

# Information Disclosure in Line with TCFD and TNFD Recommendations

Nissan Chemical announced its support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) in August 2020. We also supported the recommendations of the Taskforce on Nature-related Financial Disclosures (TNFD) in April 2023. We will continue to strive to improve our company's value by promoting initiatives related to climate change and natural capital, as well as gradually expanding information disclosure.



## Governance

Our initiatives to address climate change are examined and deliberated at the Sustainability Promotion Committee, Climate Change Committee, Risk Management & Compliance Committee, and Environment & Safety Committee. The Board of Directors supervises those efforts by discussing and approving the Committee's deliberations at its meetings. Since natural capital, including biodiversity, is significantly related to climate change, it is examined and deliberated by the Climate Change Committee.

One of our initiatives for nature-related stakeholder engagement is the Nissan Chemical Group Human Rights Policy, which covers all our stakeholders' human rights. Based on the Policy, we conduct a risk assessment (due diligence) concerning stakeholders, which includes nature-related metrics, such as health, safety, and use of natural resources (including water). As the "health and safety of local communities" is our priority, we are committed to enhancing countermeasures. Specifically, we constantly hold plant tours and briefings for residents and neighboring schools to encourage their understanding of the safety and security of our plants and two-way communication with them.

Please see the following pages for stakeholder human rights responses and interactions with local communities.

### Respect for Human Rights

[https://www.nissanchem.co.jp/eng/csr\\_info/management/hrp.html](https://www.nissanchem.co.jp/eng/csr_info/management/hrp.html)

### Contribution to Communities and Society

[https://www.nissanchem.co.jp/eng/csr\\_info/communication/community.html](https://www.nissanchem.co.jp/eng/csr_info/communication/community.html)

## ● Sustainability Promotion Committee (twice per year)

This Committee considers and deliberates on material issues in order to more strategically tackle global social issues, including climate change. The Committee is chaired by the officer responsible for the Sustainability Promotion & IR Department (Director, Senior Managing Executive Officer). Policies, targets, plans, etc. related to sustainability, including climate change, are deliberated, and after approval at the management meeting, the following matters are submitted to the Board of Directors.

### Resolving matters at the Board of Directors

- Policy planning related to sustainability
- Long- and mid-term and yearly plans for sustainability

## ● Climate Change Committee (more than once per year)

This Committee was established to accurately grasp the risks and opportunities that the Company faces due to the increasingly serious problem of climate change, and connect them more strongly with our management strategies to strengthen our comprehensive climate change measures. The Committee is chaired by the president (COO). The Committee also comprehensively addresses natural capital as it is closely linked with climate change.

Analysis of risks and opportunities related to climate change

and natural capital, as well as policies, targets, plans, etc., are deliberated, and after approval at the management meeting, the following matters are submitted to the Board of Directors.

### Resolving matters at the Board of Directors

- Scenario analysis and countermeasures for climate change and natural capital
- Long- and mid-term and yearly plans for climate change and natural capital-related measures

## ● Risk Management & Compliance Committee (twice per year)

This Committee was established to enhance the effectiveness of risk management, and to maintain and promote compliance. The Committee is chaired by the Chief Risk Management Officer (CRO/Director, Managing Executive Officer) appointed by the Board of Directors.

The Risk & Compliance Managers (heads of divisions/departments and plants/laboratories, presidents of domestic consolidated subsidiaries) who are members of this Committee, periodically identify and assess climate change-related and other risks, draw up a countermeasure plan, self-assess the status of implementing those measures and issues to be addressed, and suggest improvements. In addition, they offer education and training at each division/department, plant/laboratory, and domestic consolidated subsidiary about risk management and compliance. The Committee deliberates on those risk management initiatives and creates an activity plan for the next fiscal year.

For nature-related risks, we have undertaken the risk assessment based on the TNFD recommendations. In light of the importance of those risks, we are considering whether they should be included in the risks managed by the Risk Management & Compliance Committee.

### Resolving matters at the Board of Directors

- Identification of the Group's major risks ("Group Major Risks") and countermeasures against them
- Mid-term and yearly plans for risk and compliance

## ● Environment & Safety Committee (more than once per year)

This Committee oversees and promotes responsible care (RC) activities within Nissan Chemical and affiliated companies. The Committee is chaired by the officer responsible for the Environment, Safety & Quality Assurance Department (Director, Managing Executive Officer).

The Committee discusses the results of RC activities at each site for the fiscal year, a summary of Company-wide activities, and objectives, targets, and action plans for RC in the next fiscal year. The Committee also shares information with the Sustainability Promotion Committee and discusses plans, including responses to

climate change and environmental impact reduction.

The contents of deliberations are validated and reviewed at least once a year at the management meeting. After approval at the management meeting, the following matters are submitted to the Board of Directors.

**Resolving matters at the Board of Directors**  
 - Draft of RC-related policy  
 - Long- and mid-term and yearly plans for RC

**Risk Management**

In the framework of the Risk Compliance Committee, we clarify risks including climate-change related risks taking into account the business characteristics of each division and the surrounding businesses, including global political, economic and social conditions. For each risk identified, a risk assessment is conducted from the viewpoint of probability and impact on business, and a risk map is subsequently created based on the results of the risk assessment to identify the Group Major Risks.

The Group Major Risks are deliberated at the Risk Management & Compliance Committee, approved at the management meeting, and then resolved by the Board of Directors. For nature-related risks, we have undertaken the risk assessment based on the TNFD recommendations. In light of the importance of those risks, we are considering whether they should be included in the risks managed by the Risk Management & Compliance Committee.

**Management Process of Group Major Risks**

A division/department in charge and a risk owner are designated for each Group Major Risk selected. The Risk & Compliance Managers of the divisions/departments in charge of those Major Risks play a central role in drawing up the countermeasure plan for Group Major Risks, which is deliberated at the Risk Management & Compliance Committee and approved by the Board of Directors. The implementation status of countermeasures is also deliberated at the Risk Management & Compliance Committee, and the result of the deliberation is reported to the Board of Directors.

Regarding typhoons and torrential rain, one of the Group Major Risks, we set the KPI of "Update and maintain the BCPs for products that account for 50% of ordinary income by FY2027" as a measure to mitigate the risks of increased equipment restoration costs and the reduction of production at major plants. We have completed the update and maintenance of the BCPs for products accounting for 41% of ordinary profits as of the end of FY2023.

In addition, we regularly clarify risks, assess their impact on our business and their probability, and review the Group Major Risks.

Please see the following web page for the process of identifying the Group's Major Risks, the risk map, the Group's Major Risks, and countermeasures against risks.  
[https://www.nissanchem.co.jp/eng/csr\\_info/risk\\_management/policy.html](https://www.nissanchem.co.jp/eng/csr_info/risk_management/policy.html)

**Strategy for Climate Change**

TCFD Recommendations require companies to conduct a scenario analysis\* to understand how the risks and opportunities arising from climate change affect their finances.

In 2020, we developed the 2°C scenario in which the transition to a decarbonized society would be realized (the transition risks would be evident) and the 4°C scenario in which climate change would progress (the physical risks would be evident). Based on those scenarios, we identified business risks and opportunities, examined their importance, and mapped out their effects on the Company and our strategies. However, at the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26) held in 2021, it was agreed to pursue efforts to limit the rise in average temperature to 1.5°C; accordingly, we revised our scenario analysis in July 2023.

\* Scenario analysis is a method to project the degradation of the natural environment, such as climate change, water scarcity, as well as changes or shifting of the business environment due to long-term policy trends regarding climate change and to examine how those changes may influence the corporate's business and operation.

**Referenced Scenarios**

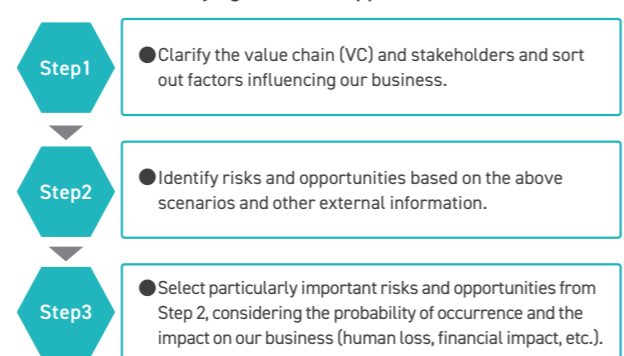
<b>1.5°C Scenario<sup>*1</sup></b>	● IEA-WEO <sup>*3</sup> , ETP <sup>*4</sup> Net Zero Scenario (NZE) ● IPCC SSP <sup>*5</sup> 1-1.9, 1-2.6
<b>4°C Scenario<sup>*2</sup></b>	● IEA-WEO Stated Policies Scenario (STEPS) ● IPCC SSP5-8.5

<sup>\*1</sup> The scenario where necessary measures are implemented to keep the increase in global average temperature below 1.5°C above pre-industrial levels.  
<sup>\*2</sup> The scenario where the global average temperature increases by 4°C above pre-industrial levels by the end of the 21st century.  
<sup>\*3</sup> International Energy Agency "World Energy Outlook" (2022)  
<sup>\*4</sup> International Energy Agency "Energy Technology Perspectives" (2023)  
<sup>\*5</sup> Intergovernmental Panel on Climate Change (IPCC) "Shared Socio-economic Pathway"

**Scope of Analysis: Chemicals business, Performance Materials business, Agricultural Chemicals business, Healthcare Business, Planning and Development Division**

**Period of Analysis: 2030 and 2050**

**Process of Identifying Risks and Opportunities**



**Results of Scenario Analysis on Climate Change (climate change risks/opportunities)**

As a result of scenario analysis and quantifying the financial impact using the 1.5°C scenario, we identified important risks, such as increased operating costs with the introduction of carbon pricing and decreased sales from an inability to provide low-carbon products. In response to the introduction of carbon pricing and decrease in demand for products with high life-cycle carbon emissions, we will work to reduce the risks by not only further promoting the use of renewable energy and conversion of fuel and feedstock at our plants, which we have been working on thus far, but also by further promoting decarbonization investments that take into account reducing GHG emissions through the use of internal carbon pricing.

Furthermore, in response to market changes due to increasing demand for environmental consideration, we assume that demand for environmentally friendly biological agrochemicals and low-carbon products, such as materials for secondary battery, will increase. In terms of biological agrochemicals, we established the Biological Group within the Agricultural Chemicals Research & Development Department of the Biological Research Laboratories in April 2022 and conduct R&D toward commercial-

ization. Additionally, in the Environment & Energy field, we aim to commercialize secondary battery materials, energy harvesting materials, and CCS/CCUS materials, by accelerating their development.

Meanwhile, regarding the risk of flood damage, which we recognize as a risk in the 4°C scenario, we have identified the possibility of flooding at our major production and distribution bases as a material risk. To address this risk, we will continue to formulate and revise the BCPs for our plants and major products from time to time, raise the floors and foundations of our plant equipment, secure product inventory, and purchase key raw materials from multiple sources.

Meanwhile, in response to market changes owing to rising temperatures and abnormal weather, we assume that demand for agricultural chemicals and disinfectants for drinking water will increase due to the increase in pests and weeds, as well as water shortages and spread of infectious diseases. Based on the prospects for market growth, we aim to expand our opportunities. Furthermore, by building a business portfolio that is less susceptible to the effects of climate change, we will increase the resilience of our business activities and strive to minimize risks and maximize opportunities.

**Risks/Opportunities and Countermeasures Identified in the 1.5°C Scenario**

All: All businesses/Planning and Development Division Agri: Agricultural Chemicals business Chem: Chemicals business

Scenario	Factors	Value Chain	Impact on Business	Relevant Business	Main Measures		
1.5°C Scenario	● Regulations on GHG emissions	Upstream	Risk	● Increase in raw material procurement costs due to the introduction of carbon pricing such as carbon taxes, and compliance with regulations and decarbonization investment, by suppliers	All	● Price pass-through to products ● Multiple sourcing of several key raw materials	
			Opportunity	● Increase in operating costs due to the introduction of carbon pricing such as carbon taxes, and compliance with regulations and decarbonization investments			
			Opportunity	● Avoid the impact of carbon pricing by reducing GHG emissions			
		Direct Operations	Risk	● Increase in raw material procurement costs due to renewable energy procurement by suppliers		All	● Fuel and feedstock conversion at plants ● Update to energy-saving equipment, etc. ● Increased use of renewable energy ● Zero emissions of N <sub>2</sub> O from nitric acid production capacity (planned investment: 830 million yen) ● Optimization of the manufacturing process ● Promotion of decarbonized investment by introducing internal carbon pricing
			Opportunity	● Increase in logistics costs			
			Opportunity	● Increase in operating costs due to in-house renewable energy procurement			
	● Changes in energy policy ● Changes in energy demand and supply	Upstream	Risk	● Reduce operating costs by improving energy efficiency and saving energy	All		● Price pass-through to products ● Multiple sourcing of several key raw materials ● Optimization of transportation routes, systems, etc.
			Opportunity	● Acquiring opportunities for funding (subsidies, etc.)			
			Opportunity	● Update to energy-saving equipment, etc. ● Optimization of the manufacturing process			
		Direct Operations	Risk	● Decrease in sales of agricultural chemicals business due to the introduction of regulations on the use of agrochemicals		Agri	● Development of environmentally friendly agrochemicals ● Development of biological agrochemicals ● Acquisition of biostimulant technology ● Promote registration of agrochemicals in new countries
			Opportunity	● Increase in demand for biological agrochemicals, etc.			
			Opportunity	● Decrease in sales due to inability to provide low-carbon products			
● Market changes due to increasing demand for environmental consideration	Downstream	Risk	● Decrease in demand from customers due to the retention of products and businesses with large GHG emissions	All	● Expand sales of low-carbon products ● Development of environmentally friendly products and services ● Establishment of innovative manufacturing technologies ● Review of the business portfolio ● Promotion of decarbonized investment by introducing internal carbon pricing ● Increased use of renewable energy ● Fuel and feedstock conversion at plants		
		Opportunity	● Increase in demand and sales of parts and materials for low-carbon products				
		Opportunity	● Further advanced GHG emission reduction efforts ● Appropriate information disclosure				
	Direct Operations	Risk	● Damage to ESG evaluation and reputation, decrease in market capitalization, and financing difficulties due to delay in measures to address climate change, such as heavy use of fossil fuels		All	● Further advanced GHG emission reduction efforts ● Appropriate information disclosure	
		Opportunity	● Improve ESG evaluation and reputation, and increase market capitalization through advanced initiatives and information disclosure				
		Opportunity					

● Risks/Opportunities and Countermeasures identified in the 4°C Scenario

4°C Scenario	Rising temperatures* Increase in abnormal weather	Direct Operations	Risk	<ul style="list-style-type: none"> <li>Increase in risk of impacts on plant operations, equipment, inventory, and supply chains due to flooding caused by heavy rains, floods, and rising sea levels</li> </ul>	All	<ul style="list-style-type: none"> <li>Formulate BCPs (business continuity plans) for key products in each plant</li> <li>Raise the foundation of the plant buildings, and place equipment and other key items on higher floors, depending on the risk</li> </ul>
			Risk	<ul style="list-style-type: none"> <li>Decline in production capacity (such as shortage of cooling capacity) and increase in product and material management costs due to water shortages caused by drought and heat waves</li> </ul>		<ul style="list-style-type: none"> <li>Formulate BCPs (business continuity plans) for key products in each plant</li> <li>Optimization of the existing cooling system</li> <li>Introduce equipment for water-saving and water-recycling</li> <li>Introduce energy-saving air conditioning and cooling equipment</li> </ul>
	Market changes caused by rising temperatures and abnormal weather	Downstream	Risk	<ul style="list-style-type: none"> <li>Reduction of planted area due to increase in frequency and intensity of storms/floods and difficulties in securing irrigation water</li> <li>Changes in the distribution of planting and reduction in planted area due to rising temperatures</li> </ul>	Agri	<ul style="list-style-type: none"> <li>Promote registration of agrochemicals in new countries</li> <li>Enhancing the agrochemicals portfolio</li> </ul>
			Opportunity	<ul style="list-style-type: none"> <li>Increase in sales of existing agrochemicals and opportunities to develop new agrochemicals due to the spread of pest insects, weeds, and pathogens, and the emergence of resistance</li> <li>Increase in sales of disinfectants due to the reduction of usable (fresh) water resources and the growth of global demand for drinking water</li> </ul>		<ul style="list-style-type: none"> <li>Develop new agrochemicals</li> <li>Enhancing the agrochemicals portfolio</li> <li>Promote registration of agrochemicals in new countries</li> </ul>
				Chem	<ul style="list-style-type: none"> <li>Expand sales of disinfectants for drinking water</li> </ul>	

● Financial impact

Scenario	Impact on Business	Calculation Method	Financial impact (☆2027)	
1.5°C Scenario	Risk	<ul style="list-style-type: none"> <li>Increase in operating costs due to the introduction of carbon pricing such as carbon taxes, and compliance with regulations and decarbonization investments</li> </ul>	Calculation of the increase in operating costs in 2030 due to the introduction of carbon pricing from estimated emissions and carbon price <small>* Assumed the cases in which emissions reduction does not progress compared to the base year (FY2018) results * Carbon price (2030): 140\$/t-CO<sub>2</sub> Referred to IEA WEO2022 NZE</small>	5.9 billion yen/year
		<ul style="list-style-type: none"> <li>Increase in operating costs due to in-house renewable energy procurement</li> </ul>	Calculated the increase in operating costs for procurement of renewable energy power in 2030, based on the sales plan for 2027, if all electricity used is switched to renewable energy power <small>* Estimated renewable energy power procurement unit price refers to the non-fossil certificate price, etc.</small>	0.46 billion yen/year
		<ul style="list-style-type: none"> <li>Decrease in sales of agricultural chemicals business due to the introduction of regulations on the use of agrochemicals</li> </ul>	Calculated the decrease in sales in 2030 due to regulations on agrochemicals such as the MIDORI Strategy for Sustainable Food Systems	2.3 billion yen/year
		<ul style="list-style-type: none"> <li>Decrease in sales due to inability to provide low-carbon products</li> </ul>	Calculated the decrease in sales in 2030 where decarbonization in the Company's chemical manufacturing process does not progress, and sales volume of existing products with high product life cycle emissions (product carbon footprint) decreases <small>* Sales of existing products are actual figures for FY2021 * Forecasted decrease in sales volume of existing products is estimated by referring to IEA Net Zero by 2050, etc.</small>	4.2 billion yen/year
	Opportunity	<ul style="list-style-type: none"> <li>Avoid the impact of carbon pricing by reducing GHG emissions</li> </ul>	Calculated the amount of avoidable increase in operating costs in 2030 due to the introduction of carbon pricing, if the FY2027 target (reducing by at least 30% from FY2018 level) is achieved <small>* Carbon price (2030): 140\$/t-CO<sub>2</sub> Referred to IEA WEO2022 NZE</small>	1.8 billion yen/year
		<ul style="list-style-type: none"> <li>Increase in demand and sales of parts and materials for low-carbon products</li> </ul>	For low-carbon products that demand is expected to increase, calculated the increase in sales from FY2021 based on the formulated sales plan for FY2027	☆ 1.2 billion yen/year
4°C Scenario	Risk	<ul style="list-style-type: none"> <li>Increase in risk of impacts on plant operations, equipment, inventory, and supply chains due to flooding caused by heavy rains, floods, and rising sea levels</li> </ul>	Calculated the financial impact as the decrease in sales and damage to equipment and inventory during the period when production sites that have a particularly large impact, have ceased operations in the event that a site is flooded, based on 2030 and 2050 assumptions <small>* Aqueduct floods used to analyze flood depth * Damage rate due to flooding is set with reference to the Manual for Economic Evaluation of Flood Control Investment (Draft), etc. published by the Ministry of Land, Infrastructure, Transport and Tourism * The amount of financial impact is calculated as the maximum risk where floods occur at a site with a large impact and where no countermeasures are taken, based on FY2021 site sales, equipment and inventory levels, etc.</small>	2030: 7.6 billion yen 2050: 12.8 billion yen

Metrics and Targets of Climate Change

Positioning climate change mitigation as one of the Materiality elements, we recognize that reducing the Company's emissions, which account for approximately 95% of the Group-wide GHG (Scope1 and 2) emissions, is crucial for diminishing our climate change-related risks. For this reason, we set "achieving carbon neutrality by 2050" in the long-term and "reducing GHG emissions by at least 30% from the FY2018 level by FY2027" in the mid-term to reduce the Company's GHG emissions (Scope1+2). Those targets are included in the Group's non-financial targets in the long-term business plan "Atelier2050," and the mid-term "Vista2027," and the progress of those initiatives is being checked and managed. In addition, the degree of attainment of those

reduction targets is reflected in the ESG-linked portion of our officers' performance-related remuneration.

Since FY2018, we have been steadily reducing GHG emissions by terminating melamine production, converting boiler fuel at the Onoda Plant, and saving energy by upgrading aging facilities. In FY2023, emissions decreased from FY2022 due to the normalization of nitric acid plant troubles that occurred in 2022 and the suspension of operations at the Toyama Plant due to the Noto Peninsula earthquake.

The Company's GHG emissions and energy consumption have been subject to third-party verification since FY2018. We will continue to advance our approaches to reduce emissions and environmental impact and strive to disclose highly reliable information.

● Mid-term and Long-term Targets

Category	Metrics	Scope	FY2027 Target	2050 Target
GHG emissions	Scope1+2	Absolute Emissions Non-consolidated	Reduce emissions by at least 30% from the FY2018 level	Carbon neutrality

● Climate change-related data

	Scope	Unit	2018	2020	2021	2022	2023	FY2027 Target
Scope1	Non-consolidated	t-CO <sub>2</sub> e	245,469	216,276	231,713	223,388	174,133	-
Scope2	Non-consolidated	t-CO <sub>2</sub> e	117,926	102,182	113,623	104,275	111,187	-
Scope1+2	Non-consolidated	t-CO <sub>2</sub> e	363,395	318,458	345,336	327,663	285,320	254,377
GHG emission rate per unit to sales <sup>1</sup> (Scope1+2)	Non-consolidated	t-CO <sub>2</sub> e/million yen	2.33	1.96	2.03	1.79	1.58	-
Scope3 <sup>2</sup>	Non-consolidated	t-CO <sub>2</sub> e	703,562	763,007	803,461	885,046	927,262	-
Energy consumption rate <sup>3</sup>	Non-consolidated	*4	82.8	76.2	81.5	63.3	62.0	-
Scope1	Consolidated <sup>5</sup>	t-CO <sub>2</sub> e	253,785	220,243	238,958	230,424	180,409	-
Scope2	Consolidated <sup>5</sup>	t-CO <sub>2</sub> e	128,647	116,516	124,663	115,893	124,730	-
Scope1+2 <sup>6</sup>	Consolidated <sup>5</sup>	t-CO <sub>2</sub> e	382,432	336,759	363,621	346,316	305,138	-
Non-consolidated / Consolidated (Scope1+2)		%	95.0	94.6	95.0	94.6	93.5	-

\*1 Amount of emissions (t-CO<sub>2</sub>e) / Non-consolidated sales (million yen)  
 \*2 Data of each category: [https://www.nissanchem.co.jp/eng/csr\\_info/index/esg\\_data.html](https://www.nissanchem.co.jp/eng/csr_info/index/esg_data.html)  
 \*3 Energy consumption / Non-consolidated sales  
 \*4 FY2013 is set at 100  
 \*5 Nissan Chemical Corporation and consolidated subsidiaries with manufacturing facilities (Nihon Hiryo Co., Ltd., Nissan Chemical America Corporation, NCK Corporation)  
 \*6 Due to rounding of figures, some of the above Scope1 and Scope2 sums do not match

Web Mitigation of Climate Change

[https://www.nissanchem.co.jp/eng/csr\\_info/responsible\\_care/environment/reduction.html](https://www.nissanchem.co.jp/eng/csr_info/responsible_care/environment/reduction.html)

Strategy of Natural Capital

We have employed the LEAP approach recommended by TNFD as an integrated analytical approach for natural capital-related evaluation. The LEAP approach consists of four phases: Locate (The interfaces with nature), Evaluate (Dependencies and impacts on nature), Assess (Nature-related risks and opportunities), and Prepare (To respond and report).

Scope of analysis: Agrochemicals in the agricultural chemicals business (some risks and opportunities also apply to other businesses)  
Analysis period: 2030 and 2050

Locate: Identify priority areas

We analyzed and assessed specific areas related to the Group's business activities using tools like the WWF Biodiversity Risk Filter to locate interfaces between the Company and nature and identify our priority areas.

As agrochemicals use petroleum, natural gas, and various minerals as raw materials, the Company manufactures finished products through the extraction and processing of materials and the production of intermediate products. In light of Japan's import conditions and the world's reserves of those resources, the value chain (VC) upstream (extracting and processing raw materials) is considered to have been mostly carried out in overseas countries,

such as Saudi Arabia, the UAE, Australia, China, Canada, and Peru. Accordingly, we find it difficult to locate specific oil and gas fields, minerals, and processing plants; however, some locations are highly likely to correspond to the priority areas.

The Company manufactures agricultural chemicals at the Onoda Plant, the Saitama Plant, and the plants of NC Agro Hakodate Corporation and Nissan Bharat Rasayan PVT. LTD.(India). Considering our business activities' dependencies and impacts on nature, we recognize the importance of the "Sensitive Locations" criteria defined in TNFD. Therefore, we have identified the following locations as our priority areas.

Name of Base	Sensitive Locations			
	Ecosystem Integrity	Biodiversity Importance	Physical Water Stress	Importance of Providing Ecosystem Services
Saitama Plant	● The ecosystem integrity has not declined	● As it is away from protected areas, biodiversity importance is low	● Flood risk is high	● No case of infringement on the rights of indigenous peoples and communities
Onoda Plant		● As it is near protected areas, biodiversity importance is high		
NC Agro Hakodate Corporation		● As it is away from protected areas, biodiversity importance is low	● Flood risk is moderate	
Nissan Bharat Rasayan PVT. LTD.		● The water quality risk is very high ● Water scarcity risk/flood risk is high		

Tools used: WWF Risk Filter Suite, Global Forest Watch map

Evaluate: Identify and evaluate nature-related dependencies and impacts

The value chain of agricultural chemicals comprises materials sourcing and processing, production of intermediate products, manufacturing of finished products by the Company, and the use

of products in agriculture. Employing ENCORE<sup>1</sup>, we identified and evaluated each process's nature-related dependencies and impacts to prepare a heatmap, as shown below.

Legend: Extremely high (Red), High (Orange), Moderate (Yellow), Low (Light Green), Extremely low (Dark Green)

Process	Raw Materials	Dependence												
		Provisioning Services		Regulation & Maintenance Services										
		Groundwater	Surface water	Production Process			Mitigates Direct Impacts			Protection from Disruption				
				Ventilation <sup>2</sup>	Water flow maintenance	Water quality	Decomposition of pollutants	Dilution by air and water	Filtration <sup>3</sup>	Alleviation of noise and light pollution	Climate regulation <sup>4</sup>	Floods and Storms	Soil erosion	
Upstream	Extract raw materials	Petroleum/natural gas	High	High				Moderate				Moderate	High	Moderate
		Minerals	High	High								High		Moderate
	Process raw materials	Petroleum/natural gas	Low	Low				Low		Low		Low	Moderate	Low
		Minerals	Moderate	Moderate	Extremely low	Moderate						Moderate	Moderate	Low
	Produce intermediate products		High	High	Extremely low	Moderate						Low	Moderate	Low
Direct Operations	Manufacture agricultural chemicals	Low	Low	Extremely low	Low		Low		Low		Low	Moderate	Low	
Downstream	Use of agricultural chemicals													

Legend: Extremely high (Red), High (Orange), Moderate (Yellow), Low (Light Green), Extremely low (Dark Green)

Process	Raw Materials	Impact											
		Water use	Use of terrestrial ecosystem	Use of freshwater ecosystem	Use of marine ecosystem	GHG emissions	Air pollutant	Water pollution	Soil pollution	Solid waste	Noise and light pollution, etc.		
Upstream	Extract raw materials	Petroleum/natural gas	High	High	High	High			Moderate				
		Minerals	High	High	High								
	Process raw materials	Petroleum/natural gas	High						Low	Low			
		Minerals	High					Moderate		High			
	Produce intermediate products	High	High							High			High
Direct Operations	Manufacture agricultural chemicals	High						Low		High			
Downstream	Use of agricultural chemicals									High			

**Summary of identification and evaluation of nature-related dependencies and impacts**

**Impacts**

- Throughout the entire value chain, the impacts on water use, GHG emissions, air, water, and soil pollution are high.
- In the value chain upstream, the impacts on water use and the use of terrestrial/freshwater/marine ecosystems are very high.

**Dependencies**

- In the value chain upstream (particularly in the materials sourcing process), the dependencies on groundwater, surface water, water cycle, water quality, climate regulation, and protection from floods and storms are relatively high.
- In the process of manufacturing by the Company, the dependencies on ecosystem services are low.

<sup>1</sup> ENCORE (Exploring Natural Capital Opportunities, Risk and Exposure) is a tool jointly developed by the Natural Capital Finance Alliance (NCFA), an international network of financial institutions, and the United Nations Environment Programme World Conservation Monitoring Center (UNEP-WCMC). Using this tool, companies can explore dependencies and impacts on nature by each sector, sub-industry, and production process (under GICS or the Global Industry Classification Standard).  
<sup>2</sup> Ventilation: Ventilation provided by natural or planted vegetation that is vital for good indoor air quality  
<sup>3</sup> Filtration: Filtration, sequestration, storage, and accumulation of pollutants by plants, animals, and algae  
<sup>4</sup> Climate regulation: Long-term storage of carbon dioxide in soils, oceans, etc., and regulation of temperature, humidity, wind speed, etc. by vegetation

● **Assess: Identify and assess risks and opportunities**

Taking into consideration our priority areas identified in the "Locate" phase and the dependencies and impacts identified and evaluated in the "Evaluate" phase, we identified and assessed

nature-related risks and opportunities projected to affect the Company's businesses.

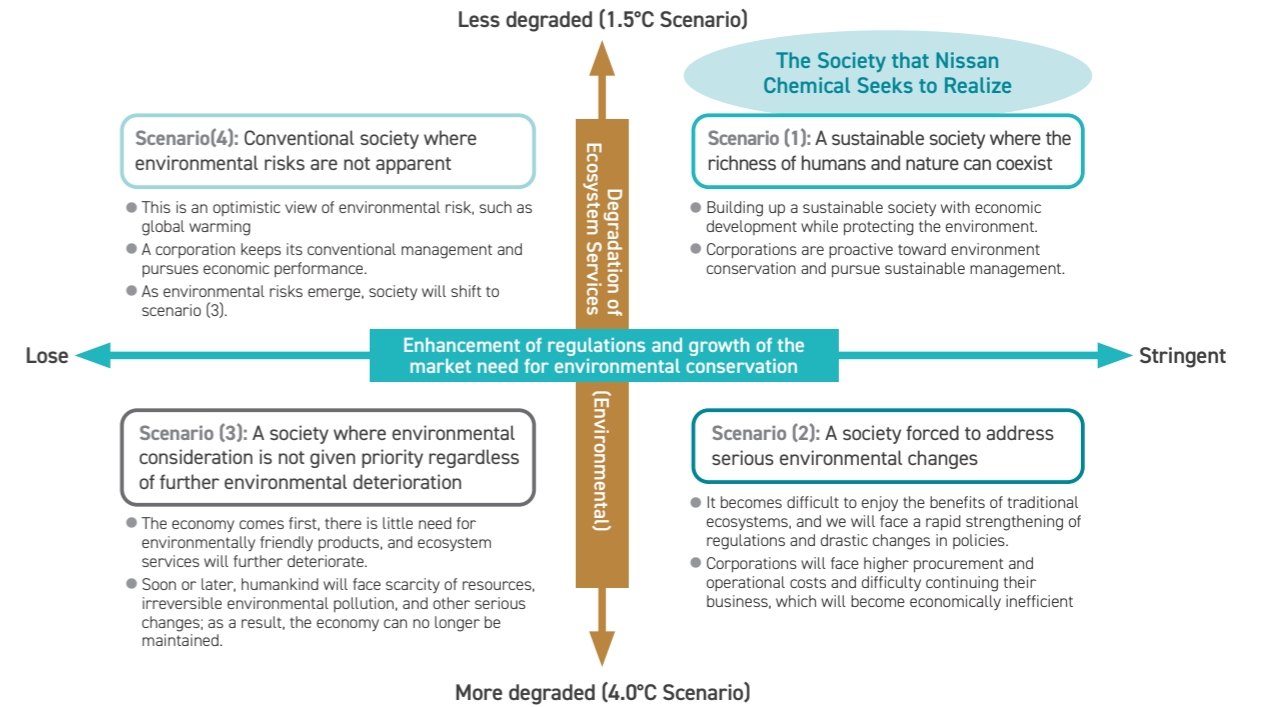
Relevant Business All: All businesses/Planning and Development Division Agri: Agricultural Chemicals business

Social changes	Factors	Value Chain	Risk/ Opportunity	Relevant Business	Impact on Business	Impact	
						FY2030	FY2050
Enhancement of our company's initiatives and regulations for environmental conservation (transition)	Enhancement of nature-related regulations	Upstream	Risk	All	Increase in raw materials procurement costs due to tightening of environmental laws and regulations for materials sourcing, processing, and production of intermediate products	High	High
					Increase in operation costs in our plants due to the enforcement of regulations on pollution	Mid	High
		Direct Operations	Risk	All	Increase in operation costs due to the introduction of tax on plastics; generation of additional costs for replacing production equipment and switching packaging materials by introducing biomass plastics and other recyclable materials	Mid	High
	Growth of demand from investors and others seeking initiatives for nature-related issues	Direct Operations	Risk	All	Declines in the ESG rating, the Group's reputation, and market capitalization, and difficulty in financing due to the delay in countermeasures against climate change, such as the massive use of fossil-derived raw materials	High	High
			Opportunity	All	Rises in the ESG rating, the Group's reputation, and market capitalization through progressive approaches and information disclosure	High	High
		Down stream	Risk	Agri	Reputational risk related to product safety	Mid	Mid
	Market changes due to increasing demand for environmental consideration	Down stream	Risk	Agri	Decrease in sales of agricultural chemicals business due to the introduction of regulations on the use of agrochemicals	High	High
					Reduction of the use volume and decline in sales of agrochemicals due to expansion of the organic beverage and food markets	High	High
					Reduction of the use volume and decline in sales of agrochemicals by using various technologies, such as big data, drones, and farm management software	High	High
		Opportunity	Agri	Growth of demand for biological agrochemicals; increase in opportunities to develop new agrochemical products	Mid	High	
Increase in sales of new agrochemicals suitable for Smart Agriculture (such as drone spraying of agrochemicals*) * It contributes to the reduction of the use volume of agrochemicals				High	High		
Increase in sales of agrochemicals* for agricultural products in countries and territories where farming lands are being expanded for food production due to population growth (*Those products that contribute to the prevention of farmland expansion by improving yields and that are environmentally friendly)				High	High		
Increase in sales of agricultural business other than agrochemicals, such as investments in the development of agriculture-related technologies for Smart Agriculture and breed improvement				Mid	Mid		
Transition Physical	Market changes due to degradation of ecosystem services and increasing demand for environmental consideration	Upstream	Opportunity	All	Increase in sales of low-carbon products by switching to biomass-derived raw materials	Mid	High
Environmental degradation-Rising temperatures (physical)	Degradation of ecosystem services	Upstream	Risk	All	Increase in raw materials procurement costs due to water scarcity, floods, or similar risks in materials sourcing and processing and production of intermediate products Supply shortage of those materials due to the suspension of or limitations on production	High	High
					Direct Operations	Risk	All
	Market changes due to degradation of ecosystem services	Down stream	Risk	Agri	Reduction of planted area due to increase in frequency and intensity of storms/floods and difficulties in securing irrigation water Changes in the distribution of planting and reduction in planted area due to rising temperatures	Low	Low
			Opportunity		Agri	Increase in sales of existing products and opportunities to develop new agrochemicals due to the spread of pest insects, weeds, and pathogens, and the emergence of resistance	High

● **Natural capital-related scenarios**

In the analysis, referring to the TNFD guidance, we prepared the figure below to project four scenarios for future natural capital-related outcomes. The chart's vertical axis shows the degree of degradation of ecosystem services (environment) in the cases of the less degraded 1.5°C scenario and the more degraded 4°C

scenario (in terms of climate changes), indicating physical risks and opportunities. The horizontal axis shows the enhancement of regulations and the growth of the market need for environmental conservation, indicating transition risks and opportunities.



● **Referenced Scenarios**

1.5°C Scenario <sup>1</sup>	<ul style="list-style-type: none"> <li>● IEA-WEO<sup>3</sup>, ETP<sup>4</sup> Net Zero Scenario (NZE)</li> <li>● IPCC SSP<sup>5</sup> 1-1.9, 1-2.6</li> </ul>
4°C Scenario <sup>2</sup>	<ul style="list-style-type: none"> <li>● IEA-WEO Stated Policies Scenario (STEPS)</li> <li>● IPCC SSP<sup>5</sup>-8.5</li> </ul>

<sup>1</sup> The scenario where necessary measures are implemented to keep the increase in global average temperature below 1.5°C above pre-industrial levels.  
<sup>2</sup> The scenario where the global average temperature increases by 4°C above pre-industrial levels by the end of the 21st century.  
<sup>3</sup> International Energy Agency "World Energy Outlook" (2022)  
<sup>4</sup> International Energy Agency "Energy Technology Perspectives" (2023)  
<sup>5</sup> Intergovernmental Panel on Climate Change (IPCC) "Shared Socio-economic Pathway"

**Scenario (1)**

**A sustainable society where the richness of humans and nature can coexist**

This is the society that the Company/Group aims for. We will pursue sustainable management to enable our businesses to continue while preserving the environment. In the Agricultural Chemicals business, we have set the goals of: "stable supply of foods" and "sustainable agriculture," based on the long-term management plan "Atelier2050."

**Scenario (2)**

**A society forced to address serious environmental changes**

As future changes in natural capital are uncertain, there is the risk that the degradation of ecosystem services will not be curbed, and people will have to face a rapid tightening of regulations and drastic changes in policies.

**Scenario (3)**

**A society where environmental consideration is not given priority regardless of further environmental deterioration**

There is a risk that even though ecosystem services are further degraded, environmental regulations will not be enhanced without changes in the market; thereby, ecosystem services will seriously deteriorate. As a result, society will suffer substantial damage to economic activities.

**Scenario (4)**

**Conventional society where environmental risks are not apparent**

As future changes in natural capital are uncertain, there is also the possibility that ecosystem services will not deteriorate till 2030, and social conditions will not change as much as anticipated. However, it is certain that the loss of biodiversity and environmental changes, such as climate change, will advance gradually, and it is considered that environmental risks will become evident by 2050 in the long view. In that case, society will likely shift to scenario (2) or (3); therefore, we will take countermeasures for risks and opportunities as described in (2) and (3).

● High-impact risks/opportunities and countermeasures

	Impact on the Company	Countermeasures	Related Scenarios
High-impact Risks	● Increase in raw materials procurement costs due to tightening of environmental laws and regulations for materials sourcing, processing, and production of intermediate products	● Multiple sourcing of several key raw materials ● Price pass-through to products	(1) (2)
		● Switch suppliers to those who use biomass-derived raw materials ● Develop products that use biomass-derived raw materials	(2)
	● Increase in operation costs in our plants due to the enforcement of regulations on pollution	● Change equipment and manufacturing processes in line with the strengthening of regulations ● Distribute facility investment methodically to maintain regulatory compliance as the strengthened regulatory requirements are determined ● Check the trends of tightening regulations in RC (Responsive Care) management activities	(2)
	● Increase in operation costs due to the introduction of tax on plastics; generation of additional costs for replacing production equipment and switching packaging materials by introducing biomass plastics and other recyclable materials	● Reduce the use of plastics for containers and packages ● Switch containers/packages materials from fossil-derived plastics to biomass-derived and other recyclable materials	(2)
	● Declines in the ESG rating, the Group's reputation, and market capitalization, and difficulty in financing due to the delay in countermeasures against climate change, such as the massive use of fossil-derived raw materials	● Enhance RC management ● Enhance initiatives for reducing environmental impacts ● Develop environmentally friendly agrochemicals and promote their sales ● Appropriate information disclosure	(2)
	● Decrease in sales of agricultural chemicals business due to the introduction of regulations on the use of agrochemicals	● Develop environmentally friendly agrochemicals ● Develop biological agrochemicals ● Acquire biostimulant technologies ● Promote registration of agrochemicals in new countries	(2)
	● Reduction of the use volume and decline in sales of agrochemicals due to expansion of the organic beverage and food markets	● Develop environmentally friendly agrochemicals ● Develop biological agrochemicals ● Acquire biostimulant technologies ● Promote registration of agrochemicals in new countries	(1) (2)
	● Reduction of the use volume and decline in sales of agrochemicals by using various technologies, such as big data, drones, and farm management software	● Develop agrochemicals for drone spraying and promote their sales ● Promote registration of agrochemicals in new countries	(1) (2)
	● Increase in raw materials procurement costs due to water scarcity, floods, or similar risks in materials sourcing and processing and production of intermediate products Supply shortage of those materials due to the suspension of or limitations on production	● Multiple sourcing of several key raw materials ● Price pass-through to products ● Switch suppliers to those who use biomass-derived raw materials ● Develop products that use biomass-derived raw materials	(2) (3)
	High-impact Opportunities	● Rises in the ESG rating, the Group's reputation, and market capitalization through progressive approaches and information disclosure	● Enhance RC management ● Enhance initiatives for reducing environmental impacts ● Develop environmentally friendly agrochemicals and promote their sales ● Appropriate information disclosure
● Growth of demand for biological agrochemicals; increase in opportunities to develop new agrochemical products		● Develop environmentally friendly agrochemicals ● Develop biological agrochemicals ● Acquire biostimulant technologies ● Promote registration of agrochemicals in new countries	(1) (2)
● Increase in sales of new agrochemicals suitable for Smart Agriculture (such as drone spraying of agrochemicals*) * It contributes to the reduction of the use volume of agrochemicals		● Develop agrochemicals for drone spraying and promote their sales ● Promote registration of agrochemicals in new countries	(2)
● Increase in sales of agrochemicals* for agricultural products in countries and territories where farming lands are being expanded for food production due to population growth (*Those products that contribute to the prevention of farmland expansion by improving yields and that are environmentally friendly)		● Promote sales of agrochemicals in developing countries where deforestation (farmland expansion) is concern ● Develop environmentally friendly agrochemicals	(1) (2)
● Increase in sales of low-carbon products by switching to biomass-derived raw materials		● Switch suppliers to those who use biomass-derived raw materials ● Develop products that use biomass-derived raw materials	(2) (3)
● Increase in sales of existing products and opportunities to develop new agrochemicals due to the spread of pest insects, weeds, and pathogens and the emergence of resistance		● Develop new agrochemicals ● Enhancing the agrochemicals portfolio ● Promote registration of agrochemicals in new countries	(2) (3)

Indicators and targets related to natural capital

For agricultural chemicals, the Kunming-Montreal Global Biodiversity Framework adopted in December 2022 set global targets, including "reducing the overall risk from pesticides and highly hazardous chemicals by at least half (by 2030)." In addition, the Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF) launched the "Strategy for Sustainable Food Systems, MIDORI," under which MAFF aims to develop innovative technologies to realize a "50% reduction

in risk-weighted use of agrochemicals."

Although agricultural chemicals entail environmental risks, their appropriate use helps increase harvest efficiency and prevent deforestation caused by excessive farmland expansion. Furthermore, we will contribute to biodiversity conservation by properly managing and revitalizing abandoned farmland. Specifically, the "stable supply of food" and "sustainable agriculture" are clearly stated in the Group's long-term management plan, "Atelier2050," and the mid-term "Vista2027," as future directions to pursue in the

Agricultural Chemicals business. To achieve those goals, we need to tackle agricultural subjects, including "reduction of environmental

risks," "improvement of yields," and "management of farmland and green space."

● Metrics, Mid-term and Long-term Targets

Under the long-term management plan "Atelier 2050" and the mid-term management plan "Vista 2027," we currently have the following mid-term and long-term goals for reducing environmental risks.

Category	Metrics	Scope	FY2027 Target	2050 Target
GHG emissions	Scope1+2 (Absolute Emissions)	Non-consolidated	Reduce emissions by at least 30% from the FY2018 level	Carbon neutrality
Waste	Industrial waste and pollutant emissions for final disposal	Non-consolidated	Reduce the final disposal ratio at Nissan Chemical's plants (compared to FY2020)	-

● Indicator

Indicator	Scope	Unit	FY2022	FY2023
GHG emissions (Scope 1+2)	Non-consolidated	t-CO <sub>2</sub> e	327,663	285,320
Total spatial footprint	Total surface area controlled/managed by the organization	*2	m <sup>2</sup>	1,171,692
	Total disturbed area	*2	m <sup>2</sup>	1,171,692
	Total rehabilitated/restored area	*2	m <sup>2</sup>	137,264
Extent of use change	Extent of land/freshwater/marine ecosystem use change	*2	m <sup>2</sup>	0
	Extent of land/freshwater/marine ecosystem conserved or restored <sup>1</sup>	*2	m <sup>2</sup>	472
Soil Pollutants (PRTR Substances)	Non-consolidated	ton	0	0
Water pollution	Effluent <sup>3</sup>	Non-consolidated	1000 m <sup>3</sup>	14,082
	COD	Non-consolidated	ton	259
	Total phosphorus emissions	Non-consolidated	ton	13
	Total nitrogen emissions	Non-consolidated	ton	2,413
	PRTR Substances	Non-consolidated	ton	0.4
	Effluent temperature	Non-consolidated	°C	Remain in a water reservoir for several days and drain at the same level as the outside temperature.
Waste	Volume of industrial waste	Non-consolidated	ton	39,624
	Volume of specially controlled industrial waste	Non-consolidated	ton	6,717
	Incineration	Non-consolidated	ton	13,743
	Landfill disposal	Non-consolidated	ton	5,743
	Waste otherwise disposed <sup>4</sup>	Non-consolidated	ton	18,794
	Waste with unknown disposal method	Non-consolidated	ton	0
	Recycled volume	Non-consolidated	ton	8,062
Atmospheric pollution	Volatile organic compounds (VOCs)	Non-consolidated	ton	0.5
	NO <sub>x</sub>	Non-consolidated	ton	96
	SO <sub>x</sub>	Non-consolidated	ton	19
	Dust	Non-consolidated	ton	7
	PRTR Substances	Non-consolidated	ton	0.5
Compliance violation <sup>5</sup>	Non-consolidated	Cases	0	0
Hazardous waste recycling during production	Non-consolidated	%	0	0
Hazardous waste recycling at end of-life	Non-consolidated	%	0	0

\*1 Percentage change from the previous year

\*2 Nissan Chemical and its consolidated subsidiaries related to agrochemical production (NC Agro Hakodate Corporation, Nissan Bharat Rasayan PVT. LTD.)

\*3 Water returned to the source of extraction at similar or higher quality as raw water extracted

\*4 Industrial waste: Neutralization, crushing, dehydration, mechanical drying, etc. Specially controlled industrial waste: Neutralization, oil-water separation, dehydration, etc.

\*5 Significant violations of environmental laws and regulations

Indicator	Scope	Unit	FY2022	FY2023
Fines or penalties related to violations of environmental laws and regulations	Consolidated	Yen	0	0