

## Environment (E)



### Taking on the challenge of carbon neutrality and a circular economy with the full strength of the Toyoda Gosei Group

The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), published in August 2021, states that there is no longer any doubt that global warming is affected by human activities. The damage caused by abnormal weather, such as the torrential rains and forest fires that are occurring frequently in all parts of the world, is enormous. The climate change problem is a real and urgent threat created by humans. Global warming is not simply climate change; it also bears strongly on resource recycling, water risks and biodiversity, and multifaceted efforts to combat it are important.

In 2016, the Toyoda Gosei Group formulated the TG 2050 Environmental Challenge, which targets zero plant CO<sub>2</sub>, to do our part in overcoming this crisis. We also established the Targets 50&50, our medium-term targets for 2030, for the early realization of carbon neutrality and a circular economy, and have initiated company-wide, cross-sectional projects and are accelerating efforts integrated into company activities.

The entire Toyoda Gosei Group will continue to do its utmost to contribute to protecting the global environment, under the slogan “A Greener, Richer World for Our Children.”

#### Kazuhiko Nagao

Deputy Chief of Carbon Neutrality and Environment Promotion Division

## Contributing to environmental preservation through all our business activities

### Basic philosophy

The Toyoda Gosei Group formulated its 1st Environmental Action Plan in 1993 based on its environmental policy, and since that time has been actively confronting environmental issues. In February 2016, we announced our TG 2050 Environmental Challenge, and have set targets to be reached by 2030 as milestones. We have also formulated a 5-year action plan in which activity items and targets are set and are

carrying out activities to protect the environment.

Globally, we have placed integrated environmental functions in the regions of the Americas, China, ASEAN, and India. The Group is also making efforts as a whole with area control in five global regions, the above four plus Europe/South Africa. These efforts are made in conjunction with government agencies, customers and suppliers.

### Environmental policy

#### 1. Environmentally-friendly corporate activities

We are keenly aware that all stages of our business relate deeply to the environment, from development, production, and sales activities to end-of-life disposal. The Toyoda Gosei Group, including all internal departments, domestic and international affiliates, and suppliers, conducts all business activities with concern for the environment in cooperation and coordination with customers, government authorities, and others.

#### 2. Good corporate citizenship

As a good corporate citizen, we participate in, support, and cooperate with environmental activities by many groups while also working on environmental activities in the community and broader society. We also provide education for all employees to support them in becoming involved in environmental activities as members of the community and society, and support social contributions and volunteerism.

3. While spreading information on these activities, we listen to the opinions of people at all levels of society and work to improve our activities wherever we can.

### TG 2050 Environmental Challenge — A Greener, Richer World for Our Children

The Toyoda Gosei Group specializes in the field of high polymers — rubber and plastics. Our symbol is the benzene ring, a hexagonal hydrocarbon structure that is the starting point for polymers. Borrowing from the six sides of the benzene ring, the TG 2050 Environmental Challenge sets six challenges to strengthen our environmental efforts with a long-term view to the year 2050. As a roadmap to achieve that, we have set targets for 2030 (Targets 50&50) as milestones and formulated a five-year Environmental Action Plan to guide our efforts.

### TG 2050 Environmental Challenge (Six Challenges)

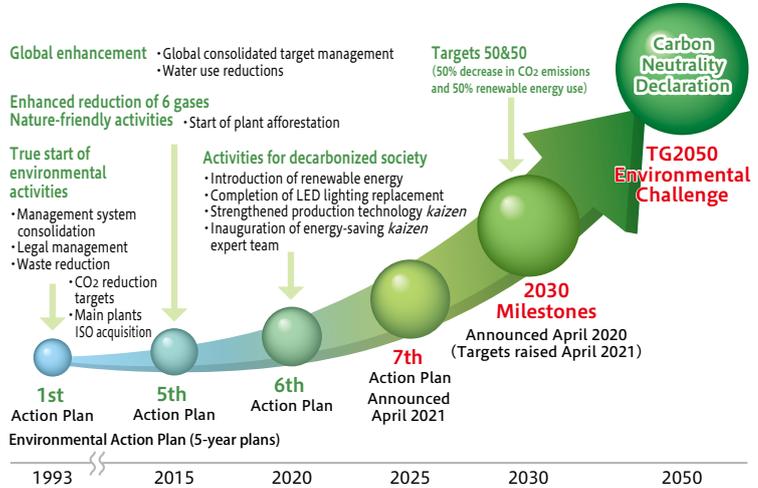




### Support for TCFD recommendations

The Toyoda Gosei Group endorsed the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) in May 2019, and has analyzed risk/opportunity scenarios and response scenarios based on guidelines. Together with an acceleration of efforts, including the TG 2050 Environmental Challenge and review of our 2030 milestones, we are actively disclosing relevant information. Please visit our website to see the results of our scenario analysis.  
<https://www.toyoda-gosei.com/csr/environmental/report11/>

### Medium- and long-term scenario for achieving carbon neutrality [see p. 21]



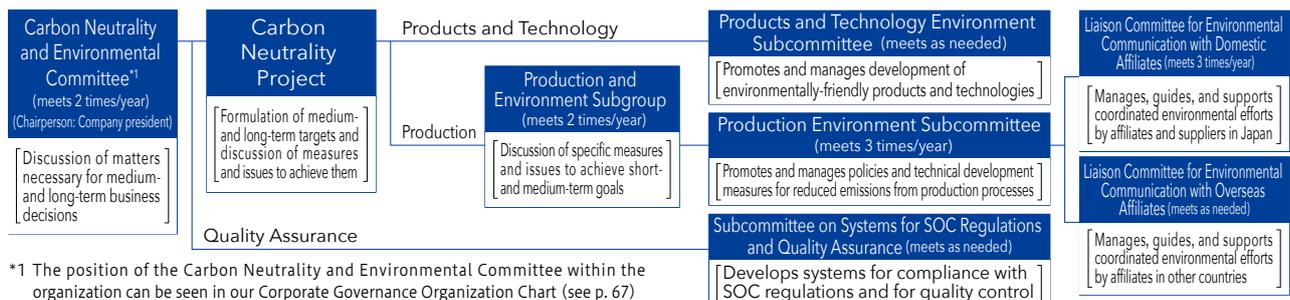
### Environmental organization

Our medium- and long-term policy and key action items are discussed and decided in a Carbon Neutrality and Environmental Committee chaired by the company president. The Carbon Neutrality and Environmental Committee consists of three subcommittees in the areas of products, production, and quality. In the area of production, a production and environment subgroup has been established to strengthen environmental activities over the entire manufacturing process. The above subcommittees are further broken down into working groups that promote and manage areas such as

reductions in energy use, waste products, and volatile organic compound (VOC) emissions, and preservation of the environment. In this way, environmental preservation and management activities are conducted from an expert perspective.

A carbon neutrality project was started in FY2021 to accelerate efforts over the product lifecycle. The project is headed by the president and with outside directors as advisors and the general managers of related divisions as members.

### Environmental organizational structure



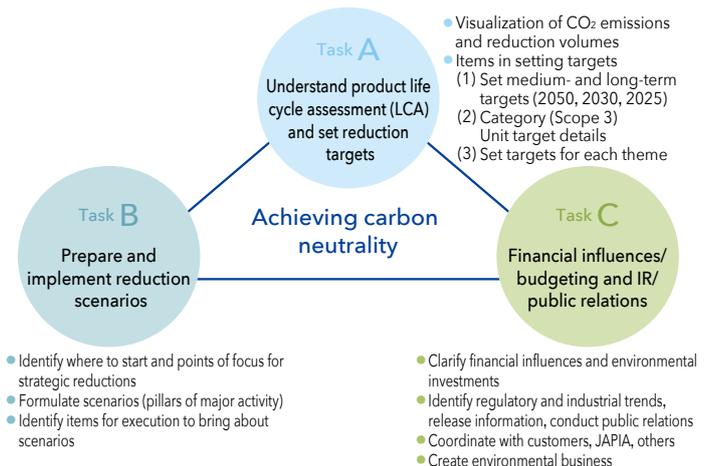
\*1 The position of the Carbon Neutrality and Environmental Committee within the organization can be seen in our Corporate Governance Organization Chart (see p. 67)

Deployment from the Carbon Neutrality and Environmental Committee, the Production and Environment Subgroup, and the respective subcommittees to plants and other operations is done with the establishment of expert committees in accordance with the ISO 14001 system at each plant.

### Carbon Neutrality Project

**Structure** The project is headed by the President and has Chiefs of the Corporate Strategy Headquarters, Research and Development Headquarters, and Automotive Business Headquarters serving as project leaders. The core members are division general managers and above. This structure allows for quick decisions and actions in management issues.

**Activities** Each task is carried out with the relevant division general manager as leader.



## Building a decarbonized society

In addition to lighter weight products that lead to improved vehicle fuel efficiency, we are reducing CO<sub>2</sub> emissions through improved productivity and more efficient distribution.

### Basic philosophy

In addition to achieving the goal set under the Paris Agreement of keeping the rise in the global average temperature to below 2°C compared with pre-Industrial Revolution levels, we must reduce greenhouse gas emissions to virtually zero by the end of this century. With the aim of zero CO<sub>2</sub> emissions as presented in the TG 2050 Environmental Challenge, we are utilizing new production techniques and product development skills with an eye toward next-generation vehicles in addition to the manufacturing skills we have cultivated over time. Plans for execution are included in our

7th Environmental Action Plan with activity targets for FY2025. We have also set the goal of cutting CO<sub>2</sub> emissions 50% (vs FY2013 levels) by 2030, the midpoint for the TG 2050 Environmental Challenge, and implementing stepwise, specific CO<sub>2</sub> reductions. We are also conducting activities to reduce CO<sub>2</sub> emissions over the entire life cycle, with consideration of parts and materials procurement, product development, production, and use up to the disposal stage. In June 2021 we started a company-wide, cross-sectional carbon neutrality project to accelerate these activities.

### Reducing CO<sub>2</sub> emissions

The Toyota Gosei Group is reducing CO<sub>2</sub> emissions in the product stage, production stage, and over the entire lifecycle to achieve the targets set for FY2025.

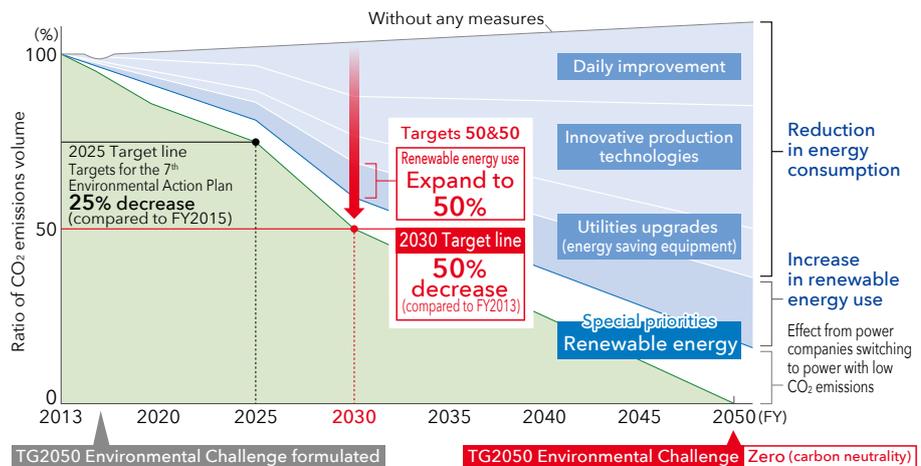
#### •Product development stage: Environmentally-friendly product development

In the product stage, we are making headway in providing parts for environmentally-friendly, next-generation vehicles and developing products with lighter weight for greater fuel efficiency and lower energy consumption across the areas of materials technology, product design, and production technology. Examples include the

development of hydrogen tanks for FCEVs and aggressive efforts to switch materials (e.g., from metal or rubber to plastic) in instrument panel peripherals and other interior products and in functional parts such as hoses, reduce the number of components, integrate functions, and use thinner material while ensuring strength.

#### •Production stage: Reductions with development of new processes, daily kaizen

We have set 2030 milestones for achieving zero plant CO<sub>2</sub> in the TG 2050 Environmental Challenge, and are working to achieve this with regular *kaizen*, production technology innovations, more efficient utilities, and expansion of renewable energy in plants.



#### •Recycling: Reductions in materials and parts procurement, more efficient distribution

Toyota Gosei has prepared and distributed green procurement guidelines for materials and parts procurement with low environmental impact. Together with regular supplier surveys to ensure compliance, we also provide support when improvements are needed.

We have reduced CO<sub>2</sub> emissions with more efficient distribution, including truck allocation with improved payloads and shorter distribution distances and reviews of transport modes.

## Building recycling societies

Toyota Gosei uses resources effectively and contributes to a recycling society by reducing waste volumes\*1 and water usage and designing products that are easily recyclable.

\*1 We are currently attempting to reduce waste volumes for the minimization of industrial waste as set forth in the TG 2050 Environmental Challenge.

### Basic philosophy

To move closer to the recycling society, or circular economy, envisioned in the TG 2050 Environmental Challenge, Toyota Gosei aims to minimize industrial waste and water risks. We have set 2030 targets as milestones, and are making every effort to use resources effectively, reducing materials usage and waste volumes through thorough sorting and the

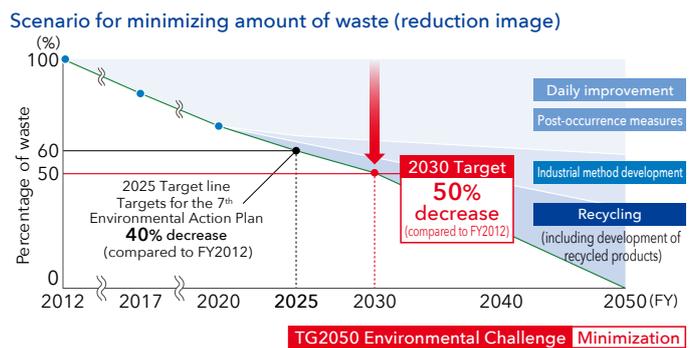
design of easily recyclable products.

Frequent water shortages and floods have become a major problem in all parts of the world. We are attempting to identify these risks in every country and region where we have operations while also striving to give back to the community by reducing water usage, recycling water, and releasing cleaner wastewater.

### Waste reduction

#### • Establishment of 2030 milestones

We have set and are working toward 2030 milestones to achieve the targets in the TG 2050 Environmental Challenge. For this we are developing products and materials that minimize remnants and waste and are easy to recycle, and thoroughly sorting them in plants.



#### • Development of product recycling technology

We develop and design easily recyclable products and materials with thought to the entire lifecycle of automobiles. We are also developing recycling technology for waste material.

#### Development of technology for end-of-life vehicle parts recycling

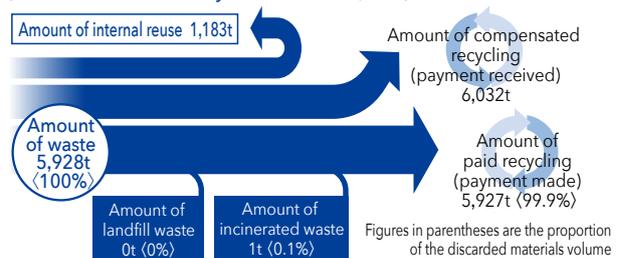
Key items	Measures implemented
New recycling	<ul style="list-style-type: none"> <li>•Composite material separation technology</li> <li>•New recycling technology (high quality material recycling)</li> </ul>
Use of recycled materials in vehicles	<ul style="list-style-type: none"> <li>•End-of-life vehicle recycling technology</li> <li>•Development of applications for recycled materials</li> </ul>
Product design for easy recycling	<ul style="list-style-type: none"> <li>•Product design for easy dismantling</li> <li>•Materials and composition changes for easy recycling</li> </ul>

#### • Reduction of waste materials in the production stage

To reduce waste in production processes, we are combating waste at its source and recycling. We have also started a waste reduction project with coordination among plants and production technology, materials technology, and product design departments to strengthen efforts to combat waste at its source. At each plant, we are reducing waste through *genchi-genbutsu* (go and see), identifying items for reduction with the help of external experts, and implementing rubber, plastic, and liquid reductions.

Study sessions are also held to promote waste reduction at both domestic and international Group companies.

#### Amounts of waste generated and disposed of (results for FY2020: Toyota Gosei Co., Ltd.)



### Reducing water risks

We have set and are working toward 2030 milestones to achieve the targets in the TG 2050 Environmental Challenge. For this we are assessing risks in both water usage and water quality in Japan and international locations, and making improvements at high-risk locations.

Even in places where risks are low, we are trying to reduce water intake amounts for the effective use of resources.

In FY2020, we cut water use through improvements to reduce leakage and by promoting recycling. We are also planning upgrades to wastewater treatment facilities for cleaner waste water.

#### Water use, water use per sales unit (index)\*1



\*1 Water use per sales unit (index) is a figure obtained taking the base year as 100

#### 2030 water usage milestone

	Item	2030 Target
High risk area	Water quality	Measures completed at four locations
	Water intake	Measures completed at seven locations
Low risk area	Water intake per sales unit	11% decrease vs. FY2019

## Environmental preservation and building environmentally-friendly societies

We comply with laws and regulations related to chemical substance control and the environment, and are conducting activities to protect biodiversity.

### Basic philosophy

In addition to strengthening the selection and management of chemical substances to create products and processes that are kind to people and the earth, we are improving environmental management in things such as compliance with laws, regulations and

customer standards in every country where we do business, based on ISO 14001.

We are also maintaining a company woodland, creating biotopes, and working to preserve tidal flats and other areas for biodiversity.



## Protecting soil and groundwater

We carefully monitor and treat soil and groundwater contamination from toxic substances such as trichloroethylene, which was formerly used in cleaning agents. We have established observation wells at each plant, and regularly confirm that there is no soil or groundwater pollution from toxic substances and oils.

### Mottainai check

To eliminate waste of resources, we have performed plant inspections and regular *mottainai* inspections for corrective treatment since 2018.

Since 2021, production engineering departments have also been involved in the inspections, and executives in charge of the environment and leaders of each plant perform the inspections with a focus on

Location	Target	Status of corrective measures
Haruhi Plant	Groundwater	Purification in progress (proactive treatment, as contamination from off-site sources is possible)
Inazawa Plant	Groundwater	Because substances we have no history of using have been detected, regular reports to the government contain results of measurements only * Results below reference values since 2010 (government reports concluded in FY2012)

places where remnants and waste materials generated in production processes are kept. The thoroughness of sorting and *kaizen* for recycling are investigated.



Mottainai inspection / Inazawa Plant

## Environmental management

In coordination with affiliated companies in Japan and other countries, we are continuing employee training and education programs so that every employee can act with awareness of the environment.

### Basic philosophy

We are also making aggressive efforts for education to raise the environmental awareness of employees and train personnel for sustainable environmental activities.

### Enhancing Group-wide environmental management

The entire Toyoda Gosei Group promotes environmental management. Environmental data has been collected by domestic affiliates since FY2001 and by international affiliates since FY2003. Based on these environmental

data (CO<sub>2</sub> emissions, waste, water usage, VOC emissions, and more), we set annual targets and promote reduction activities every year.

#### Plants subject to environmental management

Toyoda Gosei Co., Ltd.			Affiliates in Japan		
<ul style="list-style-type: none"> <li>• Haruhi Plant</li> <li>• Nishimizoguchi Plant</li> <li>• Seto Plant</li> </ul>	<ul style="list-style-type: none"> <li>• Inazawa Plant</li> <li>• Bisai Plant</li> <li>• Morimachi Plant</li> </ul>	<ul style="list-style-type: none"> <li>• Heiwacho Plant</li> <li>• Kanagawa Plant<sup>*1</sup></li> <li>• Inabe Plant<sup>*2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Ichiei Kogyo Co., Ltd.</li> <li>• Toyoda Gosei Hinode Co., Ltd.</li> <li>• Hoshin Gosei Co., Ltd.</li> <li>• Toyoda Gosei Interior Manufacturing Co., Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>• Kaiyo Gomu Co., Ltd.</li> <li>• TG Opseed Co., Ltd.</li> <li>• TGAP Co., Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>• TS Opto Co., Ltd.<sup>*3</sup></li> <li>• TG East Japan Co., Ltd.</li> <li>• Toyoda Gosei Kyushu Co., Ltd.</li> </ul>
Overseas Affiliates					
<b>■ Americas (Regional headquarters: Toyoda Gosei North America Corporation)</b> <ul style="list-style-type: none"> <li>• TG Missouri Corporation</li> <li>• TG Kentucky, LLC</li> <li>• TG Automotive Sealing Kentucky, LLC</li> <li>• TG Fluid Systems USA Corporation</li> <li>• Toyoda Gosei Texas, LLC</li> <li>• Waterville TG Inc.</li> <li>• TG Minto Corporation</li> <li>• TAPEX Mexicana S.A. de C.V.</li> </ul>			<b>■ Asia (Regional headquarters: Toyoda Gosei Asia Co., Ltd.)</b> <ul style="list-style-type: none"> <li>• Toyoda Gosei Automotive Sealing Mexico S.A. de C.V.</li> <li>• GDBR Industria e Comercio de Componentes Quimicos e de Borracha Ltda.</li> <li>• Toyoda Gosei Rubber Mexico, S.A. de C.V.</li> <li>• Pecval Industria Ltda. Toyoda Gosei Irapuato Mexico, S.A. de C.V.</li> <li>• Toyoda Gosei (Thailand) Co., Ltd.</li> <li>• Toyoda Gosei Rubber (Thailand) Co., Ltd.</li> <li>• Toyoda Gosei Haiphong Co., Ltd.</li> <li>• Toyoda Gosei South India Pvt. Ltd.</li> <li>• P. T. Toyoda Gosei Safety Systems Indonesia</li> <li>• Toyoda Gosei Minda India Pvt. Ltd.</li> <li>• Fong Yue Co., Ltd. P.T. Toyoda Gosei Indonesia</li> </ul>		
<b>■ China (Regional headquarters: Toyoda Gosei (China) Investment Co., Ltd.)</b> <ul style="list-style-type: none"> <li>• Tianjin Toyoda Gosei Co., Ltd.</li> <li>• Toyoda Gosei Star Light (Tianjin) Auto Parts Co., Ltd.</li> <li>• Toyoda Gosei (Zhangjiagang) Co., Ltd.</li> <li>• Toyoda Gosei (Foshan) Rubber Parts Co., Ltd.</li> <li>• Toyoda Gosei (Foshan) Auto Parts Co., Ltd.</li> <li>• Toyoda Gosei (Tianjin) Precise Plastic Co., Ltd.</li> <li>• Hubei Toyoda Gosei Zheng Ao Rubber &amp; Plastics Sealing Technology Co., Ltd.</li> </ul>			<b>■ Europe and Africa</b> <ul style="list-style-type: none"> <li>• Toyoda Gosei UK Ltd.</li> <li>• Toyoda Gosei Czech, s.r.o.</li> <li>• Toyoda Gosei South Africa (Pty). Ltd.</li> </ul>		

\*1 The Kanagawa Plant was closed in August 2021. \*2 The Inabe Plant was added from April 2021. \*3 TS Opto will be liquidated from December 2021.  
 • Acquired ISO 14001 certification. When new plants and new companies are established, we aim to acquire ISO 14001 within three years of starting operation.