

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

Global warming, resource depletion due to mass production and disposal, and waste problems have become shared issues worldwide. Under our slogan of "A Greener, Richer World for Our Children," Toyota Gosei is accelerating its efforts by bringing together the entire Group to realize carbon neutrality and a circular economy as soon as possible by maximizing its strengths in rubber and plastic polymer technologies in both production and products.

## Contributing to Environmental Preservation through All Our Business Activities

### Basic Philosophy

The Toyota 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 long-term targets in the TG2050 Environmental Challenge, and have set milestone targets to be reached by 2030. We have also formulated a 5-year action plan in which activity items and targets are set and are carrying out activities to

preserve 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 business activities**

We are keenly aware that all stages of our business relate deeply to the environment, from development, production, and sales to end-of-life disposal. The Toyota 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.

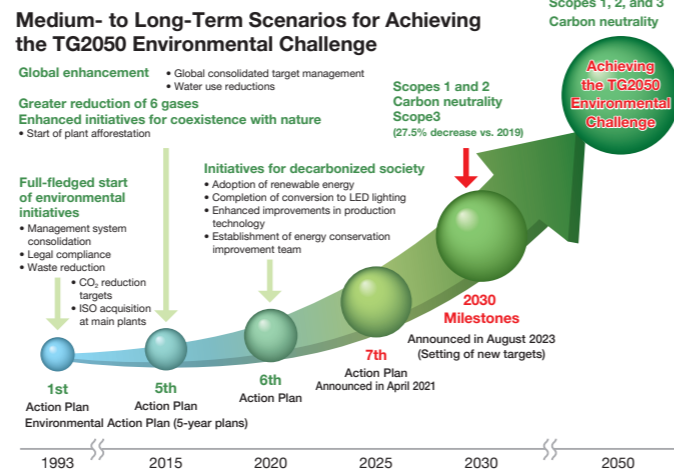
**3. While spreading information on these initiatives, we listen to the opinions of people at all levels of society and work to improve our initiatives wherever we can.**

### TG2050 Environmental Challenge

The Toyota Gosei Group specializes in the field of rubber and plastic polymers. 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 TG2050 Environmental Challenge sets six challenges to strengthen our environmental efforts with a long-term

view to the year 2050. As a roadmap to achieve this goal, in August 2023, we moved up the date from 2050 to 2030 for achieving carbon neutrality (Scopes 1 and 2), which will strengthen our response to climate change issues, and we have also prepared an environmental action plan as a five-year plan to guide our efforts.

### TG2050 Environmental Challenge (6 Challenges)

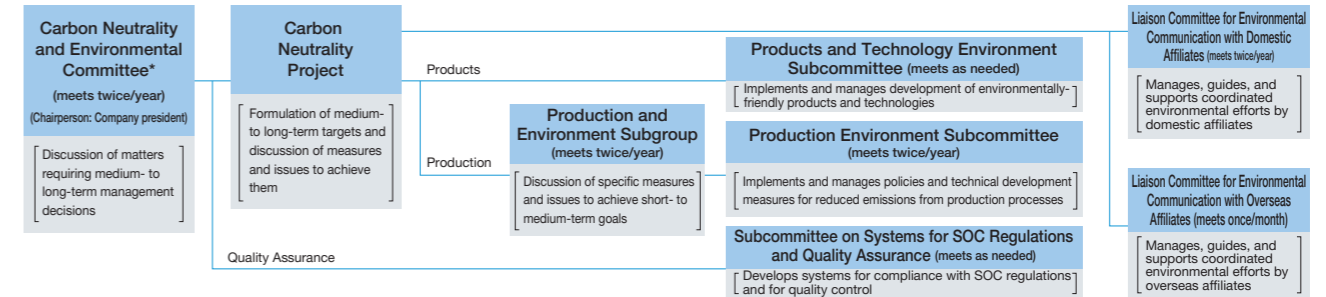


### Environmental Organization

Our medium- to 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 initiatives over the entire manufacturing process. The above subcommittees are further broken down into working groups that implement and manage

areas such as reductions in energy use and waste products, and preservation of the environment. In this way, environmental preservation and management activities are conducted from an expert perspective. Also, liaison meetings have been established as a forum for information sharing with domestic and overseas Group companies. A carbon neutrality project was started in FY2021 to accelerate efforts over the entire product lifecycle. The project is headed by the president with outside directors as advisers and the general managers of related divisions as members.

### Environmental Organizational Structure



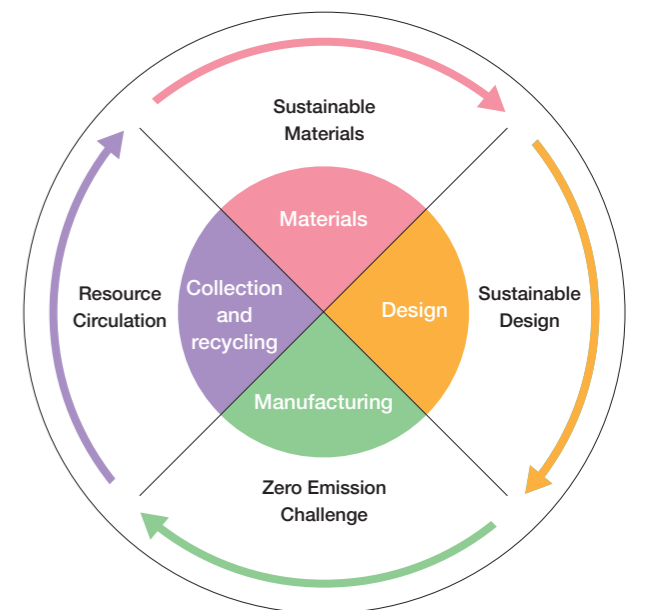
\* The Carbon Neutrality and Environmental Committee is positioned within the organization as shown in the Corporate Governance System Chart (see p. 71), and the deployment of policies from the Carbon Neutrality and Environmental Committee, the Production and Environment Subgroup, and the respective subcommittees to plants and other operations is done by establishing expert committees in accordance with the ISO 14001 system at each plant.

### Strategy on Carbon Neutrality and Circular Economy

We have established a strategy on carbon neutrality and circular economy for the entire product lifecycle and are implementing initiatives for achieving it. We have set Sustainable Materials, Sustainable Design, Zero Emission Challenge, and Resource Circulation as our goals, and have incorporated them into specific content from four perspectives, and in this way, we aim to realize carbon neutrality and a circular economy and link it to viable businesses.

- Materials** We will strive to procure recycled materials for also ensuring stable supply and expand the use of bio-materials.
- Design** We will strive to develop lightweight designs, easily-disassembled designs, compact designs, and other improvements.
- Manufacturing** In addition to day-to-day improvements, we will also study the adoption of innovative processes, such as process downsizing and reduction of heat energy, as well as the use of hydrogen.
- Collection/recycling** We will systematically minimize waste in our plants and build a system to collect parts from the market.

### Strategy on Carbon Neutrality and Circular Economy



## Building a Decarbonized Society

### Basic Philosophy

In order to achieve the Paris Agreement's goal of limiting the global average temperature increase to 1.5°C above pre-industrial levels, greenhouse gas emissions must be reduced to virtually zero by 2050. At Toyota Gosei, we are aiming to achieve the decarbonized society set forth in the TG2050 Environmental Challenge by working throughout our value chain to set targets for CO<sub>2</sub> emissions generated from our own production operations in 2030 (Scopes 1 and 2) and from the procurement of materials and parts (Scope 3).

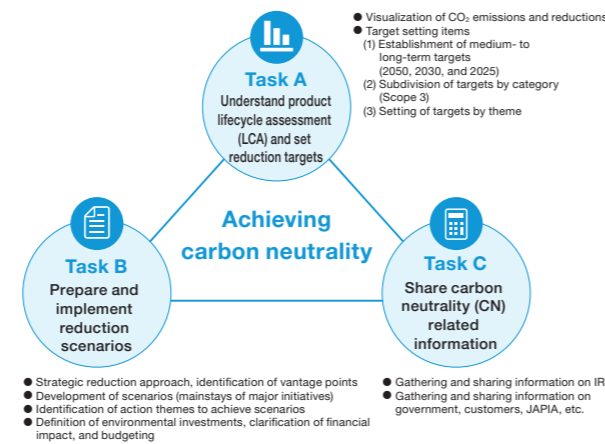
### Carbon Neutrality Project

We are conducting initiatives to reduce CO<sub>2</sub> emissions throughout the entire lifecycle of our products, from procurement of materials and parts to product development, production, use, and disposal.

System	With the president at the top, the project leader is the vice president, and the core members consist of department heads and above. This is a system that enables speedy and immediate managerial decisions and their implementation.
Initiative	Each task is led by the head of the relevant department to carry out the initiative.

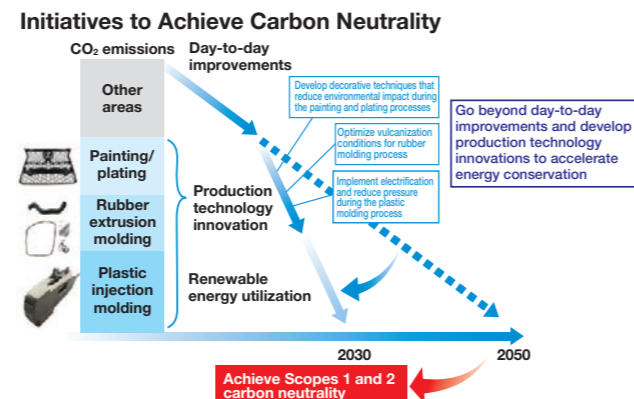
### Endorsement of TCFD Recommendations

In May 2019, we expressed our endorsement of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and conducted a scenario analysis of risks, opportunities, and responses based on the Guide. We are accelerating our efforts across our business activities and proactively disclosing relevant information, including incorporating the results in our 2030 Business Plan and reviewing our TG2050 Environmental Challenge and 2030 milestones.



### Moved up the Timetable for Carbon Neutrality to 2030

Toyota Gosei has established a new target to achieve carbon neutrality for CO<sub>2</sub> emissions (Scopes 1 and 2) generated from its production operations that is 20 years earlier than the previous target by moving it up from 2050 to 2030. This is a significantly shorter time frame for achieving carbon neutrality that reflects our responsibility as a company to contribute to solving climate change risks that are becoming more serious in various parts of the world. We will continue to implement initiatives to become a leading company in the environmental field.



	2030	2050
Scopes 1 and 2	Carbon neutrality	Carbon neutrality
Scope 3	27.5% reduction compared to 2019	Carbon neutrality

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

To achieve our 2030 target, we are reducing CO<sub>2</sub> emissions throughout the entire product lifecycle by improving productivity and efficiency of logistics, in addition to more lightweight designs for products leading to even higher vehicle fuel efficiency.

### Product Development Stage: Environmentally-Friendly Product Development

In the product development stage, we are making headway in providing products for environmentally-friendly, next-generation vehicles and developing products with lighter weight for greater fuel efficiency and lower energy consumption and CO<sub>2</sub> emissions across the areas of materials technology, product design, and production technology. Examples include the development of high-pressure hydrogen tanks for FCEVs and efforts to switch materials (e.g., from metal

or rubber to plastic), reduce the number of components, integrate functions, and use more lightweight designs while ensuring quality for the strength and other properties of instrument panel peripherals and other interior and exterior components and of functional parts such as hoses. We are also actively working with suppliers to develop materials with low CO<sub>2</sub> emissions, such as bio-materials and recycled materials.

### Production Stage: Emission Reduction through Development of New Manufacturing Methods and Day-to-Day Improvements

We have set a 2030 milestone for achieving zero CO<sub>2</sub> emissions at our plants, and are working to achieve this goal through day-to-day improvements at plants, innovations in production technology, higher efficiency

of utilities, expansion of renewable energy, and more. In particular, renewable energy initiatives are underway with the goal of converting all electricity to renewable energy by FY2030.

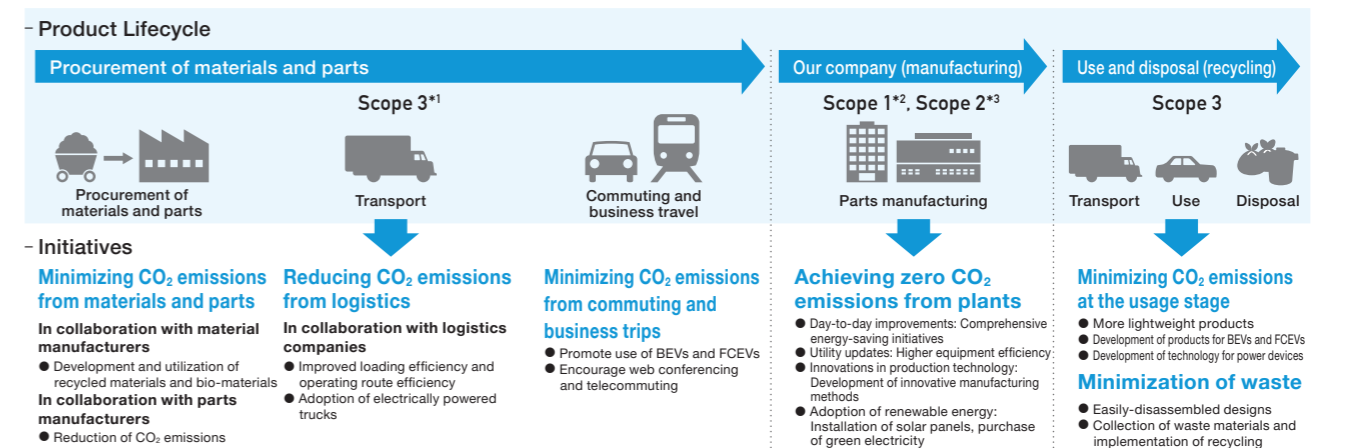
### Logistics Stage: Improving Loading Efficiency

In collaboration with logistics companies, we are reducing CO<sub>2</sub> emissions by improving truck loading capacity and logistics efficiency through the use of AI and other means.

### Materials and Parts Procurement Stage: Emission Reduction through Collaboration with Suppliers

We implement CO<sub>2</sub> reduction by sharing good practices with suppliers through the Energy Saving Dojo and supporting actual data measurements.

### Initiatives to Reduce CO<sub>2</sub> Emissions in the Value Chain — Toward Carbon Neutrality in the Value Chain by 2050 —



<sup>1</sup> GHG emissions in the supply chain indirectly emitted by the company (e.g., raw material production, transportation, business trips, commuting) <sup>2</sup> GHG emissions directly emitted by the company itself (e.g., fossil fuels, natural gas) <sup>3</sup> GHG emissions indirectly emitted by the company (e.g., purchased electricity)

### Reduction of Greenhouse Gas (6 gases)<sup>4</sup> Emissions

Of the six greenhouse gases, Toyota Gosei uses three (HFC, PFC, SF<sub>6</sub>) and is conducting initiatives to reduce all of them. By FY2015, we had completed a switch to alternative gases with a low environmental impact for

the shield gas and other gases used in the production of steering wheel cores. We will continue these reduction initiatives going forward.

<sup>4</sup> Hydrofluorocarbon (HFC), perfluorocarbon (PFC), sulfur hexafluoride (SF<sub>6</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), nitrogen trifluoride (NF<sub>3</sub>)

## Building a Recycling-Oriented Society

### Basic Philosophy

In order to mitigate resource depletion and water risks, we not only take measures for defects and yield, which are the focus of our manufacturing divisions, but also work on emission control and recycling involving material and production technologies in the sourcing divisions for contributing to the attainment of a

recycling-oriented society. For water, we identify risks in each country and region where we conduct business globally while also striving to reduce risks by reducing water usage, recycling water, and returning cleaner wastewater to the community.

### Risks and Opportunities Related to Resource Recycling

We consider risks and opportunities related to resource recycling as important management issues, and we are working on them company-wide as one of our priority issues to be addressed.

Issue	Risks	Opportunities	Response
Resource depletion (shortage)	<ul style="list-style-type: none"> <li>Reduced earnings and production hindered by difficulty in procurement of raw materials and price hikes</li> </ul>	<ul style="list-style-type: none"> <li>Improved earnings through recycling technology and reduced material usage volume</li> <li>Improved corporate value through development of the above-mentioned technologies</li> </ul>	<ul style="list-style-type: none"> <li>Development of more lightweight products</li> <li>Development of recycling technology for raw materials</li> <li>Expanding the use of plant-derived biomaterials and recycled materials</li> </ul>
Water risk (quantity and quality)	<ul style="list-style-type: none"> <li>Production hindered by difficulty in securing water necessary for production</li> <li>Drop in product quality due to deterioration in water quality</li> <li>Production hindered by water damage</li> </ul>	<ul style="list-style-type: none"> <li>Improved earnings through reuse of water and reduced water usage</li> <li>Improved corporate value through development of the above-mentioned technologies</li> </ul>	<ul style="list-style-type: none"> <li>Development of water reuse technology</li> <li>Expanding the use of rainwater</li> <li>Review of production system and installation locations of electrical facilities</li> </ul>

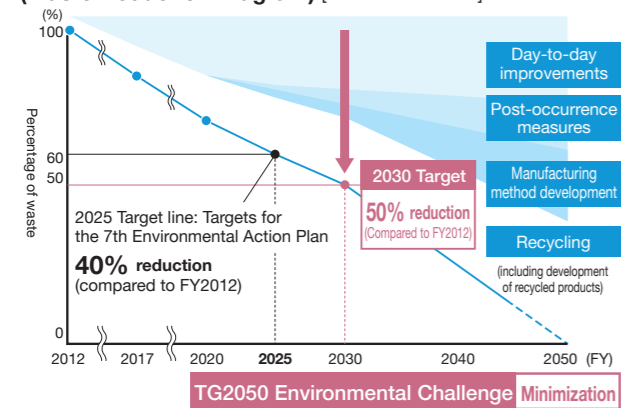
### Waste Reduction Establishment of 2030 Milestones

We are working to effectively use resources such as by curbing emissions, source measures, reducing wastes by recycling rubber and plastic chips, and reducing wastes by thoroughly sorting them.

### Development of Product Recycling Technology

We develop and design easily recyclable products and materials by taking into consideration the entire lifecycle of automobiles. We are also developing recycling technology for waste material.

### Scenario for Minimizing Amount of Waste (Waste Reduction Diagram) [Non-consolidated]



### Technology Development for Recycling ELV\* Parts

Key item	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>ELV parts recycling technology</li> <li>Development of uses for recycled materials</li> </ul>
Design of easily-recyclable products	<ul style="list-style-type: none"> <li>Product design for easy dismantling</li> <li>Materials and composition changes for easy recycling</li> </ul>

\* ELV: End of Life Vehicle

### Reduction of Waste Materials in the Production Stage

Manufacturing Collection/recycling

In 2018, we launched the Waste Reduction Project to implement source measures and recycling initiatives. At each plant, we are conducting inspections for all types of waste to identify items for reducing waste by using the *genchi-genbutsu* system (collecting facts and data at the actual site of the work or problem) to implement waste reductions. We also share examples of waste reduction with both domestic and international Group companies to implement waste reduction throughout the entire Group.

### Reducing Water Risks Establishment of 2030 Milestones

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 locations where risks are low, we are trying to reduce water intake amounts for the effective use of resources. Since FY2021, we have been working to reduce water use by reducing leakage and implementing wider recycling.

### Reduction of Packaging Materials in the Distribution Stage

By washing returnable boxes more frequently and keeping them clean, we are reducing the amount of packaging materials used to prevent products from being soiled. We are also reducing packaging materials by putting lids on returnable boxes and making other changes while maintaining a balance between ensuring product quality and reducing the amount of packaging materials used.

\* Boxes for transporting products

We are also working to systematically upgrade our wastewater treatment facilities to produce even cleaner wastewater.

### 2030 Milestones for Water Risk Reduction [Global]

	Item	FY2030 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

## Building Environmentally-Friendly Societies

### Basic Philosophy

Based on the concept of Nature Positive, we have set coexistence with local communities as one of the materialities (key issues) in our efforts to build nature

### Risks and Opportunities Related to Biodiversity

We conduct initiatives by identifying risks and opportunities related to biodiversity.

Issue	Risks	Opportunities	Response
Reduction of natural capital	<ul style="list-style-type: none"> <li>Reduced earnings and production hindered by difficulty in procurement of raw materials and price hikes</li> <li>Drop in product quality due to deterioration in water quality</li> </ul>	<ul style="list-style-type: none"> <li>Business continuity by securing human resources and raw materials through nature conservation initiatives</li> <li>Sustainable production and enhancement of corporate value by securing good quality water resources through woodlands creation and river conservation</li> </ul>	<ul style="list-style-type: none"> <li>Development of more lightweight products</li> <li>Development of recycling technology for raw materials</li> <li>Expanding the use of plant-derived biomaterials and recycled materials</li> </ul>



Woodlands creation by employees and their families

coexistence initiatives to conserve biodiversity, and are working on woodlands creation, building of biotopes, and conservation initiatives for tidal flats.

### Establishment of Medium- to Long-Term Targets

We have set a "No Net Loss of Greenery" goal of restoring 59 hectares of greenery by 2050, which is equivalent to the area of our plants, and are conducting initiatives to achieve this goal. Specifically, under the slogan "Connecting Activities with Water, the Source of Life," we are conducting initiatives in the areas of mountains, rivers, and oceans.

### Scenario for Attaining Targets

