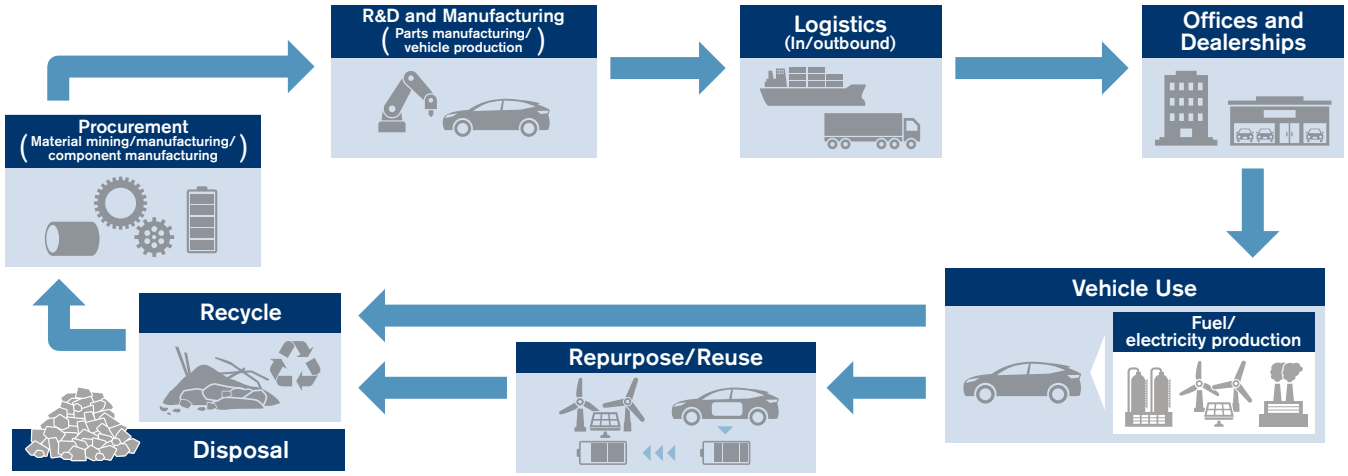
Strategic approach to environmental issues

To solidly contribute to resolving global environmental issues, Nissan engages in direct discussions with environmental experts, investors, NGOs, NPOs, and other organizations globally, analyzing potential opportunities and risks.
As a global automotive manufacturer, we consider not only corporate activities but also those upstream and downstream as part of our corporate responsibility. Our scope of analysis covers the entire value chain, from the procurement of raw materials for vehicles to transportation, disposal, recycling, and product use, including suppliers. We determined that including both upstream and downstream activities within the scope of impact is essential, based on a comparison with the sectoral guidance on dependencies and impacts provided by ENCORE*1.

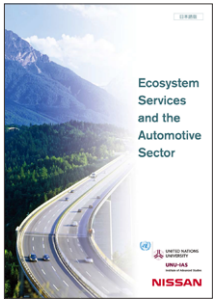
Based on this analysis, we identified materialities*2 that we should address and have identified Climate change, Resource dependency, Air quality and Water as important areas to focus on as Nissan's mid-term to long-term environmental strategy. Specific action plans*3 were established through 2030 to target these key areas. Recognizing that the key areas identified are interconnected, and by addressing them comprehensively, Nissan will also contribute to solve the challenges of nature-related issues, including biodiversity. We will also assess impacts associated with the transition to decarbonization and promote activities that focus on achieving a just transition without adverse impacts to achieve carbon neutrality.

Nissan Value Chain



Initiatives for nature-related issues

The Millennium Ecosystem Assessment carried out between 2001 and 2005 pointed out that the world's ecosystems have declined more rapidly and extensively over the past 50 years than at any other time in human history. In response, Nissan has been evaluating its impact on and dependence on nature throughout its entire value chain, from the mining of material resources to the production and operation of vehicles. Together with the United Nations University, Nissan utilized the Corporate Ecosystem Services Review*4 methodology in conducting research to ascertain the impact and dependency that its own corporate activities have on ecosystems. The findings of that research were published in the 2010 report entitled Ecosystem Services and the Automotive Sector (ESAS)*5. These are also reflected in materiality decisions and incorporated into specific actions as Nissan Green Program (NGP) policies and strategies. Additionally, Nissan is participating in the Keidanren Initiative for Biodiversity Conservation.



*1 Click here for more information on ENCORE. https://www.encorenature.org/en
*2 Click here for more information on sustainability materiality, including the environment. >>> P004
*3 Click here for more information on Nissan's medium-term environmental action plan (NGP2030) >>> P024
*4 Developed by the World Resources Institute (WRI) in cooperation with the World Business Council for Sustainable Development (WBCSD) and the Meridian Institute based on the UN Millennium Ecosystem Assessment (MA).
*5 Click here for more information on "Ecosystem Services and the Automotive Sector". https://www.nissan-global.com/EN/DOCUMENT/PDF/ENVIRONMENT/SOCIAL/ecosystem_services_and_the_automotive_sector.pdf

About the TNFD

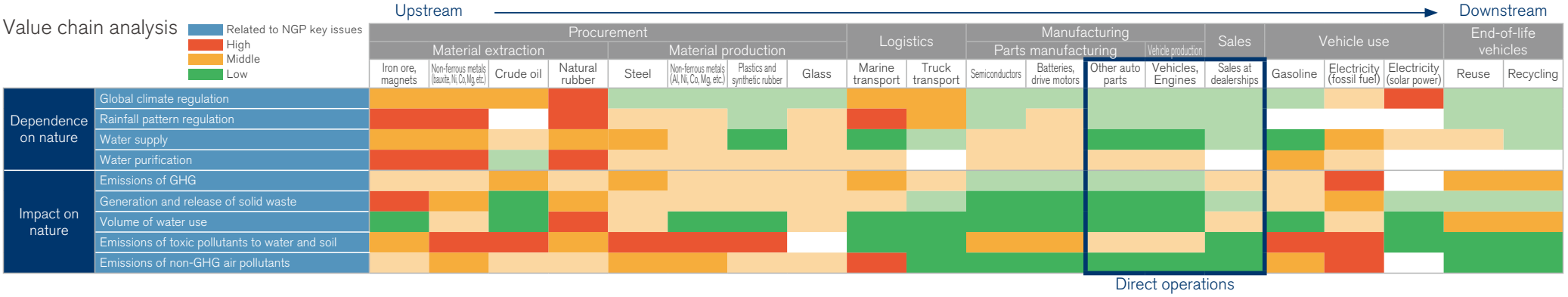
Taskforce on Nature-related Financial Disclosures

At COP15, which was held in 2021 and 2022, a clear direction was set for a nature-positive approach which is to halt, reverse, and restore biodiversity loss by 2030.
In addition the Task Force on Nature-related Financial Disclosures (TNFD), an international organization that develops risk management and disclosure frameworks for companies regarding natural capital and other related matters, published its final recommendations in 2023. These recommendations outline a framework for evaluating the relationship between corporate activities and nature as well as for disclosing appropriate information.
Nissan endorsed the TNFD's recommendations and joined the TNFD Forum to support its activities. Since fiscal year 2024, Nissan has been preparing for disclosures based on the TNFD recommendations. Having obtained approval from executives at the Global Environmental Committee regarding the disclosures based on the TNFD and expansion plans, we registered as a TNFD Adopter in January 2025. We are also strengthening our disclosures related to governance and other areas in accordance with the disclosure recommendations.*1

About LEAP*2 analysis

Based on the LEAP analysis recommended by the TNFD, we analyzed our business activities in terms of their impact on and dependence on nature as well as related opportunities and risks.
In the Evaluate process of LEAP analysis, we used ENCORE*3 to conduct an analysis to identify and evaluate comprehensive nature-related issues in the value chain.
This analysis covered the entire value chain, from material resource extraction to vehicle production and usage, evaluating the impact on and dependence on nature through key materials, parts, and processes across six phases: procurement, logistics, production, sales, vehicle use, and disposal.
Subsequently, Nissan conducted a detailed analysis focusing on its primary responsibility of direct operations using the WRI Aqueduct Water Risk Atlas*4, Integrated Biodiversity Assessment Tool (IBAT*5) and the WWF Water Risk Filter*6.
As a result, it was confirmed that areas with significant impact on and dependence on nature are addressed as key issues in the NGP and its objectives related to resource and water cover the main measures related to nature (see figure below).
Nissan has been assessing and addressing its impact on and dependence on nature ahead of the TNFD, and we have confirmed that the NGP content is consistent with the TNFD and that the NGP is effective in addressing natural issues. Nissan will continue to address nature-related issues in areas closely related to its business (climate change, resources, air quality, and water) and promote activities aimed at achieving the NGP objectives.
Going forward, we will expand the detailed analysis of LEAP to the value chain, identify impact and dependencies, risks, and opportunities, particularly in the upstream areas where risks are high, and consider specific countermeasures.

Value chain analysis



*1 Click here for more information on "TCFD/TNFD index". https://www.nissan-global.com/EN/SUSTAINABILITY/LIBRARY/SR/2025/TCFD/
*2 An integrated approach for assessing nature-related issues, including the process, connection, dependence, impact, risk, and opportunities related to nature, as recommended by TNFD. After scoping, the approach consists of four steps: Locate, Evaluate, Assess, and Prepare.
*3 An online tool to help investigate nature-related risks and understand dependencies and impacts https://encorenature.org/en
*4 Click here for more information on the Aqueduct Water Risk Atlas. https://www.wri.org/aqueduct
*5 Click here for more information on IBAT. https://www.ibat-alliance.org
*6 Click here for more information on the WWF Water Risk Filter. https://riskfilter.org/water/home

Climate change scenario analysis to strengthen strategies for 2050 society

In 2015, the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) adopted a framework (the Paris Agreement) aimed at limiting global temperature increase to "well below" 2℃.
COP26 in 2021 announced its resolution "to continue efforts to limit temperature rise to 1.5℃" to emphasize 1.5℃ restriction, while adding the "reduction of global carbon dioxide emissions to virtually zero by mid-century." Similar to the Paris Agreement, the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 also called for concrete measures to address climate change.
Nissan's efforts toward the environment have achieved continuous results by consistently reaching milestones backcasted from our long-term vision. However, compared with 2006, when we formulated the long-term vision based on the 2℃ scenario from the Intergovernmental Panel on Climate Change (IPCC) report, the threat of extreme weather due to climate change is increasing, and we believe it is necessary to enhance our strategy and make it more resilient amid growing uncertainties.
The scenario analysis conducted for the purpose of strategic enhancements assume societies based on the 4℃ and 2℃ scenarios presented in the International Energy Agency (IEA) time horizon up to 2050 and the 1.5℃ scenario in the IPCC special report. Furthermore, in consideration of factors including changes in customer and market acceptance, tightening automobile regulations and the transition toward clean energy, Nissan's business activities, products and services were examined in terms of strategic resilience to climate change opportunities and risks in the following four steps.

Steps for review

1 Evaluate past materiality, investigate risk factors with a decisive impact on the automotive sector due to climate change in documented studies and define main drivers in categories, such as population, economy, geopolitics, climate change policy and technology.
2 Categorizing main drivers into physical risks and transition risks, then considering the trade-off relationships of each, we examined the rise in the Earth's average temperature in three scenarios of 1.5℃, 2℃, and 4℃, and confirmed the range of risks for the 1.5℃ and 4℃ scenarios based on a 2℃ reference scenario.
3 Based on the degree to which the automobile sector was impacted and the timeline, items with a more substantial impact were screened from the main drivers.
4 Changes, conditions, and effects were adjusted in each scenario to provide guidance based on qualitative evaluation of the elements necessary for enhancing strategies.

As shown on the next page, Nissan operates as a global automotive company, with production facilities and product offerings in over 170 markets worldwide. Therefore, we have considered scenarios where infrastructure, regulations and actual usage vary across markets. As a result of verifying these assumptions, we have recognized that Nissan's electrification and other initiatives have the potential to create opportunities for effective capabilities under all scenarios (1.5° C/2° C/4° C). This demonstrates the company's resilience and is likely to create further opportunities. Therefore, we will accelerate our efforts to implement these technologies.
In particular, activities integrated with the supply chain are essential for responding to risks.
If climate change countermeasures are delayed across society as a whole, possible risks include increased policy and legal regulations for a decarbonized society, increases in R&D efforts, transition risks due to changes in market demand and corporate reputation, and physical risks such as an increase in extreme weather and rising sea levels.
Each of these risks may lead to cost increases and declines in vehicle sales that could significantly impact our financial situation. To mitigate these risks as much as possible and create future opportunities, Nissan will accelerate the implementation of strategies that enhance resilience by translating insights gained from scenario analysis into concrete actions. In addition, the expansion of zero-emission vehicles is not only a major step toward the shift to a carbon-free society as an automobile sector, but also a technology that contributes to the resilience of society in power management and disaster preparedness and mitigation. Nissan believes this will create value for society and business. We believe it is important to clearly and accurately communicate these impacts and the strategies considered to investors and other stakeholders. Nissan supports the TCFD's recommendations and will strive to disclose information in line with its recommended framework.

Envisioned climate change scenarios and assessment of opportunities and risks

Scenario	Area of impact	Category	Business activity opportunities and risks related to climate change	Time frame*1	Financial impact*2	Value chain segments affected	NGP2030 activities	Details of initiatives
1.5℃	Policies and regulations	Transition risks	Complying with a further tightening of vehicle fuel efficiency and exhaust gas regulations may have an impact on the development of electric powertrain technologies and production costs and may influence production costs	Medium to long term	High	R&D Manufacturing Vehicle use	Climate change Air quality	· Establishing a sustainable society using electrified vehicles (P034～) · Compliance with air quality emissions regulations (Passenger cars only) (P043～) · Air quality: Achievements (P058～)
		Transition risks	Increased burden of energy costs due to expansion of carbon taxes, expand investment in energy-saving equipment as policy	Medium to long term	High	R&D Manufacturing Logistics Offices and dealerships	Climate change	· Carbon neutrality roadmap at production plants, Nissan Intelligent Factory (P045)
	Technological changes	Transition risks	Cost effects of utilizing next-generation vehicle technologies such as in-vehicle batteries and other EV-related technologies as well as expanding autonomous driving technologies	Medium to long term	High	R&D Manufacturing	Climate change	· Next-generation battery (P036) · ProPILOT Assist - advanced driver assistance technology (P073)
		Transition risks	Increased demand for rare earth metals used for in-vehicle battery materials will affect supply chains and cause an increase in stabilization costs	Medium to long term	Medium	Procurement	Expand sustainable material Secure responsible sourcing	· End-of-life vehicle recycling, Reuse of rare earth (P055) · Secure responsible sourcing (P031～)
	Market changes	Transition risks	Changes in consumer awareness leads to reduced new vehicle sales due to the selection of public transportation and bicycles and the transition to mobility services	Medium to long term	Low	R&D Manufacturing Vehicle use	Climate change Vehicle usage	· Proof-of-concept experiment for community development using new mobility (P091)
		Opportunities	Expand the provision of power management opportunities with Vehicle to Everything (V2X), an EV energy charging/discharging technology, and redefine the value of EV, especially with Vehicle to Grid (V2G)	Medium to long term	Low to Medium	R&D Manufacturing Vehicle use	Expansion of energy management functions	· Energy ecosystem utilizing EVs (P040) · Introduction of Vehicle to Grid (V2G) technology in the U.K. (P041)
4℃	Extreme weather	Physical risks	The impact on the supply chain and the operation of production bases due to extreme weather such as heavy rain and drought will increase property insurance costs and air-conditioning energy costs	Short to long term	High	Procurement Production	Climate change Enhance water risk management at manufacturing sites	· Risk management systems (P131) · Water-related achievements (P057)
		Opportunities	The need for securing emergency power sources using EV batteries is increasing as a disaster preparedness and mitigation measure	Short to long term	Low to Medium	Development Vehicle use	Expansion of energy management functions	· Blue Switch Program (P091)

Envisioned climate change scenarios

The envisioned scenarios were based on the IEA's NZE*3 scenario report, the IPCC's representative concentration pathways (RCP), and shared socio-economic pathways (SSP).

· 1.5℃ scenario (1.5 DS): Ambitious mitigation measures are indispensable, but in the long term, a transition to a sustainable society is necessary.
References: IEA NZE scenario, IPCC Special Report 1.5

· 4℃ scenario (4 DS): Climate change impacts become severe and widespread, forcing adaptation measures, and abrupt mitigation measures are required as impacts become apparent.
Reference: IPCC RCP 8.5, IPCC SSP 3

*1 Occurrence time frames: Short term (up to one year), medium term (up to three years), and long term (three years or longer)
*2 Degree of impact on sales
*3 NZE: Net-Zero Emissions

Financial impact assessment of carbon tax effects

In fiscal year 2021, we conducted a financial impact assessment, based on the scenario analysis that we had already disclosed.
Below are the results of our assessment of the impact of carbon taxes.

Background to financial impact assessment scenario selection

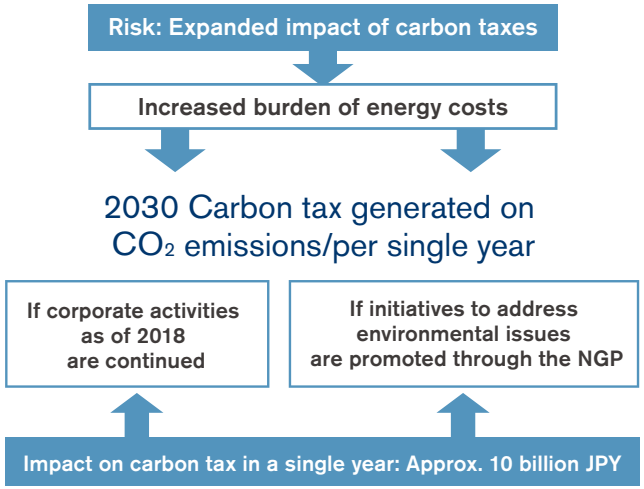
Pricing for CO_2 emissions is progressing, and an increasing number of countries and regions are introducing carbon taxes. Although the level of taxation and the industries subject to the tax vary by country and region, this analysis will focus on the financial impact of the carbon taxes due to their significant impact on companies.

Evaluation of calculation methods and estimated taxes, assumptions

In our calculations, we referred to the IEA report and other reports on carbon taxes as the basis for our carbon tax projection.
The carbon tax on GHG emissions in 2030 was calculated by comparing cases where:
1) Corporate activities as of 2018 have been continued, and
2) The Nissan Green Program promotes environmental activities and the impact of annual carbon tax could be curbed

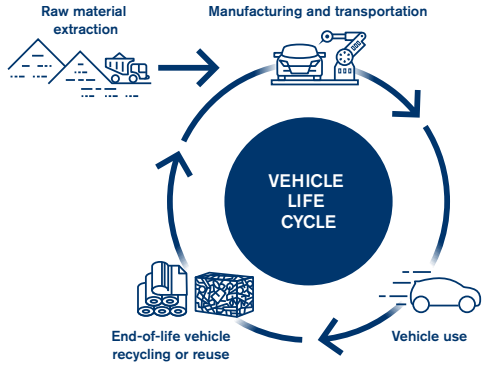
Impact on business outlook

We estimated that the carbon tax impact of Scope 1 and 2 could be kept to approximately 10 billion JPY if the environmental issues addressed in the Nissan Green Program were implemented, compared with the case where GHG emissions were not reduced.



Life cycle assessments to reduce environmental impact

Nissan identifies potential risks by conducting life cycle assessments (LCA)*1. The LCA method is used to quantitatively evaluate and comprehensively assess environmental impact, not only during vehicle use but at all stages, including raw material extraction, manufacturing and transport as well as reuse or end-of-life vehicle recycling.
Our LCA methods were certified by the Japan Environmental Management Association for Industry from 2010. Since 2013, we have switched to certification by the third-party organization TÜV Rheinland in Germany, with the certification being renewed in December 2023. The latter certification is based on ISO 14040 and ISO 14044 standards and validates the environmental impact calculations in our product LCAs.
We have been expanding the application of the LCA method and enhancing our understanding of the environmental impact of our products especially of our best-selling models worldwide in quantitative terms. Coverage on a unit basis has reached approximately 80% of global models and approximately 90% in Europe.
Through the continuous implementation of LCA, we will promote the visualization and reduction of environmental impacts throughout the vehicle life cycle.



*1 Click here for more information on the results from life cycle assessments. >>> P037