

Considering that response to climate change is an important management issue, we showed support for the recommendations by the Task Force on Climate-related Financial Disclosures (TCFD) in December 2021. As a chemical manufacturer, the Sanyo Chemical Group uses fossil fuels in its manufacturing processes for various products and emits CO₂. For this reason, it focuses on reducing CO₂ emissions from business sites, and aims to achieve carbon neutrality by developing and spreading the use of products that contribute to energy conservation and CO₂ emissions reduction.

Governance

Since FY2021, the Sustainable Management Committee (chairperson: President and CEO) has been in place to study appropriate response to issues that may pose management risks, including climate change, and to make decisions under the supervisory system of the Board of Directors. The committee discusses the response to TCFD recommendations and reports important matters to the Board of Directors.

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 CSR activities, which are conducted under the initiative of the committee, to the Sustainable Management Committee.

Strategy

The Group conducts scenario analysis as the first step toward formulating the strategy, risk management, metrics, and targets for climate change. We selected business risks and opportunities in the 1.5°C scenario, which aims to achieve a shift toward a decarbonized society, assessed their importance, and compiled their impact on the Group. The scope of analysis was the business of the Company and SDP Global Co., Ltd. The assessment results were discussed by the Sustainable Management Committee and reported to the Board of Directors. The

scope of analysis will be expanded to the Group companies, and the 4°C scenario will be assessed to formulate measures.

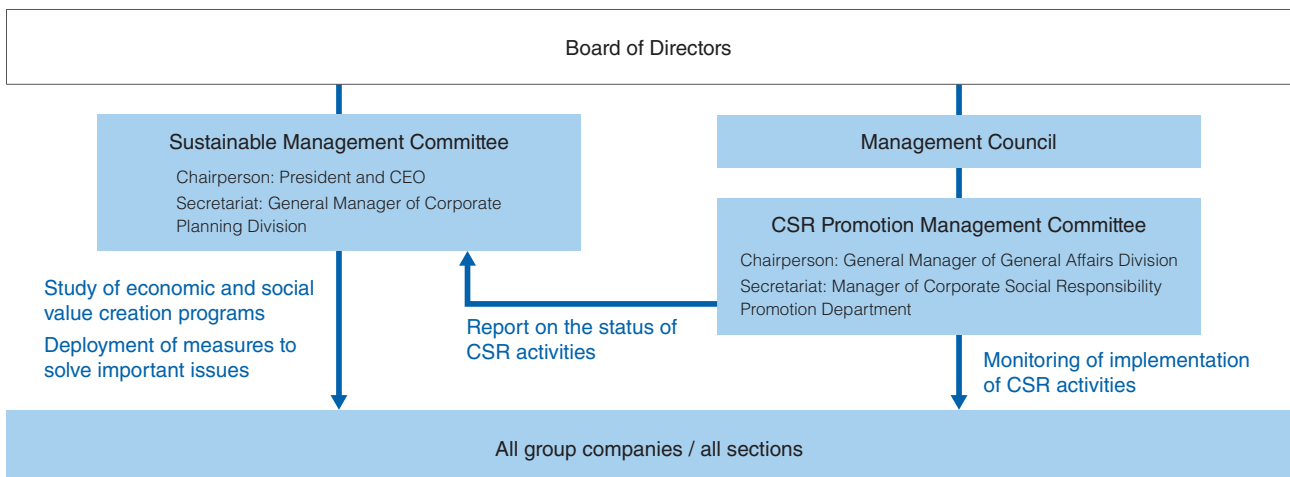
World anticipated in the 1.5°C scenario

- Top priority placed on the realization of a decarbonized society, and implementation of an ambitious climate change policy
- 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 in consumption of chemicals through recycling
- Manufacture of chemicals from biomass and CO₂-derived raw materials
- Exacerbation of natural disasters
- Realization of carbon neutrality (2050)

Risk management

We anticipate tighter regulations due to policies, including carbon pricing toward decarbonization, and a shift in demand for materials suitable for decarbonization as the main climate change risks of the Group. We also study the risks of the accelerated shift toward a circular economy, and the emergence of innovative technologies toward a decarbonized society. As countermeasures, we will study the possibility of carbon dioxide capture and utilization (CCU) and energy shift to hydrogen, etc.,

► System and roles to promote response to TCFD recommendations



► Climate change risk assessment

Climate change risk item	Impact of climate change risks ● Risk ○ Opportunity	Impact assessment	Countermeasure
Introduction / raising of carbon tax	<ul style="list-style-type: none"> ● Increase in energy procurement costs ○ Spread of CCUS 	High	<ul style="list-style-type: none"> ● Reduction of GHG emissions by introducing cogeneration and solar power generation ○ Establishment of a CCU system using our ionic liquids
Reduction of CO ₂ emissions	<ul style="list-style-type: none"> ● Tightening of GHG emission regulations ○ Expansion of the market for products that contribute to reducing GHG emissions 	High	<ul style="list-style-type: none"> ● Reduction of GHG emissions during the manufacture of SAP through energy management ○ Expansion of sales of carbon fiber convergents for blades for wind power generation
Replacement with low-carbon products	<ul style="list-style-type: none"> ● Restrictions on CO₂ emissions during use ○ Market expansion of products made from bio-based raw materials 	Intermediate	<ul style="list-style-type: none"> ○ Expansion of sales of surfactants made from bio-based raw materials
Recycling regulations	<ul style="list-style-type: none"> ● Increased costs due to the increased use of recycled raw materials ○ Increase in demand for recyclable products 	Intermediate	<ul style="list-style-type: none"> ○ Development of imaging materials using recycled PET ○ Development of chemical recycling technology for urethane ○ Deployment of resin dispersants for recycled materials / organic filler dispersion
Changes in consumer behavior	<ul style="list-style-type: none"> ● Decrease in sales of gasoline-fueled and hybrid vehicles ○ Increase in sales of electric vehicles ○ Reduction in weight of batteries in line with the higher mileage of vehicles 	High	<ul style="list-style-type: none"> ● Increase in sales of lubricant additives that contribute to higher fuel efficiency of gasoline-fueled and hybrid vehicles ○ Increase in sales of electrolytes in line with the electrification of vehicles ○ Increase in demand for permanent antistatic agents for IC trays in line with increasing demand for semiconductors ○ Development of organic cathodes for organic cathode secondary batteries that contribute to weight reduction

at the Nagoya Factory and the Kashima Factory, and in the SDP Group, which account for a large proportion of the CO₂ emissions of the Group. We will also improve the processes and reduce CO₂ emissions from our business sites.

Regarding opportunities, we contribute to reducing CO₂ emissions by actively promoting sustainable management, including the review of our business portfolio.

The Group's countermeasures to the main risks and opportunities of climate change

The Group's countermeasures to the main risks and opportunities and the results of impact assessment were compiled. Regarding the impact assessment, the impact in terms of the amount of money was estimated and classified into three categories (high, intermediate, and low), depending on the magnitude.

Metrics and targets

The Group set long-term targets to achieve net zero CO₂ emissions by 2050 in Scopes 1 and 2, and created a roadmap to reduce CO₂ emissions by 50% by 2030 (compared to the FY2013 level). We aim to reduce CO₂ emissions significantly by introducing CCU in addition to increasing energy use efficiency through the use of renewable energy and the introduction of an energy

management system, reviewing the manufacturing processes, and changing the product portfolio.

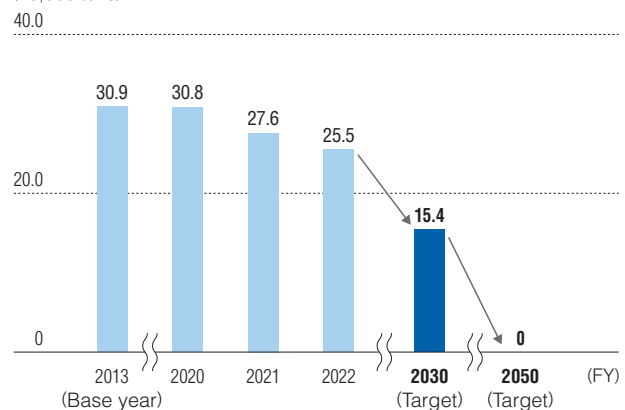
We will also set indices to promote sales expansion and development of products that contribute to the reduction of CO₂ emissions, and work on the reduction of CO₂ emissions through the supply chain.

► Target of CO₂ emissions reduction

■ Emissions (Scopes 1+2)

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

(10,000 tons)



► Roadmap toward carbon neutrality

<https://www.sanyo-chemical.co.jp/eng/sustainability/environment/tcfd/>