

# Building Circular Societies

Toyota Gosei uses resources effectively and contributes to circular societies by reducing waste volumes\*<sup>2</sup> and water usage and designing products that are easily recyclable.

\*2 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

As a polymer manufacturer specializing in rubber and plastics, we undertake to do our part for circular societies through the effective use of limited resources.

First, we take measures to prevent defects and improve yields centered on manufacturing floors. In addition, we are seeking ways to limit emissions and recycle materials with the involvement of our material and production engineering divisions, where all of our work starts, and expand resource circulation.

Another major problem relates to water, with water shortages and flooding in many parts of the world caused by climate change. We are therefore identifying risks in all countries and regions of the world where we have operations, and working to mitigate these risks by decreasing water consumption and recycling water, as well as returning cleaner wastewater to surrounding communities.

## Risks and Opportunities Associated with Resource Circulation

The risks and opportunities associated with resource recycling are an important management issue, and we are addressing them company-wide as one of our key action items.

Impact items	Risks	Opportunities	Response
Depletion of resources (shortage)	<ul style="list-style-type: none"> <li>Decreased revenue, production disruptions from difficulty purchasing raw materials and soaring prices</li> </ul>	<ul style="list-style-type: none"> <li>Higher revenue from recycling technology, reduced material usage</li> <li>Higher corporate value from development of the above technologies</li> </ul>	<ul style="list-style-type: none"> <li>Product development for lighter weight</li> <li>Development of raw material recycling technology</li> <li>Greater use of plant-derived biomaterials and recycled materials</li> </ul>
Water risks (volume/quality)	<ul style="list-style-type: none"> <li>Production disruptions from difficulty ensuring water needed in production</li> <li>Poorer product quality from water quality deterioration</li> <li>Production disruptions from water damage</li> </ul>	<ul style="list-style-type: none"> <li>Higher revenue from reuse of water, decreased usage</li> <li>Higher corporate value from development of the above technologies</li> </ul>	<ul style="list-style-type: none"> <li>Development of water reuse technologies</li> <li>Greater use of rainwater</li> <li>Review of production networks, review of electric facility installation sites</li> </ul>

## Waste Reduction

### ■ Establishment of 2030 Milestones

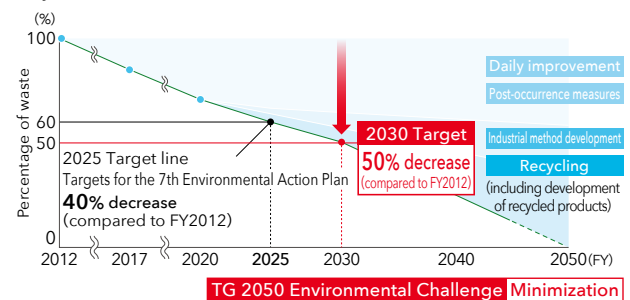
As we move toward the circular societies envisioned in our TG 2050 Environmental Challenge, we aim to minimize emissions volumes and have set targets as 2030 milestones for the effective use of resources, including measures to limit emissions and control their source, recycling of rubber and plastic scrap, and reducing waste through careful and thorough separation.

### ■ Satisfying the Plastic Resource Circulation Act

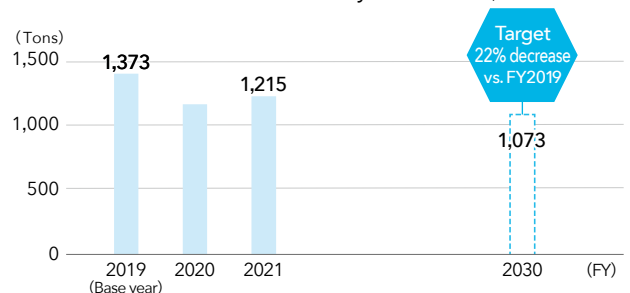
The Plastic Resource Circulation Act went into effect in April 2022, and with a view to our contribution to carbon neutrality, we are committed to designing and manufacturing environmentally friendly 3R + Renewable products.

We have also set new 2030 targets for industrial plastic waste volume and are working for plastic resource circulation.

Scenario for Minimizing Amount of Waste (reduction image) [Toyota Gosei Co., Ltd.]



Plastic Industrial Waste Volume [Toyota Gosei Co., Ltd.]



## Environment

### Development of Product Recycling Technology Materials Design Manufacturing Recovery/recycling

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

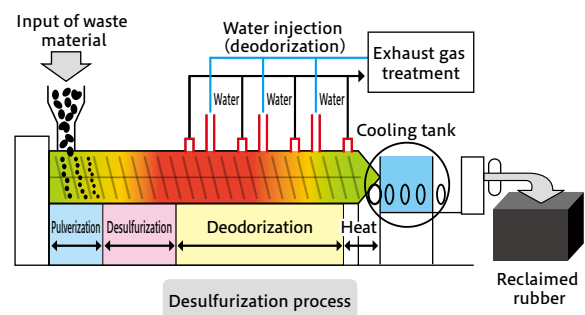
Key items	Measures implemented
New recycling	<ul style="list-style-type: none"> <li>Composite material separation technology</li> <li>New recycling technology (high quality material recycling)</li> </ul>
Use of recycled materials in vehicles	<ul style="list-style-type: none"> <li>End-of-life vehicle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

### Examples

#### Full-Scale Operation of Rubber Recycling Processes to Achieve FY2030 Targets Recovery/recycling

We aim to reduce waste materials by 50% (compared with FY2012 levels) by 2030 on our way to achieving carbon neutrality in 2050. In April 2021, recycling processes for four types of weatherstrips were brought together in a dedicated building. By restoring waste rubber to a raw material state with our original technology and using it in new products, we expect to reduce waste by about 600 tons. This should also have an effect in reducing CO<sub>2</sub> emitted during raw material transport and the incineration of waste. In addition, we hope to contribute to reducing the environmental impacts of the industry overall, by using this recycled rubber not only inhouse but also selling it to other companies.

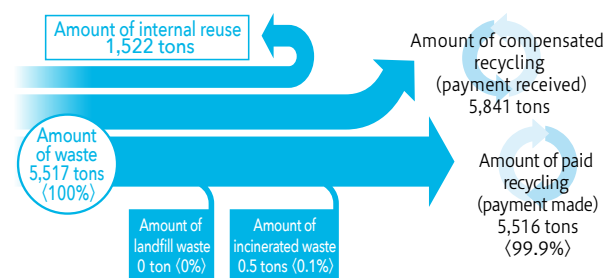
#### Weatherstrip Recycling Process



### Reduction of Waste Materials in the Production Stage Manufacturing Recovery/recycling

To reduce waste in the production stage, we are combating waste at its source and recycling. To minimize waste in the TG 2050 Environmental Challenge, we launched a waste reduction project in 2018 by our plants and production engineering, materials technology, and product design divisions, in which we combat waste at its source and recycle. We also conduct *mottainai* inspections to identify items for reduction with *genchi-genbutsu* (go and see) and other reduction activities at each business location. Good examples of reduction are shared among domestic and international Group companies as the entire Group tries to reduce waste.

#### Amounts of Waste Generated and Disposed of (results for FY2021) [Toyoda Gosei Co., Ltd.]



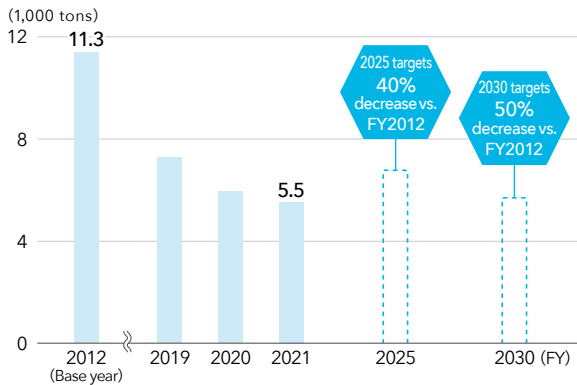
Figures in parentheses are the proportion of the discarded materials volume

### Reduction of Packaging in the Distribution Stage Recovery/recycling

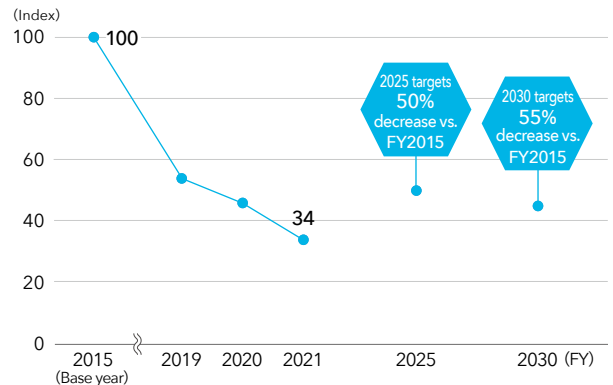
The packing material used in product transport is being reduced to prevent products from being soiled by increasing the number of times reusable containers are used in the field and maintaining cleanliness. We

are also reducing packing material by putting lids on reusable containers and other changes, considering the balance between maintaining product quality and reducing the use of packing materials.

### Amount of Waste [Toyoda Gosei Co., Ltd.]



### Waste Volume per Sales Unit (index)<sup>1</sup> [Overseas Group companies]



\*1 A figure obtained taking the base year as 100

## Reducing Water Risks Manufacturing

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

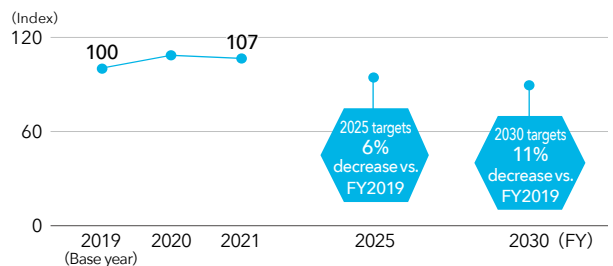
trying to reduce water intake amounts for the effective use of resources.

In FY2021, 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.

### 2030 Reducing Water Risks Milestone [Global]

	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

### Water Intake per Sales Unit (index)<sup>2</sup> [Toyoda Gosei Co., Ltd.]



\*2 A figure obtained taking the base year as 100

## Re-S Eco-Brand Recovery/recycling

As one part of our efforts to reduce waste, we have expanded to products that use remnants generated in the production of automotive parts such as airbags and steering wheels, under the Re-S brand.

Our Re-S brand is widely marketed to the general public, including consumers, and is being promoted through regular pop-up stores at nearby commercial facilities and through our own online store.

In addition, we are actively collaborating with companies in different industries, which we hope will lead to the accumulation of B to C business know-how.

In FY2021, we promoted and launched a project for collaborative products with Doala, the mascot of the Chunichi Dragons professional baseball team, Yamanami Kobo, a facility for people with disabilities, and students of Kinjo Gakuin University.



“Re-S” was coined from the prefix “re-,” as in “reborn” and “recycle,” that is the start of environmentally-friendly activities, and also includes the meaning of sustainability (S).  
<https://res00.base.shop/>



Re-S online shop



Representative product



Airbags & seatbelts



Collaborative product with Kinjo Gakuin University