

Climate Change (response to TCFD recommendations)

We support the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). In addition to developing products that contribute to reducing CO₂ emissions, we have worked to reduce CO₂ emissions from our business sites. We will actively work to reduce CO₂ emissions across the supply chain toward our target set out in the Sustainability Action Plan of “50% reduction of CO₂ emissions by 2030 (compared to the FY2013 level) and net zero by 2050.”

Governance

The Sanyo Chemical Group has established the Sustainable Management Committee, chaired by the President and CEO, under the supervision of the Board of Directors. The Committee deliberates on sustainability issues, including carbon neutrality and responses to the TCFD recommendations, as well as collaboration with stakeholders, and checks their progress. It also makes proposals and reports to the Board of Directors as appropriate. The CSR Promotion Management Committee formulates and implements specific measures to reduce CO₂ emissions. The Committee builds systems and mechanisms and reports the status of its CSR activities to the Sustainable Management Committee.

Scenario concept

1.5°C scenario A scenario where CO₂ emissions are strongly curbed to limit the temperature rise to +1.5°C

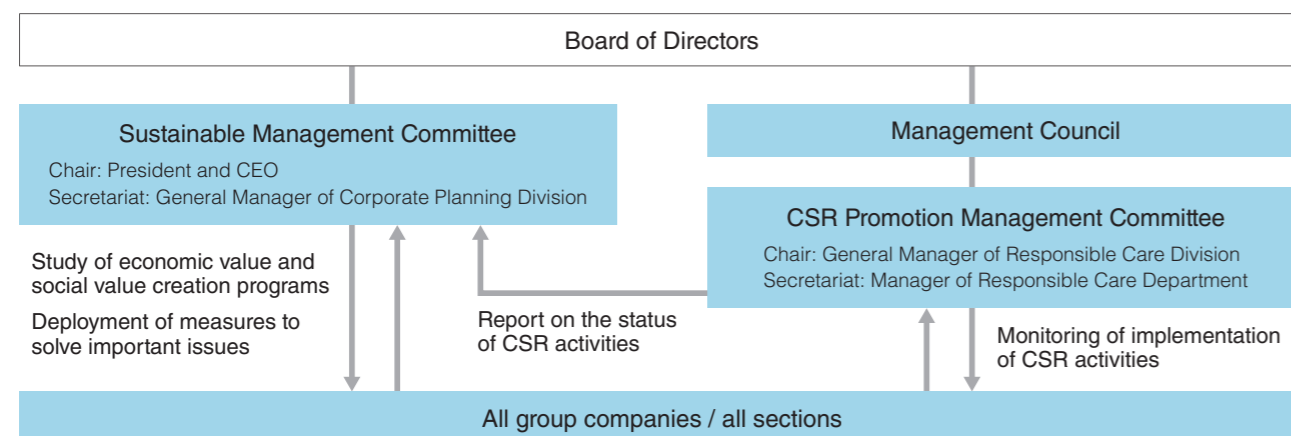
(Reference) International Energy Agency's long-term outlook: "Net Zero Emissions by 2050"
(Note) Strengthening of regulations and major changes in society and markets are considered the main transition risks.

4°C scenario A scenario in which climate change progresses to the point where the global average temperature rises by 4°C by the end of the 21st century compared to pre-industrial times

(Reference) Intergovernmental Panel on Climate Change's Sixth Assessment Report (IPCC AR6) "SSP3-7.0"

World anticipated in the 1.5°C scenario	<p>Top priority placed on the realization of a decarbonized society, and implementation of an ambitious climate change policy</p> <ul style="list-style-type: none"> ● Significant increase in the carbon tax rate ● Prohibition of internal combustion engine (ICE) sales, shift to electric vehicles (EVs), and decarbonization of energy and raw materials ● Mainstreaming of renewable energy ● Reduction of consumption of chemicals through recycling ● Manufacture of chemicals from biomass and CO₂-derived raw materials ● Increasingly severe natural disasters ● Realization of carbon neutrality (2050)
World anticipated in the 4°C scenario	<p>A slow decarbonization transition with priority placed on economic activities, and implementation of climate change policies only in the current situation</p> <ul style="list-style-type: none"> ● Increase in demand for fossil energy and raw materials ● Increasingly serious natural disasters due to abnormal weather ● Significant increase in CO₂ emissions

System and roles to promote response to TCFD recommendations



Strategy

In formulating the strategy, risk management approach, metrics, and targets for climate change, the Group conducted scenario analysis in line with the TCFD recommendations to select business risks and opportunities and assess their materiality. In FY2023, in addition to the 1.5°C scenario, in which a transition to a decarbonized society is realized, a qualitative analysis was conducted for the 4°C scenario, in which climate change advances with no progress in global decarbonization. The results were then discussed and determined by the Sustainable Management Committee.

Measures to address major risks and opportunities related to climate change

Classification	Scenario	Climate change risk item	Impact of climate change risks on the Sanyo Chemical Group	Impact assessment	Countermeasure
Risk	1.5°C	Introduction / raising of carbon tax	Increase in energy procurement costs	High	● Reduction of GHG emissions by introducing cogeneration and solar power generation
		Reduction of CO ₂ emissions	Decrease in demand for our products with high GHG emissions	High	● Reduction of GHG emissions during manufacture through energy management
		Replacement with low-carbon products	Reduction of sales opportunities for our products that do not use biomass raw materials	High	● Expansion of sales of PPG, a surfactant made from biomass raw materials
		Recycling regulations	Decrease in demand for our products that do not use recycled raw materials	Intermediate	● Development of products using recycled raw materials
	4°C	Changes in consumer behavior	Decrease in sales of gasoline-fueled and hybrid vehicles	High	● Increase in sales of lubricant additives that contribute to higher fuel efficiency of gasoline-fueled and hybrid vehicles
Opportunity	1.5°C	Natural disasters (typhoons, heavy rain, drought, etc.)	Supply chain disruptions Damage to company facilities	High	● Establishment of a BCP system (storm water measures, disaster prevention measures for buildings and facilities, efficient water use, multiple procurement of raw materials, etc.)
		Introduction / raising of carbon tax	Spread of CCUS Increase in demand for our products that contribute to reducing GHG emissions	High	● Development of CCU-related products ● Development of cutting-edge semiconductor-related products that contribute to energy conservation
	Reduction of CO ₂ emissions	Expansion of the market for products that contribute to reducing GHG emissions	High	● Expansion of sales of carbon fiber convergents for blades for wind power generation	
	Replacement with low-carbon products	Market expansion of products made from bio-based raw materials	High	● Expansion of business of bioethanol processing chemicals	
	4°C	Recycling regulations	Increase in demand for recyclable products	Intermediate	● Product development using recycled materials (In the fields of imaging chemicals, polyurethane chemicals, resin dispersants, etc.)
	Changes in consumer behavior	Reduction of weight of batteries in line with the higher mileage of vehicles Increase in sales of electric vehicles	Intermediate	● Development of organic cathodes for organic cathode secondary batteries that contribute to weight reduction ● Increase in sales of electrolytes in line with the electrification of vehicles ● Development of permanent antistatic agents for IC trays due to growing demand for semiconductors	
	Natural disasters (typhoons, heavy rain, etc.) Rising average temperatures	Increase in demand for paint binders due to growing demand for heat insulating paints Expansion of the market for agricultural products that are resistant to environmental changes Increase in demand for water quality improvement as a measure against water quality deterioration	Intermediate Intermediate Intermediate	● Development of binders for heat insulating paint ● Development of products with a biostimulant function that contribute to improving agricultural productivity ● Development of water quality improvers	

(Note) The impact assessment is based on the estimated monetary value, and is classified as high, intermediate, or low depending on the magnitude of the impact.

Risk management

We anticipate tighter regulations due to policies such as carbon pricing toward decarbonization, and a demand shift to materials suitable for decarbonization as the main climate change risks of the Group. We also need to consider the accelerated transition to a circular economy and the progress of innovative technologies toward a decarbonized society.

For opportunities, we contribute to the reduction of CO₂ emissions by actively promoting sustainable management, including a fundamental review of our business portfolio.

Metrics and targets

Scope 1*1 and Scope 2*2: CO₂ emissions from business sites

Our Group has promoted efforts to achieve its targets of “reducing CO₂ emissions by 50% by FY2030 (compared to the FY2013 level)” and “achieving net zero CO₂ emissions

by 2050.” By withdrawing from the SAP business in FY2023, we expect to achieve our FY2030 target ahead of schedule.

*1 Scope 1: direct emissions from factories, such as fuel use in the manufacturing process
*2 Scope 2: indirect emissions from the purchase of electricity and heat

Target of CO₂ emissions reduction (Scope 1, Scope 2)

