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