

TCFD Report

Task Force on Climate-related Financial Disclosures Report

2022



NIPPON FINE CHEMICAL CO.,LTD.

Initiatives in line with TCFD recommendations

Nippon Fine Chemical uses raw materials derived from fossils and fossil fuel as energy sources in the manufacture of many of our products. Based on our recognition that risks and opportunities due to climate change are key management issues, in December 2021, we declared our support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Going forward, we will use scenario analysis to assess the risks and opportunities of the impact of climate change on our business, and we will recognize the significance of such impact, strengthen the resilience of our strategies by reflecting such impact in our management measures and strengthen relationships of trust with our stakeholders.

Governance

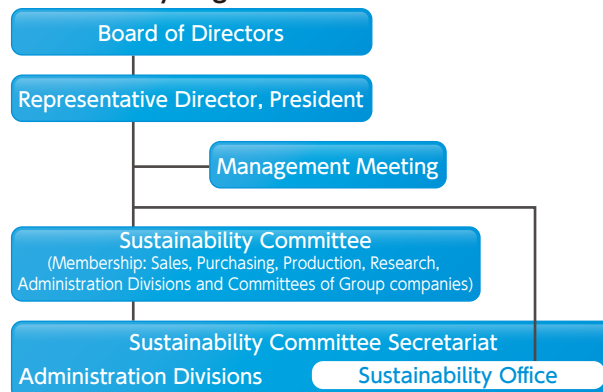
We have established a Sustainability Committee, chaired by our Representative Director, President and composed of members selected from each division.

The Sustainability Committee identifies risks and opportunities based on scenario analysis of climate-related issues, assesses their importance, formulates plans for promotional activities, and manages the progress of such activities. The Sustainability Committee puts together a promotion action plan once a year, which is approved by the Board of Directors following deliberation by the Management Meeting.

The Sustainability Committee checks the state of promotional activities on a quarterly basis, in principle, and reports the results of such checks to the Management Meeting and the Board of Directors.

Details of external trends and information on climate change are shared with the Management Meeting and the Board of Directors through the Sustainability Committee by endorsing the TCFD recommendations and joining the TCFD Consortium.

Sustainability Organizations



Risk Management

The Company-wide Risk Management System Committee, chaired by the Representative Director, President and composed of managers, is the highest decision-making body in our risk management system (RMS). The committee discusses risk management policies, plans, implementation, RMS improvements, and other general RMS-related matters, and final decisions on such matters are made by the chairman based on the outcome of such discussions. The Sustainability Committee identifies risks relating to climate-related issues, with reference to the risk items in the final TCFD report and examines risk severity based on the impact on our business activities, customers, and suppliers, etc. and the likelihood of such risks occurring. The Sustainability Committee uses scenario analysis to assess the risks and opportunities of the impact of climate change on our business, conducts business impact assessments, and formulates measures to be taken by Nippon Fine Chemical with respect to items that are assessed as having a large impact on risks and opportunities. The Committee manages the progress of promotional activities, and reports such progress to the Management Meeting. The Management Meeting deliberates management plans and business strategies based on the state of current initiatives and other factors, and such plans and strategies are then approved by the Board of Directors.

Strategies

We have set 2030 as the time frame for considering the impact of climate change on our business, and we have analyzed scenarios for “risks and opportunities associated with the transition to a low-carbon economy” and “risks and opportunities associated with the physical impact of climate change” in a “1.5° C world” in which climate change measures have progressed and the Paris Agreement targets have been realized and in a “4° C world” in which no new climate change measures are taken and greenhouse gases have increased. In assessing the impact on our business, we found that under the 1.5° C scenario, there will be a significant impact on our business of policies and regulations relating to carbon taxes and emission reductions, while there will also be opportunities to expand the sale of raw materials for perovskite solar cells. Under the 4° C scenario, we found that there will be a significant impact on our business of soaring crude oil prices and concerns over the procurement of naturally-derived raw materials, while there will also be opportunities to expand the sale of raw materials for UV care and cooling-related products and for infectious disease-related products. Note that this analysis only covers Nippon Fine Chemical. Going forward, we will consider whether to conduct analysis for the entire group.

Results of 1.5°C and 4°C Scenario Analysis (Climate Change Risks and Opportunities)

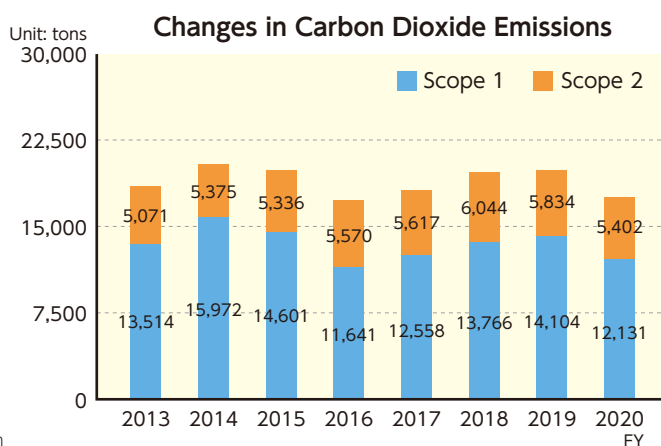
Type	Risk/Opportunity		Importance Assessment		
	Main Category	Sub Category	1.5°C	4°C	
Transition Risks and Opportunities	Policies/Regulations	Carbon tax and carbon price	Carbon pricing (carbon tax and emissions trading) will be applied mostly to suppliers of raw materials with high greenhouse gas (GHG) emissions, which will be passed on by being added to the price of raw materials, resulting in an increase in procurement costs. Product manufacturing and transportation costs will also increase and profitability will deteriorate.	Large	Small
		Carbon emission targets for each country/Stricter reporting requirements for policy emissions	- If emissions are regulated in countries where our raw material suppliers are located, such suppliers' adjustment costs may increase, which could in turn affect purchase prices. - The replacement of fossil fuels with renewable energy and reductions in GHG emissions are required in the production process and in distribution, and costs may increase due to reduction of existing assets and investment in additional equipment.	Large	Medium
			Mandatory afforestation and changes in land use policies may reduce yields of biological resources, which in turn may make it difficult to obtain naturally-derived raw materials (wool grease, palm oil) or may increase procurement costs.	Large	Small
		Introduction of water withdrawal and wastewater discharge restrictions	- Restrictions on water withdrawal and wastewater discharge in areas where raw material suppliers are located may affect operations, resulting in it being difficult to obtain raw materials and increased purchasing costs. - Water withdrawal restrictions in areas in which we operate due to climate change will lead to lost sales opportunities due to the suspension of operations.	Small	Small
		Energy-saving policies	- Restrictions on energy use may increase the cost of changing manufacturing processes, procuring alternative materials, and installing energy-saving and high-efficiency equipment, and the acquisition of new equipment or the disposal of existing equipment may result in increased costs and losses, etc. - Mandatory use of renewable energy following the revision of the Act on the Rational Use of Energy may result in cost increases.	Medium	Medium
		Litigation	- There is a possibility of lawsuits against companies that use fossil fuels. - There is a possibility of reduced demand for products and increased costs due to fines and court rulings.	Small	Small
	Industry/Market	Soaring price of raw materials	Soaring crude oil prices will increase the cost of procuring petroleum-derived raw materials.	Small	Large
		Changes in energy demand	Manufacturing costs will increase if the cost of procuring energy to operate plants increases. As a result, the cost competitiveness of products may fall, which may affect earnings.	Medium	Medium
	Products/Services	Develop new products and services through R&D and innovation	- The development of decarbonized products through the use of non-petrochemically-derived raw materials will increase our advantage over our competitors and create opportunities to increase earnings. - The development of energy-saving and low-cost production methods during the manufacturing stage will lead to improved profitability. - Opportunities to increase earnings by developing raw materials for renewable energy (such as perovskite solar cells).	Large	Medium
	Resource Efficiency	Streamline production and distribution processes	- The introduction of renewable energy, energy-saving equipment, and solar power generation equipment for self-consumption may lead to reductions in production costs. - Organizing and integrating supply chains (sales channels, distribution bases, etc.) may lead to reductions in carbon dioxide emissions and distribution costs.	Medium	Medium
	Technology	Transition to low emission technologies	Transition to low emission technologies may lead to higher research & development costs for climate change-compliant products, higher investment costs for manufacturing processes, and higher costs for transitioning to low-carbon-emitting technologies and equipment.	Medium	Medium
	Reputation	Changes in consumer preferences	Consumers' increased interest in the use of natural materials, packaging recycling, and carbon dioxide emissions, etc., may lead them to purchase products from companies which engage in proactive climate change initiatives, which may lead to a fall in sales.	Medium	Medium
		Reputation among investors	- An insufficient response to GHG reduction demands from customers and investors may result in a lower assessment. - Proactive disclosure of information on how we are addressing climate change will improve our corporate value and increase opportunities to obtain ESG investments, while securing customer confidence may lead to business expansion.	Medium	Medium
	Physical Risks and Opportunities	Chronic	Increase in average temperature/changes in precipitation and temperature patterns	Rising average temperatures may reduce yields of biological resources, which in turn may make it difficult to obtain naturally-derived raw materials (wool grease) or may increase procurement costs.	Small
Rising average temperatures may result in a deterioration in shrimp farming operations at existing customers, which may adversely affect sales of our products.				Small	Small
- Rising average temperatures may require enhanced cooling equipment needed during the manufacturing process, which may result in the need for more equipment and increased energy costs. - Climate change may increase water stress in China, and price increases by suppliers may lead to higher raw material prices.			Large	Large	
Rise in sea level		- Rising sea levels may result in flooding, rapid rises in tides, and other water-related damage, which may shut down operations at plants located in coastal areas vulnerable to disasters and in low-lying areas. - It may be necessary to relocate bases.	Small	Small	
Markets		Access to new markets (demand)	- The increase in the population exposed to infectious diseases and other risks associated with rising temperatures may lead to an increase in demand for raw materials for our products (sanitizer and pharmaceuticals). - The rise in average temperatures may increase sales of our functional oil products for UV care and cooling-related products.	Medium	Large
Acute	Intensification of extreme weather	- Flooding caused by torrential rainfall and drought associated with climate change may shut down production at some offices and plants. - Production stoppages and lost sales opportunities may increase due to disruptions, etc. in the supply chain	Small	Small	

Addressing Climate Change Risks and Opportunities

Scenario	Risk/Opportunity	Risks Due to Climate Change	Countermeasures	Opportunities	Countermeasures
1.5°C Scenario	Carbon tax and carbon price	The introduction of carbon pricing, a policy approach that puts a price on carbon causing carbon emitters to change their behavior, may increase procurement and transportation costs due to the increase in the price added to carbon emissions by suppliers and transporters, as well as the direct tax burden.	<ul style="list-style-type: none"> - Reduce GHG emissions by reviewing product composition and production processes - Reduce GHG emissions by introducing renewable energy, energy-saving equipment, and solar power generation equipment for self-consumption - Reduce GHG emissions by consolidating and integrating raw material supply chains 	Introduction of carbon pricing will encourage the use of renewable energy.	Develop raw materials for perovskite solar cells and expand sales
	Develop new products and services through R&D and innovation				
	Carbon emission targets/policies in each country	Restrictions on new plantation construction due to mandatory afforestation and changes in land use policies and a shortage of feed due to a decrease in pastureland may make it difficult to procure naturally-derived raw materials (wool grease, palm oil) and may increase procurement costs.	<ul style="list-style-type: none"> - Secure stable suppliers of wool grease and palm oil - Consider substituting wool grease and palm oil-derived raw materials for naturally-derived raw materials which have less of an impact on climate change 		
4°C Scenario	Increase in average temperature/changes in precipitation and temperature patterns	Poor pasture growth caused by drought and reduced demand for wool as a result of rising average temperatures may make it difficult to procure naturally-derived raw materials (wool grease) and procurement costs may increase.			
	Soaring price of raw materials	Soaring crude oil prices following an increase in demand for fossil energy may increase the cost of procuring petroleum-derived raw materials.	Consider substitution with non-petroleum-derived raw materials		
	Access to new markets (demand)			<ul style="list-style-type: none"> - Increase in the population exposed to infectious diseases and other risks. - Demand for UV care and cooling-related products will continue to grow. 	<ul style="list-style-type: none"> - Establish of a system to increase production and expand sales of raw materials for infectious disease-related products (sanitizer and pharmaceuticals) - Establish of a system to increase production and expand sales of raw materials for UV care and cooling-related products (cosmetics, etc.)

Indicators and Targets

The greenhouse gas emitted by Nippon Fine Chemical is mostly energy-derived carbon dioxide. In October 2021, the Japanese government published its Plan for Global Warming Countermeasures for Scope 1 and 2* which calls for a 46% reduction in Japan's overall GHG emissions by FY2030 compared to FY2013 levels. Within this overall goal, the industrial sector's target is a 38% reduction in energy-derived carbon dioxide by FY2030, and so we are working to reduce our carbon dioxide emissions by 38% in FY2030 compared to FY2013. We will also work to achieve carbon neutrality by 2050.



*Scope 1: Direct GHG emissions from an operator's own fuel combustion
 Scope 2: Indirect GHG emissions from the use of electricity and heat supplied by other companies