehicle body manufacturers[1] 2017	2018
(billion yen)				
Reduction in energy costs through energy conservation	0.6	0.6	1.6	1.4
Reduction in waste processing and treatment costs	0.1	0.1	0.0	0.0
Sales of recycled products	2.4	4.8	5.0	7.0
Total	3.1	5.5	6.6	8.4

- Errors in FY2017 data were corrected

Customer Benefits: Amount of Reduction in Oil Consumption by Switching to Hybrid Vehicles

FY	2017	2018	Cumulative from December 1997 (first-generation Prius launch)
(billion yen)			
Japan	226.8	269.8	1,679.7
Worldwide	619.5	723.2	4,960.7

Customer Benefit Calculation Method (Japan Only)

- Calculation method: (Difference in average annual fuel efficiency[2] × number of vehicles owned[3] × average annual mileage[4]) × average gasoline price in each year[5]

2 Difference in fuel efficiency between hybrid electric vehicles on the road in the fiscal year and corresponding gasoline vehicle models
3 Number of vehicles owned by customers as estimated by Toyota from the number of hybrid electric vehicles sold each year adjusted for average vehicle age
4 Calculated by Toyota estimate
5 Nationwide average gasoline price in each year in Japan calculated by the Oil Information Center, the Institute of Energy Economics Japan

Environmental Efficiency (Sales/Environmental Footprint)

CO_2 Index for Vehicle Production (for 10 Plants Only)

FY		2014	2015	2016	2017	**2018**
Index		311	319	342	337	**357**
Sales	(billion yen)	11,040	11,210	11,590	11,480	**12,200**

- Sales/CO_2 emissions is used as an index, with FY1990 as 100

Waste Index for Vehicle Production

FY		2014	2015	2016	2017	**2018**
Index		628	654	612	600	**638**
Sales	(billion yen)	11,040	11,210	11,590	11,480	**12,200**

- Sales/waste volume is used as an index, with FY1990 as 100

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 promulgated in June 2015. The specifics of these efforts are discussed in Sustainability Meetings and reported to the Board of Directors.

In March 2011, Toyota announced the Toyota Global Vision, formulated in light of the operating environment at the time and the Guiding Principles at Toyota. Based on a commitment to being a company that customers will choose and will feel good about having chosen, the Toyota Global Vision clearly defines Toyota's aspirations for the future.

Organization and Structure

■ 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. Toyota introduced regional entity operations in 2011, followed by the business unit system in 2013 and the in-house company system in 2016. Then, in 2017, to accelerate decision-making and operational execution, Toyota further clarified that the Members of the Board of Directors are responsible for decision-making and management oversight, and operating officers are responsible for operational execution.

Furthermore, 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 are designed to transform the company structure into one that facilitates decision-making close to customers and close to where the action takes place.

Together with the business units (in-house companies and Business Planning & Operation Units), operating officers, mainly consisting of the president and executive vice presidents, to whom authority is delegated by the Board of Directors, will realize prompt decision-making and move forward with initiatives toward sustainable growth and medium- to long-term improvement of corporate value. As part of the management oversight of operations, the Sustainability Meetings deliberate the corporate governance structure that executes such initiatives.

Toyota has also established an International Advisory Board, comprising experts from around the world. The board provides advice on management issues from a global perspective as needed. Toyota also deliberates on and monitors management and corporate conduct from the diverse stakeholder perspectives in meetings, such as the Labor-Management Council/Joint Labor-Management Round Table Conference.

■ Board of Directors and Related Structures

Toyota's Board of Directors consists of nine directors (of which three are outside directors). 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.

Toyota believes 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, half the members of which are Outside Directors, makes recommendations to 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 instruments exchanges. When selecting Outside Directors who will serve as independent officers, Toyota considers the requirements set forth in the Companies Act and independence standards established by the relevant financial instruments exchanges. Toyota's Outside Directors draw on their broad experience and insight, including their respective fields of expertise, to inform decision-making from a perspective independent from management structure.

■ Audit & Supervisory Board

Toyota has adopted an Audit & Supervisory Board system. Six Audit & Supervisory Board Members (including three outside 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 experiences 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, half the members of which are Outside Directors, makes recommendations to the Audit & Supervisory Board regarding such appointments.

Three individuals, all of whom are registered as independent officers with the relevant financial instruments 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 instruments exchanges.

■ Remuneration of Members of the Board of Directors and Audit & Supervisory Board Members

Basic remuneration and bonuses for Members of the Board of Directors are linked to corporate performance while reflecting individual job responsibilities and performance. The amount and method of payment of remuneration are determined also considering the remuneration level in countries of origin.

Bonuses are paid based on the relevant fiscal year's consolidated operating income, comprehensively taking into account dividends, the levels of bonuses for employees, trends at other companies, medium- to long-term business performance and past remuneration. Because the role of Outside Directors includes monitoring and supervising management from an independent standpoint, they are not paid bonuses.

Members of the Board of Directors receive remuneration and bonuses within the range of the total amounts determined in the Shareholders' Meeting. The amounts are decided at a meeting of the Board of Directors with reference to proposals submitted by the Executive Remuneration Meeting, half the members of which are Outside Directors.

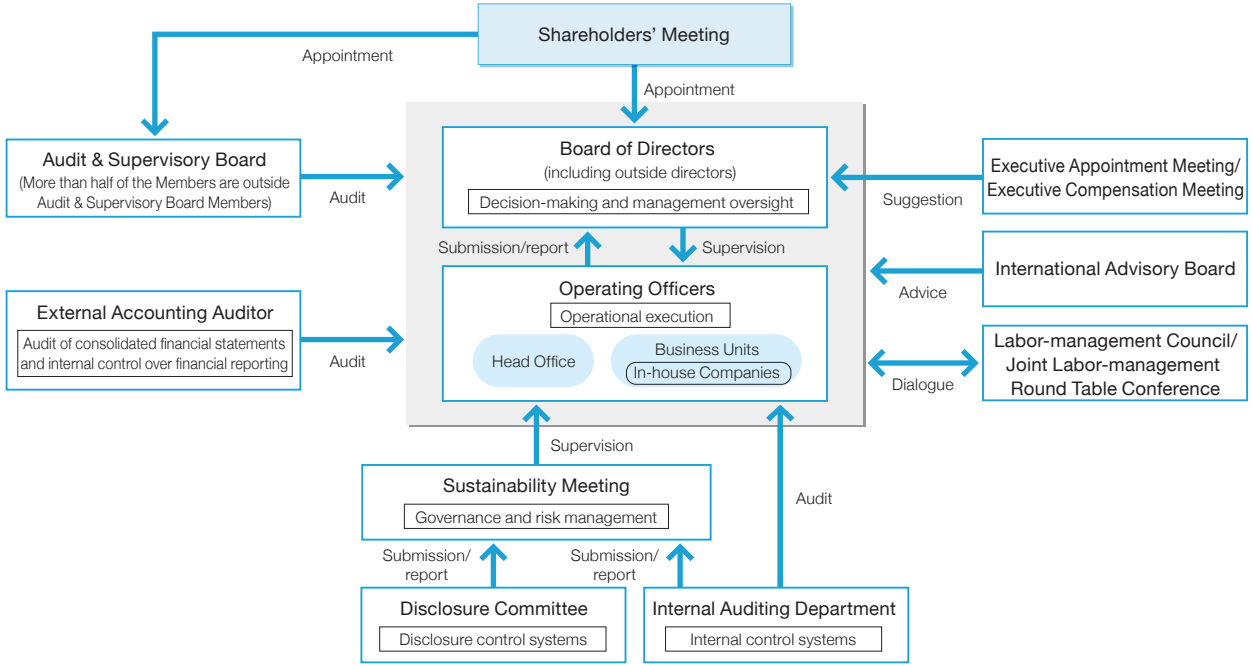
Remuneration for Audit & Supervisory Board Members consists only of fixed basic payments and does not include bonuses. As a result, this remuneration system is not readily impacted by business performance, helping to ensure independence from management. Remuneration for Audit & Supervisory Board Members is determined by the Audit & Supervisory Board within the scope determined by resolution of the Shareholders' Meeting.

■ 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 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.

For FY2018, it was confirmed, as a result of the evaluation, that effectiveness was secured. Based on meaningful comments provided regarding "acceleration of decision making," "management oversight of operations" and other matters during the process of the evaluation, Toyota will continue to make improvements during FY2019 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

TMC 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*.

Corporate Governance Report
Web https://www.toyota-global.com/investors/ir_library/cg/

Risk Management

Fundamental Approach Toyota has been working to reinforce its risk management structure since the recall issues in 2010. In June 2010, Toyota established the Risk Management Committee (now Sustainability Meeting and ESG Committee) and appointed risk managers globally and at each section to comprehensively prevent and mitigate the impact of risks that could arise in business activities.

Organization and Structure

Toyota has appointed a Global Chief Risk Officer (CRO) as a head of global risk management, who oversees significant risks and takes leadership to respond to significant global emergencies. Beneath the Global CRO are Regional CROs appointed to manage its own risk management structure.

Within the head office (such as Accounting and Purchasing), risk management is assigned to chief officers and their sections, while in each in-house company, risk management is assigned to the company president and their company. They coordinate and cooperate with the regional head offices and with each section.

To oversee and mitigate global risks, risks in business are identified and significant emerging risks are reported and reviewed by the ESG Committee.

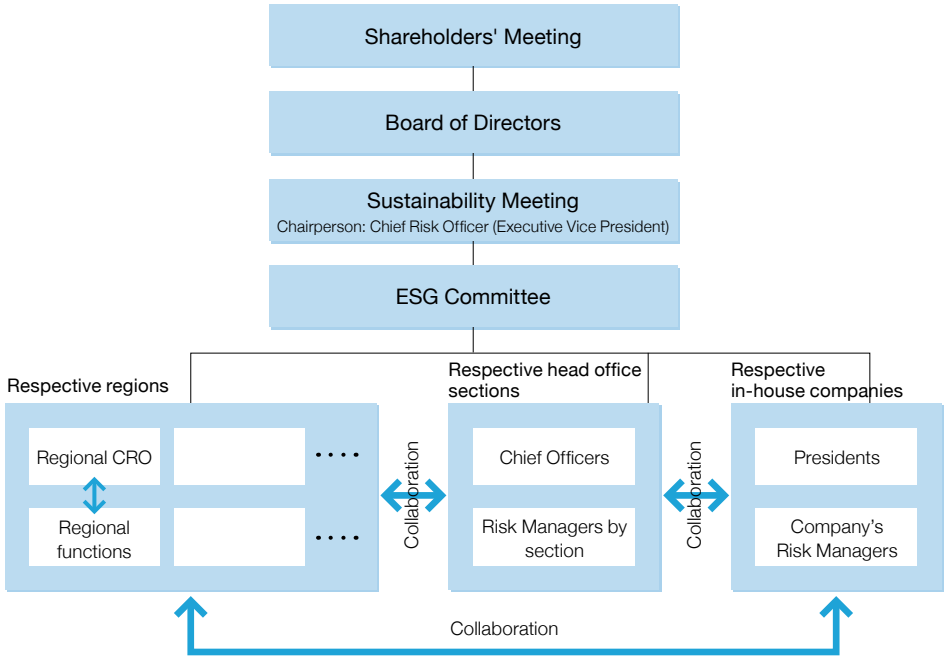
In addition, as a business supervisory body, results from the ESG Committee are reported in Sustainability Meetings.

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.

Form 20-F Web https://www.toyota-global.com/investors/ir_library/sec/

Organization



Initiatives for Information Security

With cyber attacks becoming more sophisticated and complicated, the targets of cyber attack are not 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 will ensure the safety and security of our customers from cyber attack threats. Toyota considers it our social responsibility to protect our customers' personal information and therefore is reinforcing information security by governance and risk management.

In June 2016, TMC and its consolidated subsidiaries together established Information Security Policy to clarify the information security basic policy and initiatives.

Information Security Policy (Toyota's Basic Approach)

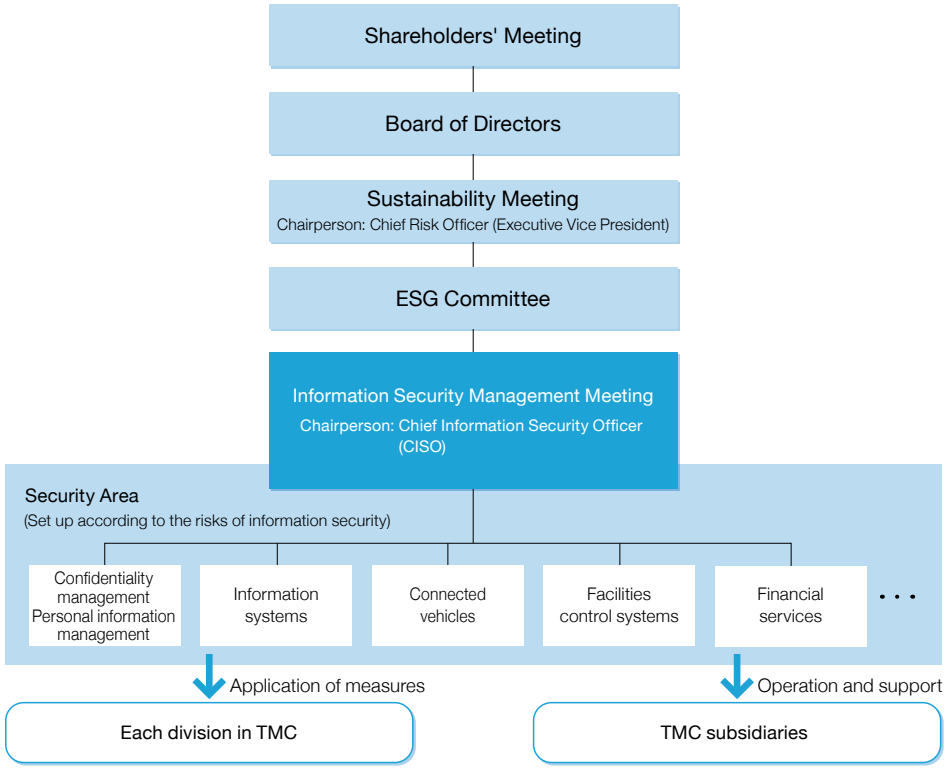
1. Compliance
2. Maintenance of stable business infrastructure
3. Providing safe products and services
4. Contribution to the establishment of safe cyberspace
5. Information security management

Information Security Policy Web https://www.toyota-global.com/sustainability/governance/risk-management/pdf/information-security-policy_en.pdf

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 seeking to comprehensively prevent information leaks and emerging risks of cyber attacks.

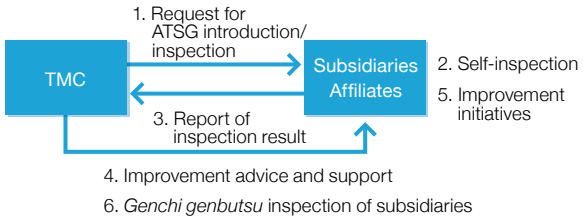
ATSG ensures information security through a multi-faced approach: through organization, human resources, technical security, physical security, and incident/accident response. To cope with recent environmental changes and sophisticated cyber attacks, ATSG is revised periodically (latest update in April 2018).

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, in FY2019, TMC will begin checking its subsidiaries (*genchi genbutsu*) for further improvements.

All Toyota Security Guidelines (ATSG)

1. Organizational management measures (establishment of organization and rules)
2. Human resources 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



For personal information, individual education ensures that employees are well aware of the importance of following the law and handling information appropriately. We have responded to the Amended Act on the Protection of Personal Information (Japan) and the GDPR[1] (Europe), and will continue to endeavor to protect personal information.

As for automobile-related matters, in Japan and the United States, Toyota has joined the Auto-ISAC[2], an industry-wide community for auto makers to share information on cyber attack case examples. Toyota is making efforts to improve cyber security by monitoring the latest trends.

1 GDPR: General Data Protection Regulation
2 Auto-ISAC: Automotive Information Sharing & Analysis Center

Business Continuity Management at Toyota

Although Toyota was not directly affected by 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 caused inconvenience to customers both in sales and services.

There are deep concerns about the Nankai Trough Massive Earthquake occurring, as the Toyota Group Companies' main functions are concentrated in the area. It is predicted that a large scale earthquake 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 with limited resources.

In order to contribute to enriching lives of communities, Toyota will work on disaster recovery according to the Basic Guidelines. This guideline was followed in the Kumamoto Earthquake (April 2016).

Toyota's Basic Guidelines (Priorities during a Disaster)

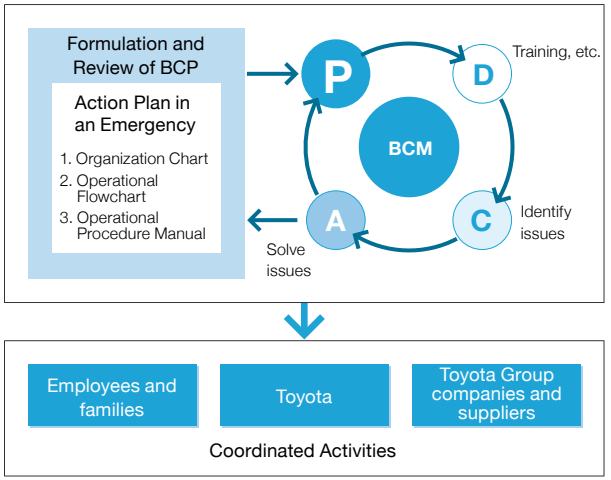
Business Continuity Management at Toyota

The PDCA[3] 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 the Business Continuity Management (BCM), which are delivered 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 organization, workplaces, and individuals.

3 PDCA: The circular process of Plan-Do-Check-Action for continuous improvement



Humanitarian Aid and Early Recovery of Disaster-affected Areas (Communities)

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. Other support items agreed with individual local governments include provision of 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

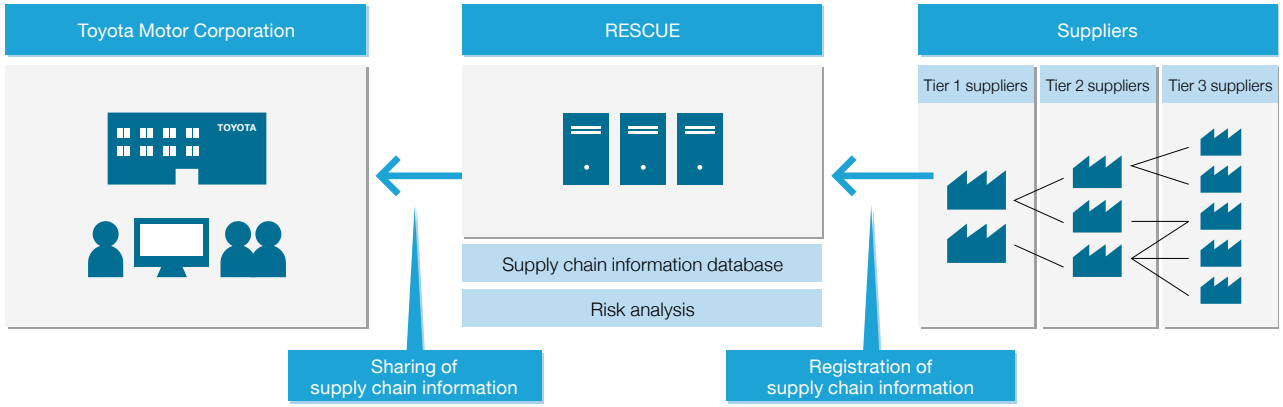
Toyota has provided recovery support in accordance with the following priorities: (1) Humanitarian aid; (2) Early recovery of the affected area; (3) Restoration of Toyota's operations and production. Since the Great East Japan Earthquake, we have worked with suppliers in each country and region to build 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 receives highly confidential information from suppliers and build up a database, RESCUE (REinforce Supply Chain Under Emergency) system, based on the concept of protecting Japanese *monozukuri* (manufacturing). Under strict protection of suppliers' confidential information, Toyota conducts regular training with suppliers to utilize the system in case of a disaster. It was also utilized in the Kumamoto Earthquake in April 2016, Northern Osaka Earthquake (May 2018), and heavy rain disaster in western Japan (June 2018).

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 Storing 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 nation and undertake open and fair business activities to be a good corporate citizen of the world." Toyota believes that adhering to this principle is to fulfill corporate social responsibility and ensure compliance. In accordance with its basic internal control policies, Toyota promotes creating a framework to adopt and enforce the code of conduct as well as other means of human resource development including training. Toyota has also established consultation hotlines; any concerns that are reported are carefully responded to ensure that no potential problem is missed.

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. A booklet containing the Toyota Code of Conduct is distributed to all employees to put the code into practice at work and in the community.

Toyota Code of Conduct Web https://www.toyota-global.com/company/vision_philosophy/toyota_code_of_conduct.html

Organization and Structure

Toyota holds Sustainability Meetings to discuss expectations from our stakeholders and our responses to various social issues as well as corporate governance and compliance.

Organization

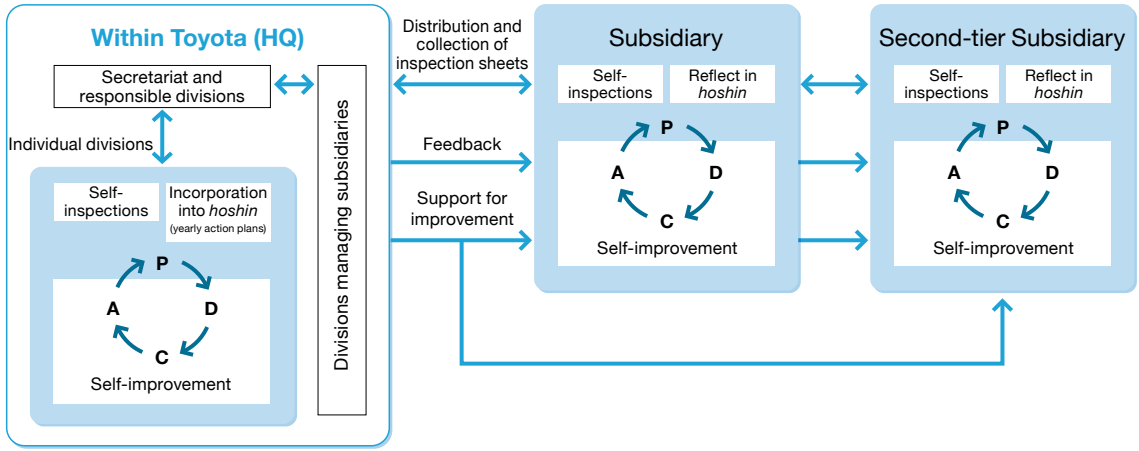
Checks to Enhance Compliance

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.

In addition to standard legal areas including labor law, antimonopoly law and subcontracting law, we conduct seminars on bribery prevention, personal information protection, product liability law, and other topics. Around 1,000 employees attended these seminars in FY2018.

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 Anti-bribery 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.

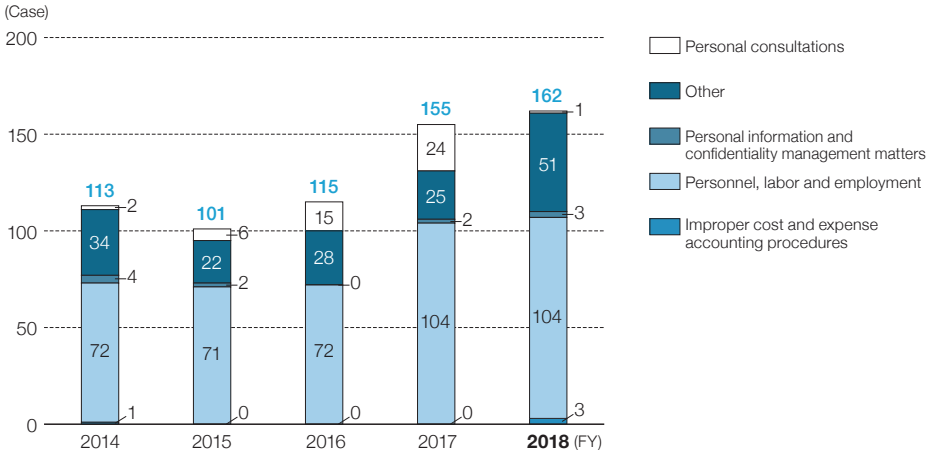
Anti-bribery Guidelines (For Business Partners)
Web https://www.toyota-global.com/sustainability/society/partners/pdf/anti-bribery_en.pdf

The Compliance Hotline

Toyota has established hotlines for quick and appropriate responses to concerns, complaints, or questions that employees may have.

The Compliance Hotline allows employees to have consultations concerning compliance-related issues and is run by an outside law firm (subcontractor). 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)



CSR Data

CSR activity results for the past three years are listed in the table below.

Data List (Fiscal Year-end)

Issues	Items			Unit	FY2016	FY2017	FY2018
Social Issues	Safety	No. of models with NCAP five-star safety rating	Japan (collision)	Models	1	4	2
			Japan (prevention): ASV+ FY2015, FY2016 ASV++ FY2017		13	5	2
			U.S.		12	13	13
			Europe		3	3	2
			China		3	— [1]	— [1]
		U.S. IIHS Top Safety Pick models	TSP		5	0	3
			TSP+		10	13	9
		No. of vehicles with units capable of providing and gathering traffic information (Japan)	No. of shipped vehicles with VICS (cumulative)	Thousand vehicles	13,130	14,180	15,210
			No. of vehicles registered for G-BOOK, T-Connect, G-Link (cumulative)		4,700	5,300	5,900
	Quality	J.D. Power (US) Initial Quality Study (IQS) ranking No. 1		Models	3	7	2
		Good Design Award (Japan)		—	MIRAI (Gold Prize), Alphard/Vellfire, Hiace/ Regius Ace (Long Life Design Award)	Prius/Prius PHV, Sienta (including the Welcab series)	C-HR, JPN TAXI, Roomy/Tank
		No. of calls to customer call centers (Japan)[2]		Thousand calls	304	299	293
	Welcab	No. of Welcabs sold (Japan)		Vehicles	15,869	17,050	15,718
		Market share of Welcab (Japan)[3]		%	68.0	70.0	68.2
		No. of Welcab models (Japan)		Models	25	26	23
	Social Contribution Activities	Total expenses for social contribution activities[4]		Billion yen	25.3	29.2	24.3
		No. of Toyota Community Concert participants (Japan)		No. of visitors	41,800	38,600	33,414
		No. of Why/What Lecture participants (Japan)			1,339	1,031	906
		No. of visitors to the Forest of Toyota (Japan)			11,790	11,137	10,175
		No. of traffic safety educational materials distributed (picture books)		Million books	2.54	2.56	2.62
		Toyota Environmental Activities Grant Programs		No. of programs (cumulative)	304	332	360
	Employees	No. of foreign executives (TMC)		Persons	8	7	7
		Local employees comprising management at overseas affiliates		%	62.6	65.8	67.8
		Non-Japanese CEOs/COOs in major overseas subsidiaries		%	53	56.3	67.8
		No. of female managers (TMC)	Assistant manager	Persons	496	580	636
			Managerial positions		135	155	186
		Employment ratio of people with disabilities (including TMC and one special-purpose subsidiary)[5]		%	2.14	2.17	2.25
		Employment of people with disabilities (including TMC and one special-purpose subsidiary)[5]		Persons	1,203	1,238	1,282
		No. of employees using the childcare and nursing care leave program (TMC)		Persons	620	646	636
			Male		43	44	54
			Female		577	602	582
		Average period of childcare leave		Months	—	—	15.4
			Male		—	—	2.5
			Female		—	—	16.6
		Return rate after taking childcare leave		%	—	—	97.6
			Male		—	—	100
			Female		—	—	97.4

1 No Toyota cars were in the scope for assessment in 2016 and 2017
2 Results for January to December
3 Excluding minivehicles and heavy buses
4 Toyota and consolidated subsidiaries in Japan and overseas (consolidated base differs by item)
5 No. of people with disabilities employed and their employment ratio are current as of June 2018

Issues	Items			Unit	FY2016	FY2017	FY2018
Social Issues	Employees	Rate of male employees taking leave after birth of their child[6]		%	—	93.8	93.8
		Average number of days leave taken by male employees after birth of their child		Days	—	—	4.9
		No. of employees using the flexible working hours system (TMC)[7]		Persons	1,363	1,857	2,602
			Male		41	342	935
			Female		1,322	1,515	1,667
		Frequency rate of lost workday cases (TMC)		—	0.03	0.07	0.07
		Full-time employees (TMC)		Persons	72,779	75,218	74,373
			Male		64,583	66,399	65,670
			Female		8,196	8,819	8,703
		Average age (TMC)		Years old	38.7	39.1	38.8
			Male		39.3	39.7	39.4
			Female		34.0	34.7	34.7
		Average period of employment (TMC)		Years	17.3	17.7	17.4
			Male		17.9	18.3	17.9
			Female		12.6	13.3	13.2
		Percentage of annual paid leave taken[8, 9]		%	—	102.3	92.8
		Average monthly overtime per employee[8]		Hours/ month	—	21.3	21.3
		Newly-hired employees (TMC)		Persons	2,185	2,513	2,237
			Male		1,970	2,166	1,825
			Female		215	347	412
			Administrative		103	213	162
				Male	61	83	82
				Female	42	130	80
			Engineering		514	647	626
				Male	466	562	545
				Female	48	85	81
			Shop floor		1,568	1,653	1,449
				Male	1,443	1,521	1,198
				Female	125	132	251
		Re-employed retirees (TMC)			903	779	745
		Employees who feel their own growth (TMC) Administrative and engineering		%	78.4	77.6	— [10]
		Employees who feel their own growth (overseas) Administrative and engineering			—	70.0	
		Employees who are satisfied with company life (TMC) Administrative and engineering			—	78.0	
		Employees who are satisfied with company life (TMC) Shop floor			71.9	—	
		Employees who are satisfied with company life (overseas) Administrative and engineering			—	74.0	
		Employees who are satisfied with company life (overseas) Shop floor			—	72.0	
Environmental Issues	New Vehicle Zero CO_2 Emissions Challenge	Annual HEV Sales (Global)[2]		Million units	1.204	1.401	1.518
		Cumulative HEV Sales (Global)[2]			8.543	9.943	11.461
		CO_2 emissions reduction benefit of Toyota Hybrid Vehicles (Global)		Million tons	66 (as of Mar. 31, 2016)	77 (January 2017)	94 (April 2018)
		Global average CO_2 emissions from new vehicles reduction rate versus 2011 (Japan, U.S., Europe, China)		%	8.8	11.9	13.7
	Life Cycle Zero CO_2 Emissions Challenge	CO_2 emissions per ton-kilometer (transportation volume) from TMC logistics operations (Japan)		Million tons	0.275	0.282	0.286
	Plant Zero CO_2 Emissions Challenge	Global CO_2 emissions (from energy consumption at stationary emission sources)[4]		Million tons	7.57	7.81	7.79
		CO_2 emissions per unit produced[4]		Tons/unit	0.744	0.741	0.740
	Challenge of Minimizing and Optimizing Water Usage	Global water usage[4]		Million m^3	29.3	32.8	32.9
		Water usage per unit produced[9]		m^3/unit	2.9	3.1	3.1

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
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 in FY2018

Issues	Items			Unit	FY2016	FY2017	FY2018
Environmental Issues	Challenge of Establishing a Recycling-based Society and Systems	Total waste volume (TMC)		Thousand tons	35.2	33.8	32.7
		Waste volume per unit produced (TMC)		kg/unit	12.5	11.6	11.3
		Recovery rate (TMC)	ASR	%	97	98	98
			Airbag		93	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/m²	15.8	14.6	14.4
		No. of violations of environmental laws and regulations (TMC)		Number	0	1	1
Governance	Governance (TMC)	Outside Directors		Persons	3	3	3
		No. of consultations made to the Compliance Hotline		Consultations	115	155	162
Common Issues	Dealers / Distributors and Suppliers	No. of parts suppliers (Global)		Companies	3,435	3,511	3,759
			No. of parts suppliers (overseas)		3,006	3,075	3,322
			No. of non-Japanese parts suppliers		1,570	1,615	1,795
		No. of dealers (overseas)		Sites	10,058	10,152	10,138
		No. of countries / regions sold		—	176	176	177

Basic data	Overall	Vehicle sales (consolidated)[11]		Thousand vehicles	8,681	8,970	8,964
			Those sold in Japan		2,059	2,274	2,255
		Research and development expenses		Billion yen	1,055.6	1,037.5	1,064.2
	Financial Information (Consolidated)	Net revenues		Billion yen	28,403.1	27,597.1	29,379.5
			Japan		14,759.4	14,830.8	16,024.8
			North America		11,051.9	10,239.0	10,574.4
			Europe		2,661.3	2,681.0	3,185.2
			Asia		5,003.8	4,819.8	5,148.1
			Other		2,210.2	2,161.0	2,453.2
		Operating income (Operating income ratio: %)		Billion yen (%)	2,853.9 (10.0)	1,994.3 (7.2)	2,399.8 (8.2)
			Japan		1,677.5	1,202.2	1,659.9
			North America		528.8	311.1	138.8
			Europe		72.4	12.2	75.0
			Asia		449.1	435.1	433.1
			Other		108.9	58.6	112.6
		Net income		Billion yen	2,312.6	1,831.1	2,493.9
		Shareholders' equity			16,746.9	17,514.8	18,735.9
		Total assets			47,427.5	48,750.1	50,308.2
		Net assets			18,088.1	18,668.9	19,922.0
		ROE		%	13.8	10.6	13.7
		Dividend per share		Yen	210	210	220
		Capital expenditures		Billion yen	1,292.5	1,211.8	1,302.7
		Vehicle production		Thousand vehicles	8,576	8,975	8,964
	Global Expansion	No. of plants and manufacturing companies	Japan	Sites	16	16	17
			North America		11	11	10
			Europe		9	9	8
			Asia		24	24	24
			Other		9	9	8
		No. of distributors	North America	Sites	5	5	5
			Europe		29	29	29
			Asia		16	20	21
			Other		117	113	114

*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.

Core Subjects in ISO 26000	Issues		Page
Organizational Governance	1 Organizational Governance	Corporate Principles	p. 5, 7
		Sustainability Policy	pp. 8–11
		Corporate Governance	pp. 136–138
		Risk management	pp. 139–142
		Compliance	p. 143, 144
Human Rights	2 Due diligence 3 Human rights risk situations 4 Avoidance of complicity 5 Resolving grievances 6 Discrimination and vulnerable groups 7 Civil and political rights 8 Economic, social and cultural rights 9 Fundamental principles and rights at work	Respect for Human Rights	pp. 44–47
		Collaboration with Business Partners	pp. 48–54
		Employees	pp. 55–72
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Labor Practices	10 Employment and employment relationships 11 Conditions of work and social protection 12 Social dialogue 13 Health and safety at work 14 Human development and training in the workplace	Employees	pp. 55–72
Environment	15 Prevention of pollution 16 Sustainable resource use 17 Climate change mitigation and adaptation 18 Protection of the environment, biodiversity and restoration of natural habitats	New Vehicle Zero CO_2 Emissions Challenge	pp. 89–92
		Life Cycle Zero CO_2 Emissions Challenge	pp. 93–96
		Plant Zero CO_2 Emissions Challenge	pp. 97–102
		Challenge of Minimizing and Optimizing Water Usage	pp. 103–106
		Challenge of Establishing a Recycling-based Society and Systems	pp. 107–112
		Challenge of Establishing a Future Society in Harmony with Nature	pp. 113–120

Core Subjects in ISO 26000	Issues		Page
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		Compliance	p. 143, 144
Consumer Issues	24 Fair marketing, factual and unbiased information and fair contractual practices 25 Protecting consumers' health and safety 26 Sustainable consumption 27 Consumer service, support, and complaint and dispute resolution 28 Consumer data protection and privacy 29 Access to essential services 30 Education and awareness	Initiatives for Improving Traffic Safety	pp. 13–19
		Customer First and Quality First Measures	pp. 20–26
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		New Vehicle Zero CO_2 Emissions Challenge	pp. 89–92
		Life Cycle Zero CO_2 Emissions Challenge	pp. 93–96
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		Creating an Affluent Society	pp. 27–37
		Social Contribution Activities	pp. 38–43

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
Global Society/ Local Communities	**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

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