Nissan Green Program

Key issues and challenges of Nissan Green Program (NGP) medium-term environmental action plan

We first formulated the Nissan Green Program (NGP) medium-term environmental action plan in 2002 to achieve our environmental philosophy of "a Symbiosis of People, Vehicles, and Nature".
This plan aim to ultimately reduce our environmental dependence and impact to levels that nature can absorb. The fifth-generation NGP2030 plan, formulated in fiscal 2023, is strengthening and promoting activities towards the realization of a sustainable and harmonious society with nature. Based on Nissan's environmental materiality analysis, Climate change, Resource dependency and Air quality and Water have been identified as important issues under NGP2030. We are committed to addressing these three key issues from a long-term perspective, taking into account both compliance and social demands. To contribute to the resolution of these important issues and create new value, we are working to ascertain needs through stakeholder engagement and strengthening our foundations related to environmental issues.
Nissan will accelerate efforts to address environmental issues across the entire company, including development and manufacturing departments involved in vehicle manufacturing, as well as sales and service departments. Simultaneously, we will strengthen our foundations and create value for society. We will make efforts to co-create a sustainable society both through our own internal environmental activities, as well as by encouraging business partners and other external stakeholders to take actions. The indicators and progress of initiatives related to key issues will be disclosed annually.

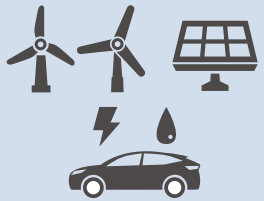
Evolution of NGP

2002	NGP2005	Reducing environmental impact on urban and regional areas
2006	NGP2010	Reducing global environmental impact to a level that can be absorbed naturally by the Earth
2011	NGP2016	Reducing use of resources and global environmental impact to a levels that can be absorbed naturally by the Earth
2017	NGP2022	Resolving social issues to build a better world
2023	NGP2030	Ensuring our living society is sustainable and in harmony with nature

NGP2030 key issues

Climate change

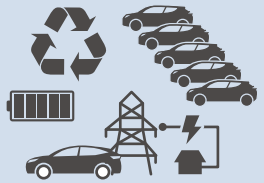
Carbon neutral



Toward the goal of carbon neutrality by 2050, strive for electrification potential and *Monozukuri* innovation.

Resource dependency

No new material resource use



Drive circular economy by efficient and sustainable use of resources, and by creating a system that maximizes the use of mobility

Air quality and Water

Zero impact / zero risk

Reduce water usage and manage water quality in response to the regional issues, and reduce the impact on air quality by minimizing emissions from cars and corporate activities.

Climate change

Nissan's initiatives towards achieving a carbon neutral society

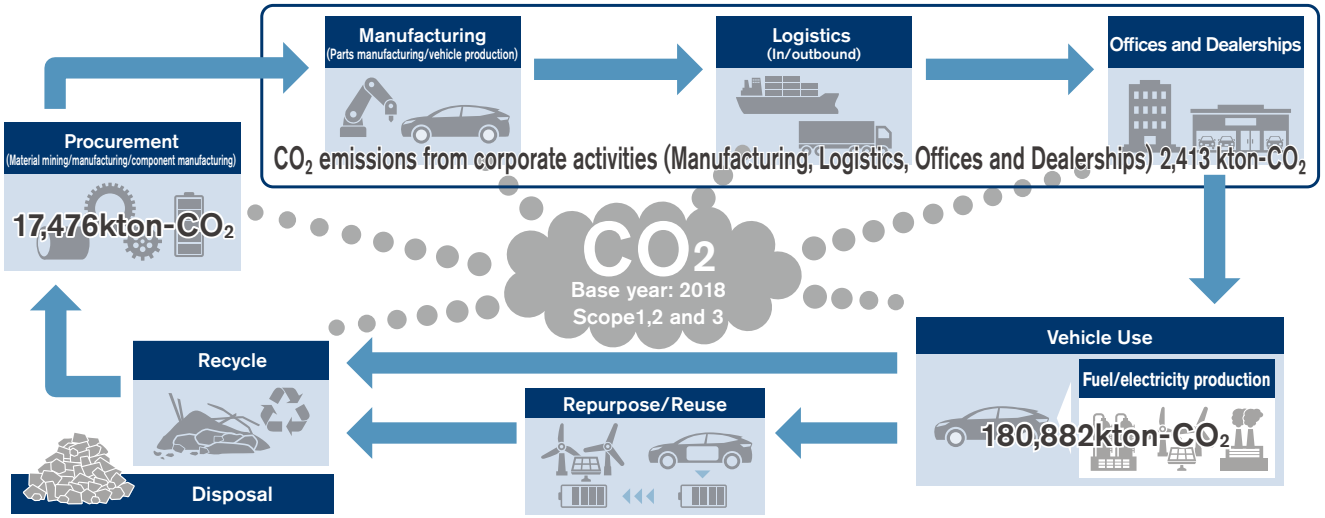
The business structure of the automobile industry is undergoing significant changes in response to the demands for reducing CO_2 emissions and transitioning away from dependence on fossil fuels.
Nissan has declared the goal of carbon neutrality by 2050 and is focusing on the electrification of products and innovation in corporate activities, working in collaboration with suppliers to promote activities towards achieving this goal. As renewable energy and charging infrastructure expand, we will continue to promote the electrification of products and pursue the sustainability of our business activities to realize a carbon neutral future.

NGP2030 involves actively working towards achieving the 1.5℃ scenario by accelerating efforts to address climate change. The plan focuses on reducing CO_2 emissions, implementing electrification technologies, and creating environmental responsiveness and social value.

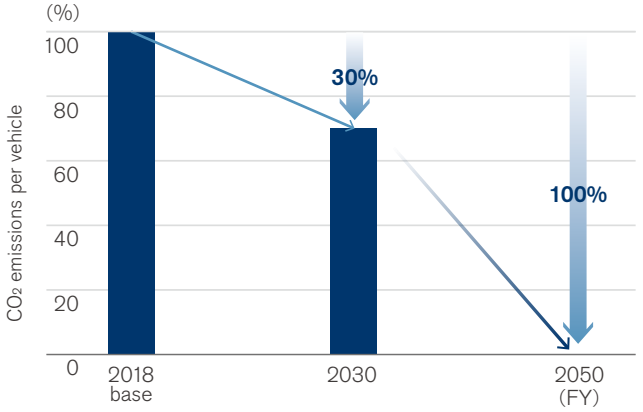
Efforts to reduce CO_2 emissions across entire product life cycles

Nissan is actively working on reducing CO_2 emissions across the entire life cycles of its vehicles. We are promoting the development of new technologies and the introduction of renewable energy in the entire value chain, including suppliers, to achieve CO_2 reduction at every stage, from raw material extraction to manufacturing, transportation, product use, and disposal.
We are working to achieve a balance between these efforts and our corporate activities. Nissan promotes CO_2 reductions in all areas of business activity, including procurement, manufacturing, logistics, offices, and dealerships and products. Under NGP2030, we set the target of a 30% reduction in CO_2 emissions by 2030 across entire product life cycles.
CO_2 emissions over the life cycles in fiscal 2023 were reduced by 11% compared with fiscal 2018.

Life cycles CO_2 emissions



Long-term vision for life cycles

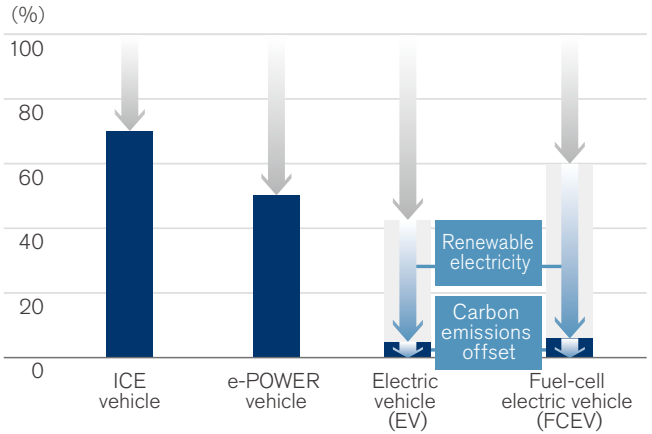


Initiatives through products

Approach to product initiatives

CO_2 emissions from new vehicles (use stage) accounted for more than 80% of total lifecycle emissions as of 2023. To reduce CO_2 emissions from new vehicles (use stage), Nissan will develop and provide vehicle with lower CO_2 emissions to customers. Nissan is working on improving fuel efficiency of ICE*1 vehicles and expanding its lineup of electrified vehicles.

CO_2 emissions comparison by power train (WtW*2)

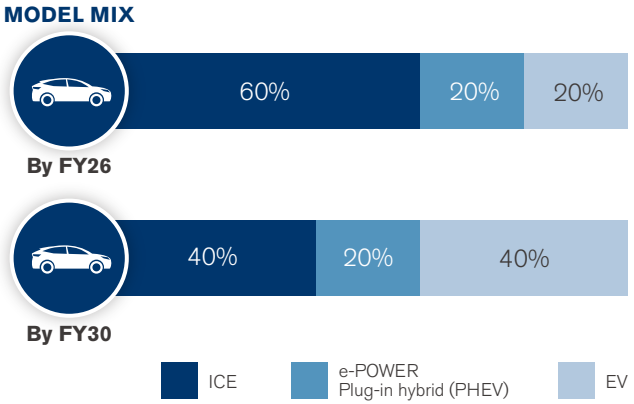


After implementing maximum CO_2 emission reduction initiatives, Nissan will consider applying offsets to mitigate the unavoidable CO_2 emissions, aiming to achieve our lifecycle CO_2 emission target.

Product launch plans

Under our medium-term business plan, The Arc, we announced that a total of 34 electrified vehicles will be introduced to cover all segments globally between fiscal 2024 and fiscal 2030 and that the electrified vehicle model mix will be 40% by fiscal 2026 and 60% by fiscal 2030. We plan to launch 30 new models by fiscal 2026, including 16 electrified vehicles.

Electrification plan



Product CO_2 emission reduction scenarios

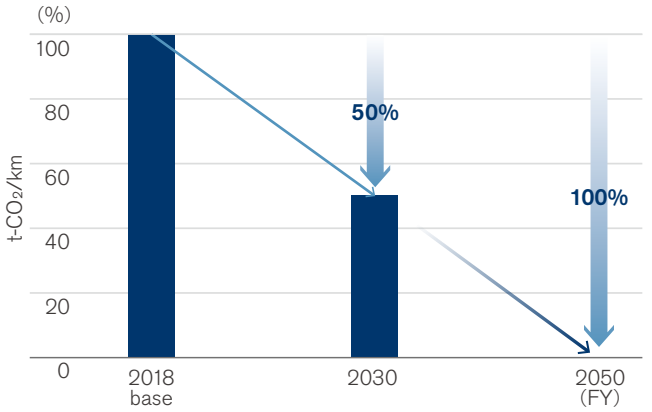
Long-term vision

We aim to achieve carbon neutrality in the vehicle life cycle and all business activities by 2050.

NGP2030 target

By 2030, we aim to reduce CO_2 emissions from new vehicles by 32.5% globally and 50% in the four regions, compared with 2018 levels.

CO_2 emissions from new vehicles (Four regions: Japan, U.S.A., Europe and China)



*1 ICE: Internal combustion engine
*2 Nissan is aiming to reduce WtW (well to wheel) CO_2 emissions which are from the mining of fuel to driving on tires.

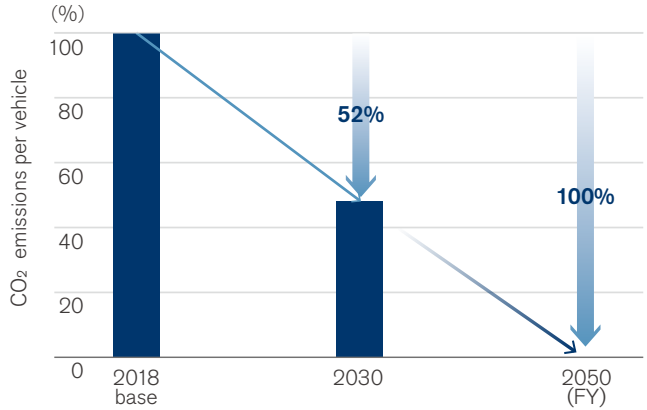
Initiatives through corporate activity

Approach to corporate activity initiatives

Reducing CO_2 emissions from corporate activities

Nissan is actively working to reduce CO_2 emissions by promoting energy-saving initiatives and the introduction of renewable energy. In the corporate activities under NGP2030, we have set targets for reducing CO_2 emissions in various areas including, manufacturing activities, logistics, offices, and dealerships, aiming to reduce emissions throughout the entire value chain.
In manufacturing activities, we aim to achieve 52% reduction in CO_2 emissions from our global production sites by 2030, accelerating efforts towards achieving the 1.5℃ scenario (per vehicle, compared with 2018).
Regarding activities leading to carbon neutrality, Nissan will first minimize energy consumption through the measurement and management of energy use and energy-saving activities and promote electrification. Nissan promotes the electrification and substitution of fossil fuels with carbon-free energy for our production facilities. We will also promote technological development to create further opportunities.

Long-term vision for manufacturing activities

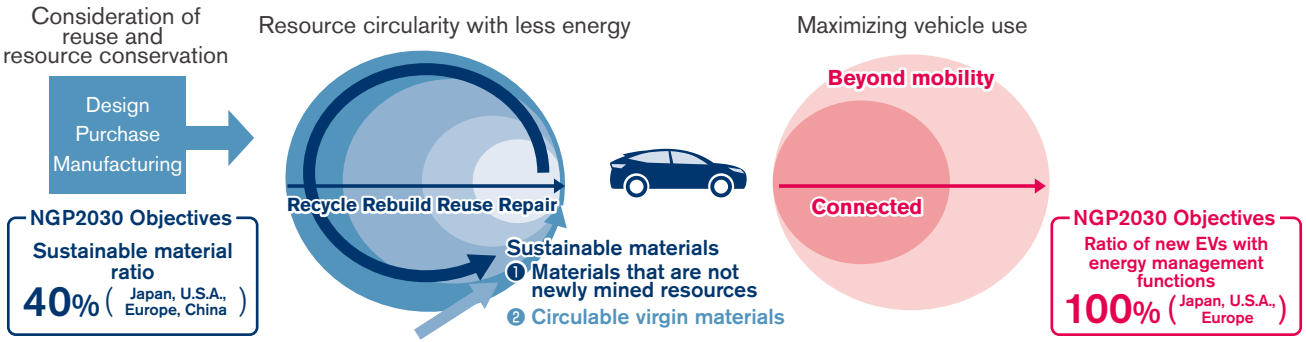


Resource dependency

Approach to resource dependency

Nissan aims to incorporate the circular economy, efficiently and sustainably utilizing resources throughout a vehicle's entire lifecycle, while maximizing the value provided to customers and society.

Nissan's circular economy

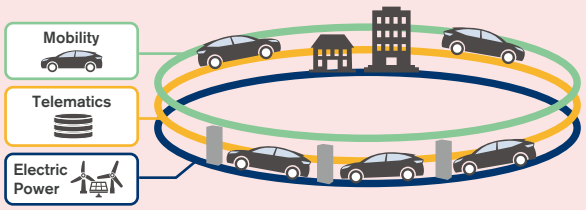


Resource circularity with less energy

Nissan promotes reuse and the saving of resources from the design, purchase, and manufacturing phases. We continuously work on using recycled materials, the proper management of chemical substances, and the reductions of veicle weight.
To use resources effectively with less energy, we continue to expand the application of recycled materials to new vehicles, the use of recycled parts for customer repairs and replacements, and EV batteries in secondary applications. Furthermore, we will promote the adoption of circulable materials for cases using new materials as well, toward future sustainable resource circularity.

Maximizing vehicle use

Nissan aims to maximize vehicle usage as mobility through new services such as ride-sharing when driving, and as energy sources sharing battery power with homes and society when parking.



Approach to sustainable materials

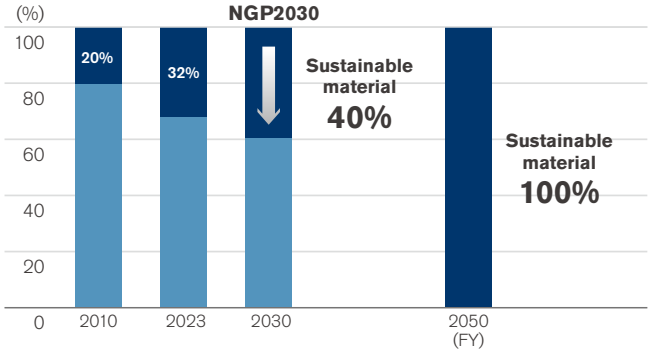
As basic requirements for sustainable materials, the following (1*1) and (2) are set; (1) materials that are not newly mined resources, (2) virgin materials that can be continuously circulable. Nissan defines sustainable materials that meet (1) or (2) and additional sustainability requirements.

By promoting their use in new vehicles and replacement parts, we aim to ensure and expand the use of sustainable materials going forward.

Sustainability requirements

- De-carbonized materials
- Non-toxic materials
- Ethically sourced materials
- Certified materials

Sustainable material long-term vision



Approach to energy management

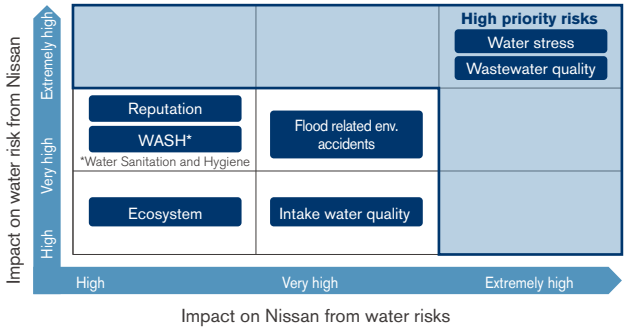
By sharing the electricity of EV batteries with homes and society during parking, EVs can contribute to society as well as utilize the potential of resources in electricity bill savings, the local generation and consumption of renewable energy, providing emergency backup power and so on. To share electricity, EVs need energy management functions such as bidirectional charging and telematics communication. Nissan aims to equip all new EVs with energy management functions by 2030.

*1 Recycled materials, biomaterials, etc.

Water

Approach to water management

Driven by rising populations and economic development, demand for water will continue to increase globally. With rain patterns also changing due to extreme weather events, the stability of water supplies is likely to become a more pressing social concern with every passing year.
Nissan needs to use water especially for painting and cleaning processes, and for cooling purposes. We analyzed the materiality of water risks that Nissan should address from two aspects, “Impact on water risk from Nissan” and the “Impact on Nissan from water risk”, identifying “water stress (drought)” and “wastewater quality” as key priorities. Nissan will continue reducing its dependence and impact on water environments in local business operations, while regularly reviewing water risk assessments.



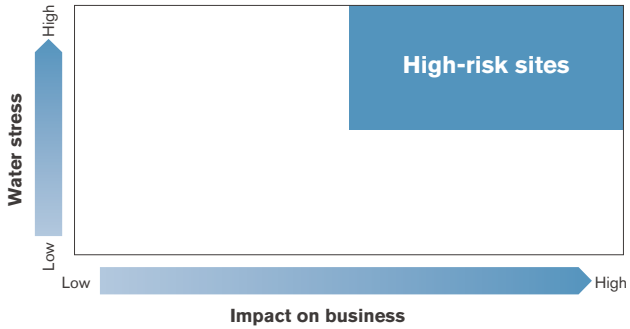
Water is an unevenly distributed resource, and we perceive it as a highly localized issue. Nissan prioritizes activities to reduce water usage, such as recycling wastewater and making effective use of rainwater, in areas with high water stress, while also contributing to the addressing of local water initiaties.

Long-term vision
Reduce the number of manufacturing sites with water risks to zero by 2050.

NGP2030 objectives
Reduce the number of manufacturing sites with high water risks (high-risk sites) to zero.
- Reduce water usage at manufacturing sites
- Manage wastewater quality at manufacturing sites

Managing water usage

Water stress analysis
As the amount of usable water varies greatly depending on the basin where our manufacturing sites are located, we assess water stress at all global manufacturing sites. NGP2030 also prioritizes efforts to reduce water usage by designating sites with high water stress having a significant impact on our business as High-risk sites. Additionally, we continue water usage reduction at all sites, not just those with high water risks.



- Water stress on all global manufacturing sites is assessed based on water stress indicators from the Aqueduct Water Risk Atlas provided by the World Research Institute.
- Impacts on business are assessed based on production volumes

Wastewater quality management

The quality of wastewater can affect the amount of water available for use, especially in areas with limited water resources, which further increases its significance.
At Nissan’s main manufacturing sites, we implement wastewater treatment in accordance with stricter standards than local regulations to ensure compliance with wastewater quality management laws.

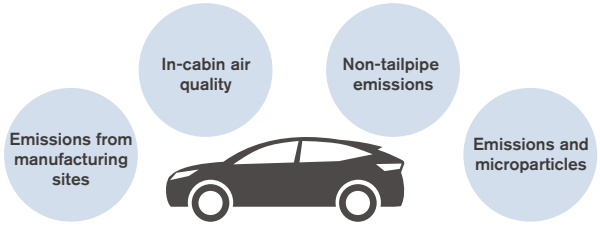
Example of water quality management initiatives
- At manufacturing sites in Japan, we have installed water quality sensors in the drains of wastewater treatment facilities and introduced systems that automatically stop discharging wastewater outside the sites if any problems are detected, thereby augmenting the prevention of water pollution.
- Processing recycled water using reverse osmosis (RO) membranes has allowed some manufacturing sites to achieve zero wastewater discharge.

Air quality

Approach to air quality

Nissan approaches air quality by focusing on two points: lower emissions from vehicle tailpipes and manufacturing activities, and providing a pleasant in-cabin environment to customers.
In this way, we will strive to show consideration for ecosystems while pursuing mobility that provides more comfort and security to customers. According to the State of Global Air 2018 report issued by the U.S.A.-based Health Effects Institute (HEI), 95% of the world's population was at that time living in regions where particulate matter smaller than 2.5 μm (PM2.5) exceeds the 10 μg/ m^3 basic level specified by World Health Organization (WHO) Air Quality Guidelines.
In addition, the Euro 7 emission regulation planned for enforcement in Europe will include vehicle tailpipe emissions, as well as the reduction of particulate matter emissions from brakes, tires, and other components.
Nissan will expand the scope of its responsibility for air quality to align with global regulatory trends, and by reducing all emissions from vehicles and manufacturing Nissan aims to minimize impacts on local nature and human health.

Nissan air quality initiatives



Long-term vision

Minimize impact on air quality from vehicles and manufacturing

NGP2030 objectives

Activities	Objectives
Enhance management of vehicle emissions, including non-tailpipe emissions	Technology development and adoption
Manage in-cabin air quality	Comply with Nissan standard on in-cabin VOCs
Manage VOC at manufacturing sites	Continue current activities (paint shops)

Reduction of emissions from vehicles

To reduce emissions within and outside vehicles, Nissan is engaged in the following activities.

Managing and improving out-cabin air quality

- Promoting Zero-emissions vehicles (EVs)*1
- Enhancing internal combustion engines*1
- Reduction of non-tailpipe emissions and particulates
  Nissan has begun exploring technologies to comply with the next proposed European emission regulation, Euro 7, in terms of particulate emission from brake wear etc..

Managing and improving in-cabin air quality

In addition to cleaner vehicle emissions, we are also conducting research and development on improving the in-cabin environment, including air quality, to make it more comfortable for passengers. Under NGP2030, we will comply with Nissan's standards, which are stricter than the laws and regulations of each country regarding in-cabin VOCs.

Reduction of emissions from manufacturing activities

Typical emissions from vehicle manufacturing plants include nitrogen oxides (NOx), sulfur oxides (SOx), and VOCs, and Nissan has continued to employ strict measures to address the emission of these substances.
·NOx, SOx : Since NOx and SOx are released into the air when fossil fuels are combusted, we have been promoting the adoption of low-NOx burners, change to low-SOx fuels, and so on. Going forward, we expect to reduce emissions from manufacturing even further by electrifying facilities that use fossil fuels.
·VOC: To reduce VOC emissions, we collect and recycle cleaning thinners and promote the use of water-based coating lines in painting processes.
Nissan is working to ensure thorough compliance with management standards and mechanisms relating to substances released into the atmosphere, and will engage in activities to reduce both the usage and emission of causal substances.

*1 Click here for information. >>>P042

Foundations

Under NGP2030, Nissan will work to ascertain needs through stakeholder engagement and strengthen its business foundations that relate to environmental issues to create new value and contribute to resolving the critical issues of climate change, resource dependency and air quality & water.
As a global company, we have a responsibility to address various environmental issues and to be accountable in all aspects of the value chain. We are committed to achieving a sustainable mobility society and sustainable business operations, as well as to contribuing to regional communities through the following initiatives Identifying risks throughout vehicle life cycles using life cycle assessment; working with suppliers to improve environmental performance; establishing systems to realize information management throughout the value chain; and continuous efforts to raise environmental awareness among employees.

Secure responsible sourcing

Nissan must comply with EU battery regulations,the CSRD*1 and other environmental due diligence amid the rising importance of reducing environmental risks throughout the entire value chain. Further, given regulations relating to corporate social responsibility (CSR) and information disclosure frameworks such as TCFD*2 and TNFD*3, companies are required to promote and disclose not only their own environmental/social activities but also those throughout their supply chains.
Nissan clearly positions suppliers as important partners in its CSR policy. We have shared our basic philosophy and procurement policies on environmental and social issues with suppliers. Also, we promote collaborations on environmental activities through the formulation and publication of several of our policies (Nissan Human Rights Policy Statement, Nissan Global Guideline on Human Rights, Nissan CSR Guidelines for Suppliers, Nissan Green Purchasing Guidelines) and engage with suppliers by holding annual environmental activity briefing meetings.
In response to external trends, including legal requirements for information disclosure under NGP2030, we are incorporating the requirements for responsible procurement into our guidelines and actively managing supply chain risks. This includes expanding the use of materials that meet Nissan's sustainability requirements.

Secure and integrate value-chain information (traceability)

To prepare for the trend toward regulation and expanded disclosure throughout the value chain, we are considering the establishment of a system to collect and manage supply chain information across the industry. Further, the disclosure of non-financial information, including CO_2 emissions from corporate activities, is also required in addition to the disclosure of financial information.
To respond to these external trends, we aim to realize the integrated information management of environmental impacts throughout the value chain and secure accountability (traceability). To understand and manage climate change, as well as human rights issues in the supply chain, impacts on water, air and the natural environment, we have started to introduce a digital platform for integrated information management. Specifically, we aim to provide timely and appropriate information by ensuring transparency to stakeholders with internal monitoring tools to record and manage our own CO_2 emissions, water and waste. In addition, we aim to further accelerate collaboration with suppliers to reduce environmental risks through information management and inter-company data linkage across the entire Nissan supply chain.

Enhance environment governance

It is important that all employees act with integrity and in accordance with high ethical standards to reduce environmental impact. In all regions where Nissan operates, we have established internal standards to ensure compliance with environmental laws, regulations and the demands of society. In aiming for thorough legal compliance with regard to the environment, under NGP2030 we are promoting the understanding of environmental laws through educational activities for employees and other initiatives on a worldwide basis.

*1 Corporate Sustainability Reporting Directive
*2 Task Force on Climate-related Financial Disclosures
*3 Task Force on Nature-related Financial Disclosures

NGP2030 action plan

Activities			NGP2030 Objectives	FY2023 result
Climate change				
Long-term vision: Realize carbon neutrality by 2050				
1	Reduce CO_2 emissions (Base year 2018)	Life cycles (t-CO_2/vehicle)	-30% (Global)	-11% Through the promotion of CO_2 reduction activities in various areas, reduced CO_2 emissions per vehicle.
2		Product (g-CO_2/km)	-32.5% (Global), -50% (4Majors: Japan, U.S.A., Europe and China)	Global : -12%, 4Regions (Japan, U.S.A., Europe and China) : -15% CO_2 emission reduction by promoting electrification, especially 4Regions.
3		MFG (t-CO_2/vehicle)	-52% (Global)	-0.5% In addition to continuing energy conservation activities, promoted the introduction of renewable energy.
4		Suppliers		Promoted reduction of CO_2 emissions during manufacturing by expanding the application of green aluminum and green steel.
5		Logistics (t-CO_2/vehicle)		-6.4% CO_2 emissions per vehicle reduced by promoting modal shift in China and air freight reduction.
6		R&D facility (t-CO_2/development cost)		Promoted reduction of CO_2 emissions by implementing activities such as energy conservation at global R&D sites.
7		Offices (t-CO_2/floor area)		-36% Implemented energy-saving activities, such as LED conversion and operational improvements, starting from FY2023, the electricity of global headquarters is derived from 100% renewable energy sources.
8		Dealerships (t-CO_2/floor area)		-16% In addition to continuing energy-saving activities such as switching to LED, considered further improvement plans at specific stores and implemented them at stores nationwide in Japan from FY2024.
Resource dependency				
Long-term vision: No new material resource use				
9	Materials	Expand sustainable material (weight basis)	40% (Japan, U.S.A., Europe and China)	32% Expanded the use of sustainable materials through the active adoption of recycled materials and green materials.
10		Manage waste / Landfill		Promoted waste reduction such as the use of returnable containers. Continued zero landfill at all factories in Japan as well as factories in Brazil and India etc.
11	Vehicles	Expand energy management function	Equipped rate to EV: 100% (Japan, U.S.A. and Europe)	Developed charging and connected technologies to achieve energy management.

Activities			NGP2030 Objectives	FY2023 result
Air quality and water				
Long-term vision: Zero impact / Zero risk				
12	Water	Enhance water risk management at manufacturing sites	Zero high-risk sites	Promoted activities at sites to achieve zero high-risk sites.
13		Reduce water usage at manufacturing sites		Promoted water reduction at sites with high water usage, such as reducing the amount of cooling water at the Tochigi Plant.
14		Manage wastewater quality at manufacturing sites		Continued wastewater quality management at manufacturing sites.
15	Air quality	Enhance management of vehicle emissions, including non-tailpipe emissions	Technology development and adoption	Started exploring technologies to reduce brake wear dust to comply with stricter regulations.
16		Manage VOC at manufacturing sites	Continue current activities (paint shops)	Promoted transition to water-based paint and improved recovery rate of waste thinners.
17		Manage in-cabin air quality	Comply with Nissan standard on In-Cabin VOC	All models designated for FY2023 complied with Nissan standard on In-Cabin VOC.
Foundation				
18	Secure responsible sourcing		Secure supply chain risk management	Updated the Nissan CSR Guidelines for Suppliers and Nissan Green Purchasing Guidelines and ensured thorough compliance.
19	Assure and integrate value-chain information (traceability)		· Build and operate carbon footprint management system for corporate activities and parts production · Secure supply chain data reliability	Started studying corporate carbon footprint information management to realize integrated data management.
20	Enhance environmental governance			Updated the Global Environmental Policy reflecting NGP2030. Continued activities in each region, such as environmental compliance training for employees in ASEAN.