Response to Climate Change
(Disclosures in Line with the TCFD Recommendations)

Initiatives to combat climate change through our products and businesses

Period	Initiatives	Description
1970s	Started operating a DeNOx catalyst factory	Contributed to rendering harmless nitrogen oxides, which could cause photochemical smog and acid rain
1990s	Started operating an electronic material factory	Contributed to energy conservation by enhancing the efficiency of electronic parts
	Started operating a cosmetic material factory	Contributed to protecting human skins from increasing UV rays
2000s	Joined the Japan Responsible Care Council	
	Formulated a Basic Environmental Policy	Obtained ISO 14001 certification for the Otsurugi Factory
	Switched from crude oil to LNG	Made the fuel switch at the Sakai Manufacturing Site
2010s	Switched from crude oil to LNG	Made the fuel switch at the Onahama Manufacturing Site
	Developed substitute products for microplastic beads (MPB)	Developed the Sciqas™ series (spherical silica), LPZINC-S (large-particle spherical zinc oxide), Calmaru™ (spherical calcium carbonate), and Barimaru™ (spherical barium sulfate)
2020s	Formulated a Basic Procurement Policy Joined the Carbon Neutral LNG Buyers Alliance	

1 Governance

In response to environmental changes that can pose risks to our corporate management, including climate change, we assess the levels of risks and opportunities, discuss appropriate countermeasures, and decide to implement such countermeasures under the oversight of the Board of Directors.

To mitigate impacts on environmental issues, including climate change, and contribute to solutions to social issues, the Sustainability Committee, chaired by the Representative Director, meets at least twice a year to deliberate on targets and strategies related to climate change while taking into consideration our business strategies to manage the progress of our initiatives.

2 Strategy

1 2°C scenario: Low-carbon, decarbonization, and carbon-recycling technologies will be used widely, and demand for sustainable products will grow.

Type	Environmental Changes	Expected Situation	Major Countermeasures
Transition Risks	CO_2 emissions regulations	Growing need for fuel decarbonization Cost increase due to a switch to low-carbon emissions materials and processes	• Using LNG combined with carbon credits • Further enhancing the efficiency of energy use • Introducing renewable energy more widely • Introducing carbon-recycling technology more widely • Reconsidering the business portfolio and manufacturing processes with a view to reducing environmentally harmful emissions from the manufacturing processes
	Switch to low-carbon emissions products	Decline in demand for fossil fuel and petrochemical products (such as plastic products)	
	Changes in customer behavior	Increase in demand for low-carbon emissions products within the supply chain	
Business Opportunities	Increased demand for products that help mitigate climate change	Growing demand for carbon recycling, carbon-free fuel, carbon-absorbent products, and products related to power generation and storage	• Developing decarbonization products (fuel cell materials, secondary battery materials, materials for water electrolyzers, carbon-absorbent materials, carbon recycling catalysts, and synthetic ammonia catalysts) • Enhancing the functions of electronic and energy materials (small-size, minute-particles [for higher durability] materials with uniform granularity distribution)
	Development of next-generation technologies	Electrification of mobility Use of hydrogen and ammonia as energy sources	

2 4°C scenario: Low-carbon, decarbonization, and carbon-recycling technologies will not advance, thereby heightening the physical risks of the greater severity of extreme weather events and a rise in average temperatures.

Type	Environmental Changes	Expected Situation	Major Countermeasures
Physical Risks	Greater severity of extreme weather events	Heavier wind and flood damage to our production bases Droughts and health damage in the summer, which can lead to suspension of production activities, delayed or disrupted logistics, and consequently massive damage to corporate activities in general	• Formulating a business continuity plan (BCP) for each production base in line with the scenario • Considering optimal locations for production and diversifying raw material suppliers • Enhancing measures to reduce health damage (such as heatstroke) • Introducing unmanned operations by accelerating robotization and automation
	Rise in average temperatures	Increase in the cost of countermeasures against heatstroke and air-conditioning Decline in labor productivity in the event of a lack of appropriate countermeasures	
Business Opportunities	Growing demand for products that help adapt to climate change	Increased demand for healthcare products Increased demand for heat-insulating and heat-barrier products Wider spread of remote work Increased demand for antibacterial and antiviral materials	• Boosting sales of skincare products, including sunscreen • Developing heat-insulating and heat-barrier materials • Boosting sales of antibacterial and antiviral materials • Boosting sales of 5G- and 6G-compatible products • Developing materials related to wastewater and water purification
	Diversification of raw material suppliers	Greater opportunity of replacement demand due to BCP measures	

3 Risk Management

Sakai Chemical has identified issues of ESG materiality and manages risks through Group-wide materiality management. We recognize responses to climate change as an extremely important issue from both our stakeholders' and our own perspectives, and the Sustainability Committee deliberates on them. We take the initiative in climate-related risk management, which we believe is a fundamental requirement for the existence and activities of our Group.

4 Metrics and Targets

Sakai Chemical has set a long-term CO_2 emissions reduction target with a view to achieving carbon neutrality by 2050. To achieve the target, we use the CO_2 emissions reduction rate as a KPI and implement short-, medium- and long-term reduction measures, including promoting energy-saving activities and introducing renewable energy sources.

Vision for Sakai Chemical's transition to carbon neutrality

We tackle the challenge of achieving carbon neutrality by 2050 by accelerating decarbonization in line with progress in innovation.