Climate Change–Related Risks and Opportunities: Addressing the TCFD Recommendations

In January 2020, NSK endorsed the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. In accordance with the recommendations of the TCFD, NSK identifies business risks and opportunities, adapts management plans, and enhances information disclosure with the aim of contributing to both the sustainable development of society and the sustainable growth of NSK, while endeavoring to take its environmental activities to the next level.

Climate-Related Governance

NSK has adopted a Company with Three Committees (Nomination, Audit, and Compensation) as its form of corporate organization. As part of this organization, the Board of Directors proactively delegates decisions regarding the execution of operations to the executive organizations and monitors the status of execution in an appropriate manner. Under the direction of the CEO, executive officers are responsible for executing their respective duties in accordance with their division of duties. The Mid-Term Management Plan is decided by the Board of Directors, which monitors the Plan's specific measures implemented by the executive organizations, as well as the progress of these measures.

Established in FY2022 and chaired by the CEO, the Core Values Committee specifies Group-wide issues through the discussion of policies for promoting and enhancing the core values of safety, quality, environment, and compliance, and through the sharing of climate-related risks. This Committee also provides suggestions for and monitors the progress of solutions to these issues.

▶ P.57 NSK's Corporate Governance Structure

Climate-Related Risk Management

NSK works to build a risk management system based on clearly stipulated fundamental principles aimed at effectively enabling global Group management and internal control functions. Every year, NSK classifies, analyzes, and evaluates risks to identify the risks that should be addressed. These risks are then managed in accordance with the prescribed reporting systems.

NSK has for some time treated climate-related risk, which is among the risks associated with the environment, across businesses or divisions as a risk of high importance. However, NSK is now analyzing changes in the business environment and impacts on its business by making use of the scenario analysis recommended by the TCFD and has been enhancing efforts to identify issues and implement countermeasures, among other initiatives.

▶ P.52 Risk Management

Strategy

With the goal of considering the future impact that climate change will have on NSK's value chain, as well as the effectiveness of climate change countermeasures, NSK looked at the period up to the year 2050 and performed two scenario analyses, one scenario with a temperature increase of 1.5℃–2℃ and another scenario with an increase of 4℃. As a result of these analyses, NSK determined that its basic strategy is to contribute to realizing a sustainable society in which the global temperature rise can be kept under 1.5℃–2℃. In short, NSK will act to address transition risks associated with CO_2 emission regulations; recognize the needs of society, namely decarbonization throughout product life cycles, as opportunities to advance its business field of Motion & Control™; and promote measures to address climate change through its overall business activities. On the other hand, NSK will promote measures considering the scenario analyses results for natural disasters that are caused by climate change.

Scenario Analysis

■ Analysis targets and prerequisite assumptions

Region	Period	Scope	Main Scenarios Adopted
Countries/regions with NSK presence	2021–2050	Value chain	RCP2.6 (1.5℃), RCP4.5, RCP6.0 (2℃), RCP8.5 (4℃), WEO2020, etc.

■ Image of 2050 society surrounding NSK's business as assumed in the scenario analyses (outline)

	Society Where the Temperature Rises 1.5℃–2℃	Society Where the Temperature Rises 4℃
Image of society as anticipated	• Aggressive environmental policies put in place by governments and other entities fix the price of carbon at a high level, and more than 80% of the power supply is from non-fossil fuels. • Fuel economy regulations for the automobile industry become more stringent, and almost all new cars sold are EVs. • The frequency and impact of natural disasters caused by climate change are greater than current levels but are less severe than in the 4℃ scenario.	• Only mild environmental policies are put in place by governments and other entities, and the ratio of non-fossil fuels in the energy source composition edges up only slightly. • Technological innovation in the automobile industry is lackluster, and internal combustion vehicles that use conventional fossil fuels remain in the mainstream for many new cars sold. • The average temperature continues to rise, and natural disasters caused by climate change increasingly escalate in severity.

Risks and Opportunities

Financial impact is indicated as having a negative (red) or positive (blue) impact on the business. The size of the circle indicates the scale of the impact. When there is almost no impact, it is indicated as "Minimal impact."

Degree of Negative Impact		Degree of Positive Impact	
Small	●	Small	●
Medium	●	Medium	●
Large	●	Large	●

Forecast of Risk from Response Measures

Mid- to Long-Term Future

Classification			Identified Risks		Financial Impact	Short Term: Status of NSK Initiatives	Short Term: Financial Impact	Mid- to Long-Term: NSK Countermeasures	Mid- to Long-Term: Financial Impact
Risk	Physical	Acute	Increasingly severe natural disasters caused by climate change*	Production suspension due to in-house flood damage	●	Implementing flood countermeasures	●	• Making regular confirmations using hazard maps and online water risk finding tools • Implementing appropriate countermeasures against flooding and other risks	Minimal impact
				Supply suspension due to flood damage at suppliers	●	Implementing flood countermeasures	●	• Source diversification of suppliers	Minimal impact
	Transition	Legal	Transition to decarbonization/ electrification	Introduction and strengthening of automobile fuel efficiency regulations and ZEV regulations lowers demand for products geared toward internal combustion engines and transmissions	●	Developing products	●	• Strengthening the development, sales, and production of products for ZEVs	●
				Decreased demand for machinery and facilities that produce automotive internal combustion engines and transmissions	●	Developing products	●	• Strengthening product development for machine tools that address the processing of core components that replace automobile internal engines and transmissions and of materials that lower automobile weight, and the electrification of automobile parts	●
			More stringent regulations pertaining to greenhouse gas emissions	Rising carbon prices lead to increased costs for components, raw materials, and energy procurement, and in line with this, higher costs for developing new materials and methodologies, and for capital investments	●	Reducing CO_2 emissions	●	• Promoting decarbonization in NSK business activities • Employing self-help efforts to cut costs and appropriately reflect that in pricing	Minimal impact
		Reputation	Increasingly sophisticated decarbonization requests from customers	Rising development costs and capital investments for decarbonization, as well as stagnation of efforts, result in reduced credibility and not being selected by customers	●	Reducing CO_2 emissions	●		Minimal impact

Opportunities

Classification			Identified Opportunities		NSK Countermeasures	Financial Impact
Opportunities	Products and services	Rising decarbonization needs throughout the life cycle	Increasing needs to cut the CO_2 emitted when users operate automobiles, machinery, etc. (final goods manufacturer Scope 3 downstream)		• Constantly generating environmentally friendly products, enhancing low friction, achieving lighter weight • Generating new technologies and new products that arise from the Four Core Technologies plus One	●
			Increasing needs to cut CO_2 on components purchased by automobile, equipment, etc., manufacturers (final goods manufacturer Scope 3 upstream)		• Reflecting decarbonization in NSK's business activities in product pricing	●
			Accelerating action to reduce the CO_2 emitted in the manufacturing process of automobile, equipment, etc., manufacturers (final goods manufacturer Scope 1 + 2)		• Offering new solutions utilizing tribology technology	●
	Markets	Electrification progress	• Expanding demand for products/solutions geared toward automobile electrification applications • Growing need for electrification of industrial machinery mobility such as tractors and bulldozers, and machine tools, etc.		• Strengthening the development, sales, production, and solutions for products that address electrification (e.g., actuators) in mobility (automotive, industrial machinery) and machine tools, etc. • Shortening development speeds by utilizing digital twin technology	●
			Rising demand for storage/charging technology		• Helping to solve the issue of EV prevalence through participation in open innovation	●
		Growing air-conditioning demand*	Expanding demand for products/solutions for air-conditioning equipment		• Bolstering products/solutions that contribute to eliminating the need for maintenance	●
		Expanding railway demand	Growing demand for products/solutions for railways		• Strengthening development, sales, production, and solutions for products geared toward railways and wind power generation	●
	Energy source	Growing renewable energy demand	Increasing demand for wind power generation			●
			Rising demand for storage/charging technology		• Developing high-speed rotary bearings for cooling fans	●
			Increasing needs for failure diagnostics/residual life diagnostics		• Strengthening and expanding the condition monitoring system (CMS) business for facilities and equipment	●
			Expanding demand for products/solutions associated with hydrogen energy		• Promoting the development of products for harsh and special environments	●
	Resilience	Increased investment into addressing BCP*	As countermeasures for disaster prevention and mitigation, rising demand for the construction equipment necessary for infrastructure maintenance		• Strengthening the development and production of products for construction machinery	●
		Expanding demand for hydrogen energy	Growing demand for power generators in line with disaster countermeasures		• Promoting product development for household compact power generators	●

Created based on the 1.5℃–2℃ scenario. However, ∗ is assumed to be for a 4℃ scenario.
In estimating the financial impact, the risk of inundation, the number of days of outages, and damage due to inundation, the projected carbon tax price is calculated using data published by public agencies.

Metrics and Targets

NSK has set long-term targets and is advancing initiatives through the dual approach of cutting CO_2 emissions from business activities and expanding on the volume of CO_2 emissions avoided by using environmentally friendly products. Particularly in terms of reducing CO_2 emissions from business activities, NSK has established a target of effectively reducing Scope 1 and 2 CO_2 emissions to zero by FY2035 under MTP2026, which kicked off in FY2022. This CO_2 emission reduction target is consistent with improving corporate value and is used as an indicator for executive officer short-term performance-based compensation.

▶ PP.34–35 Promote Carbon Neutrality

■ Reductions in CO_2 Emissions from Business Activities (Scope 1 and 2)