Risk and opportunity associated with climate change and resource depletion

The risks and opportunities associated with climate change and resource depletion are recognized as an important management issue. From a global perspective based on laws, regulations and trends, we are strengthening our responses to the overall financial and social risks from the effects on economic and production activities of more drastic abnormal weather, changing precipitation patterns, droughts and floods.

	Risk	Opportunity
Climate change	Please visit our website to see the results of our scenario analysis. https://www.toyoda-gosei.com/csr/environmental/report11/	
Resource recycling	Effects of water shortages and floods on production activities	Cost reductions from re-use and decreased use of water
	Cost increases from difficulty in procuring materials, soaring material prices	Cost reductions from recycling technology, use of fewer materials
Management (regulatory compliance)	Loss of trust in the company due to environmental problems, including legal violations, and insufficient efforts to protect the environment	Increase in brand strength from enhanced environmental activities
Biodiversity	・Rising prices for raw materials due to decline in natural resources ・Decreased product quality due deteriorating water quality	・Business continuity by protecting nature to ensure human resources and raw material ・Securing quality water resources with forest maintenance, river conservation

Resource utilization and environmental emissions in business activities

To lessen the amount of energy, material and other resource inputs, and maximum product output, we are utilizing our skills in product development, process development and workplace *kaizen* in efforts to improve through business activities.

The input resources we use include environmentally friendly materials and clean energy.

INPUT

Total material input	39,248t	Rubber (rubber sheets)	13,335t
Plastic	25,913t	Excluding purchased parts, metal and liquid	
Total energy input	2,261,000GJ*1	Heavy oil	5,000GJ
Purchased electricity	1,470,000GJ	Kerosene	0GJ
Renewable energy	19,000GJ	LNG	110,000GJ
City gas	650,000GJ	Gasoline	1,000GJ
LPG	1,000GJ		
Water resource input	1,140,000㎥	Clean water	189,000㎥
Industrial water	641,000㎥	Underground water	311,000㎥
PRTR*2 substances usage	525t		

Business activities →

OUTPUT

Products			
Emitted into the atmosphere		NOx*4	92t
CO_2	93,000t-CO_2	Dust	0t
6 gases	2,000t-CO_2	Volume of substances subject to PRTR	77t
SOx*3	0t	VOC*5 emissions	230t
Waste discharge		Industrial waste and general waste	5,927t
Landfill waste	0t	For-profit disposal by sale	6,032t
Incinerated waste	1t	Volume of substances subject to PRTR	41t
Wastewater		Nitrogen emissions*6	8.8t
Total wastewater	870,000㎥	Phosphorus emissions*6	0.6t
Volume of substances subject to PRTR	0.1t	COD emissions*6	4.3t

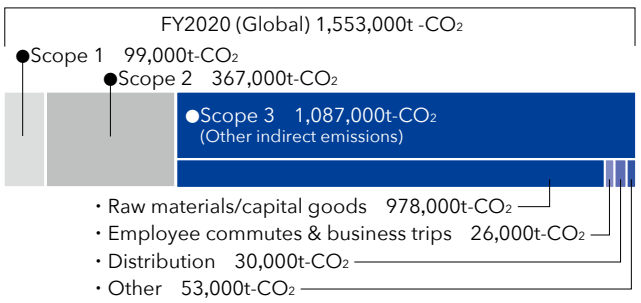
*1 Gigajoule (1,000,000,000 joules)
*2 Pollutant Release and Transfer Register
*3 Sulfur oxide
*4 Nitrogen oxide
*5 Volatile organic compounds
*6 Subject operations: 4 plants of Haruhi, Inazawa, Heiwacho and Seto, Kitajima Technical Center, Miwa Technical Center and Sun-Court Inoguchi

Environmental impact in the value chain

From the perspective of preserving the earth, we have surveyed and disclosed not only GHG emissions (Scope 1*7, Scope 2*8) in our business activities but also emissions in our entire value chain including excavation of raw materials and product use and disposal (Scope 3*9). Our Carbon Neutrality Project was inaugurated in FY2021 to improve accuracy of Scope 3. Together with this, we have established milestones and created scenarios for carbon neutrality.

*7 Greenhouse gas emissions emitted directly by the company itself (natural gas and other fossil fuels, etc.)
*8 Indirectly emitted greenhouse gases (electricity, etc.)
*9 Greenhouse gases emitted in the supply chain that are indirectly emitted by the company (manufacturing, transport, business travel, commuting, etc.)

CO_2 emissions by scope level



Environmental action plan

Sixth environmental action plan activities and results (FY2016–FY2020)

Our efforts to achieve a sustainable society have been focused in four areas: "Building a decarbonized society," "Building a recycling society," "Building an environmental preservation and nature-friendly society," and "Environmental management."

As a result of the collective efforts of the entire Toyoda Gosei Group, we have achieved our targets for all of key items (CO_2, waste, water).

Results for key items

Building a decarbonized society

● CO_2 emissions/percentage of renewable energy

	Item	2020 target	FY2020 results		Rating
Global, consolidated	CO_2 emissions per sales unit	12% decrease vs. 2012	77[1]	23% decrease vs. 2012	○
Japan, consolidated		15% decrease vs. 2012	65[1]	35% decrease vs. 2012	○
Toyoda Gosei Co., Ltd.		17% decrease vs. 2012	80[1]	20% decrease vs. 2012	○
	CO_2 emissions	17% decrease vs. 2012	93,000t–CO_2	40% decrease vs. 2012	○
Global, consolidated	Renewable energy rate (Percentage of renewable energy among electricity consumed)	More than 2%	15,459KW	4%	○

Building Recycling Societies

● Discharged waste volume

	Item	2020 target	FY2020 results		Rating
Japan, consolidated	Waste volume per sales unit	10% decrease vs. 2012	61[1]	39% decrease vs. 2012	○
Toyoda Gosei Co., Ltd.		12% decrease vs. 2012	61[1]	39% decrease vs. 2012	○
Overseas affiliates		6% decrease vs. 2013	38[1]	62% decrease vs. 2013	○

● Water usage

	Item	2020 target	FY2020 results		Rating
Japan, consolidated	Water used per sales unit	8% decrease vs. 2012	57[1]	43% decrease vs. 2012	○
Toyoda Gosei Co., Ltd.			82[1]	18% decrease vs. 2012	○
Overseas affiliates			55[1]	45% decrease vs. 2012	○

[1] Figure when the reference value is taken as 100.

Please see our website for details. https://www.toyoda-gosei.com/csr/environmental/report2/

Seventh environmental action plan (FY2021–FY2025)

An environmental action plan was formulated for FY2025.

Targets for key items

Building a decarbonized society

● CO_2 emissions/percentage of renewable energy

	Item	2025 targets	(Reference) 2030 targets	TG 2050 Environmental Challenge
Global, consolidated	CO_2 emissions	25% decrease vs. 2015	50% decrease vs. 2013	Carbon neutrality
	Renewable energy percentage	12%	20%	100%
Toyoda Gosei Co., Ltd.	CO_2 emissions	25% decrease vs. 2015	50% decrease vs. 2013	Carbon neutrality
	Renewable energy percentage	20%	50%	100%

Building Recycling Societies

● Discharged waste volume

	Item	2025 targets	(Reference) 2030 targets	TG 2050 Environmental Challenge
Toyoda Gosei Co., Ltd.	Waste volume	40% decrease vs. 2012	50% decrease vs. 2012	Minimization
Overseas affiliates	Waste volume per sales unit	50% decrease vs. 2015	55% decrease vs. 2015	

● Water usage

	Item	2025 targets	(Reference) 2030 targets	TG 2050 Environmental Challenge
High risk area	Water quality	Measures completed at two locations	Measures completed at four locations	Minimization of water risks
	Water intake	Measures completed at three locations	Measures completed at seven locations	
Low risk area	Water intake per sales unit	6% decrease vs. FY2019	11% decrease vs. FY2019	

Building environmentally-friendly societies

● Living with the environment

	Item	2025 targets	(Reference) 2030 targets	TG 2050 Environmental Challenge
Global, consolidated	No. of activities	Implementation of nature activities (>1 time/year)		
Toyoda Gosei Co., Ltd.	Area of green restoration	+18% restoration compared with 2019	+35% restoration compared with 2019	100% restoration

Please see our website for details. https://www.toyoda-gosei.com/csr/environmental/report2/

Building a decarbonized society

In addition to lighter weight products that lead to improved vehicle fuel efficiency, we are reducing CO_2 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_2 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_2 emissions 50% (vs FY2013 levels) by 2030, the midpoint for the TG 2050 Environmental Challenge, and implementing stepwise, specific CO_2 reductions. We are also conducting activities to reduce CO_2 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_2 emissions

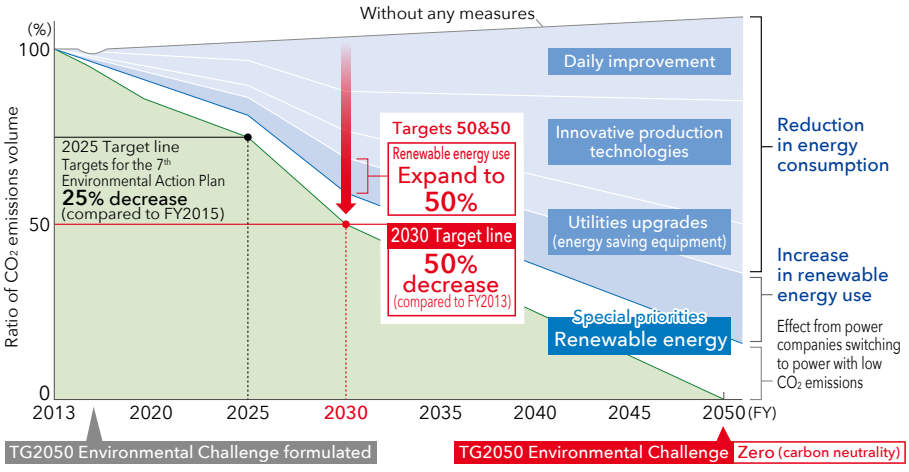
The Toyoda Gosei Group is reducing CO_2 emissions in the product stage, production stage, and over the entire lifecycle to achieve the targets set for FY2025.

• 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_2 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

Toyoda 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.

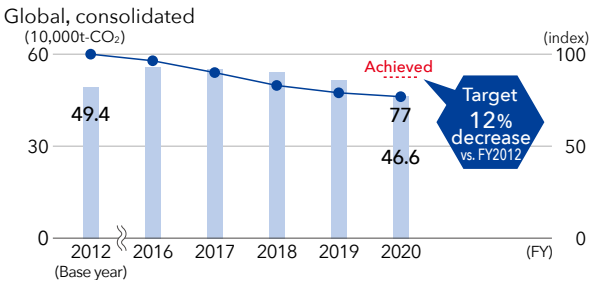
We have reduced CO_2 emissions with more efficient distribution, including truck allocation with improved payloads and shorter distribution distances and reviews of transport modes.

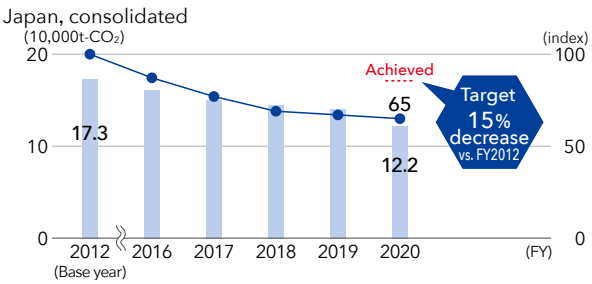
•Renewable energy

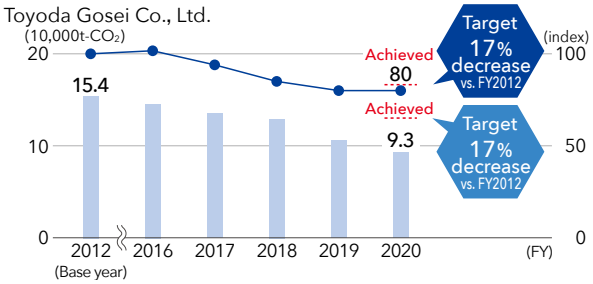
We are expanding renewable energy, including the installation of clean solar and wind energy generation equipment and the purchase of green power. This reached 4% of our total global electricity consumption by the end of FY2020, more than meeting our target of 2%. Our next challenge is to raise clean energy levels to at least 20% globally by FY2030.

CO_2 emissions, CO_2 emissions per sales unit (index) *1

CO_2 emissions — CO_2 emissions per sales unit

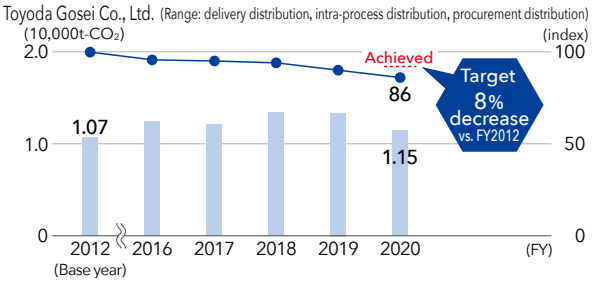






CO_2 emissions in distribution, CO_2 emissions per sales unit (index)*1

CO_2 emissions in distribution — CO_2 emissions per sales unit

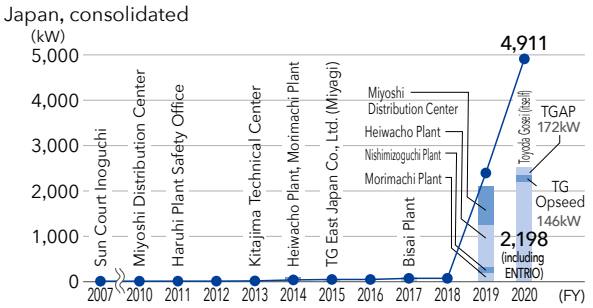


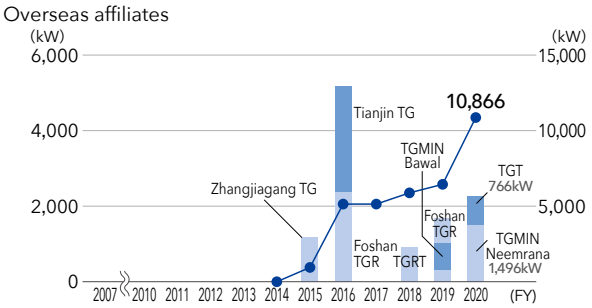
*1 Emissions per sales unit (index) is a figure obtained taking FY2012 as 100
[CO_2 conversion factor]
The CO_2 conversion factors used for Japan*2 are the 1990 Keidanren factors. The CO_2 conversion factors used for other countries are from the GHG Protocol (2001).

*2 Electricity: 0.3707t-CO_2/MWh, class A fuel oil: 2.69577t-CO_2/kL, LPG: 3.00397t-CO_2/t, Town gas: 2.15701t-CO_2/1,000 Nm³, Kerosene: 2.53155 t-CO_2/ kL, LNG: 2.68682t-CO_2/t, Gasoline: 2.36063t-CO_2/kL (excluding external factors of gas companies' town gas heat conversion)

Solar power generation graph (does not include stand-alone systems such as outside lights with solar panels)

Generation capacity (kW) — Total generation capacity (kW)





Reductions in 6 greenhouse gases*3

Of the six greenhouse gases, Toyoda Gosei Co., Ltd. uses three (HFC, PFC, SF6) and is conducting activities to reduce all of them. By FY2015 we had completed a switch to alternative gases with a low environmental impact for the shield gas used in the production of steering wheel cores and other gases. This has resulted in a 74% decrease in greenhouse gases since FY2012. We will continue these reduction activities in the future.

*3 Hydrofluorocarbon (HFC), perfluorocarbon (PFC), sulfur hexafluoride (SF_6), methane (CH_4), nitrous oxide (N_2O), nitrogen trifluoride (NF_3)

Trend in greenhouse gas (6 gases) emissions (CO_2 equivalents)

CO_2 emissions