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 aims to ultimately reduce our environmental dependence and impact to levels that nature can absorb toward the ultimate goal of creating value from making a positive impact on the environment.
The fifth-generation NGP2030 plan, formulated in fiscal year 2023, is strengthening and promoting activities toward the realization of a sustainable and harmonious society with nature. Based on 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.
In setting climate change targets, we estimated long-term CO_2 reduction volume based on the latest Intergovernmental Panel on Climate Change (IPCC) reports and set targets using backcasting based on the climate change scenario analysis described above. We will disclose indicators and progress related to material issues every year.
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.

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.

NGP2030 CO_2 reduction objectives (compared with FY2018)

Overall life cycle of Nissan vehicles	Manufacturing	Product
Global -30% (t-CO_2/vehicle)	Global -52% (t-CO_2/vehicle)	Global -32.5% 4Regions* -50% (g-CO_2/km)

*Japan, The U.S.A., Europe, China

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

NGP2030 Objectives

Resource circularity with less energy	Maximizing use of vehicles as resources
Sustainable material ratio 40% (Japan, U.S.A., Europe, China)	Ratio of new EVs with energy management functions 100% (Japan, U.S.A., Europe)

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.

NGP2030 Objectives

Enhance water risk management at manufacturing sites:	Air quality
Zero high-risk sites	· Enhance management of vehicle emissions, including non-tailpipe emissions · Manage VOCs* at manufacturing sites · Manage in-cabin air quality

*Volatile Organic Compounds

Climate change

Nissan's initiatives toward achieving a carbon-neutral society

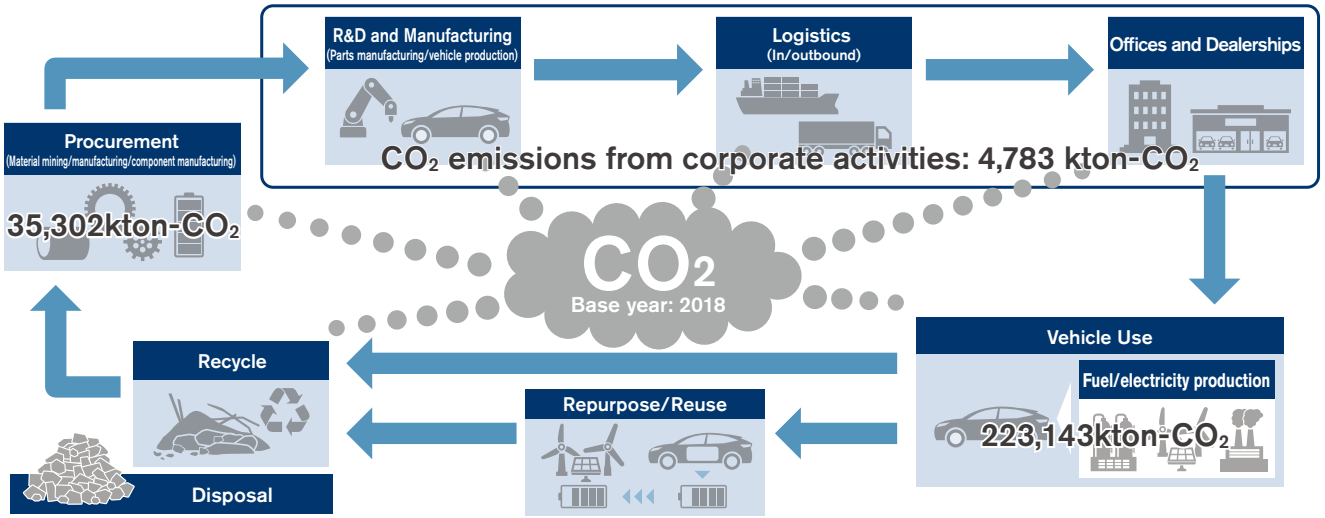
The business structure of the automobile industry is undergoing significant changes in response to the demands for reducing CO_2 emissions and transitioning away from dependence on fossil fuels. Nissan has declared the goal of carbon neutrality by 2050 and is focusing on the electrification of products and innovation in corporate activities, working in collaboration with suppliers to promote activities toward 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 toward 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.

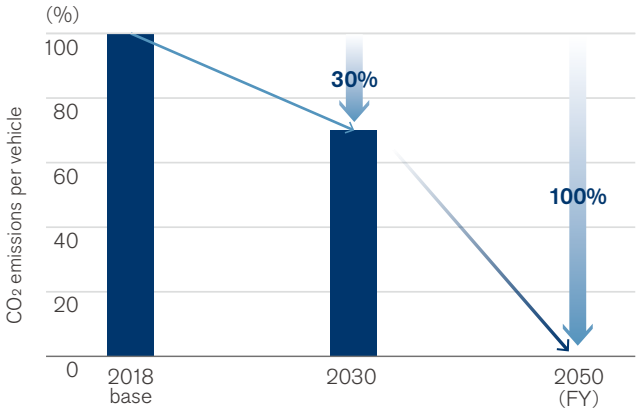
Efforts to reduce CO_2 emissions across entire product life cycles

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.
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 year 2024 were reduced by 12% compared with fiscal year 2018.

Life cycle CO_2 emissions



Long-term vision for life cycles

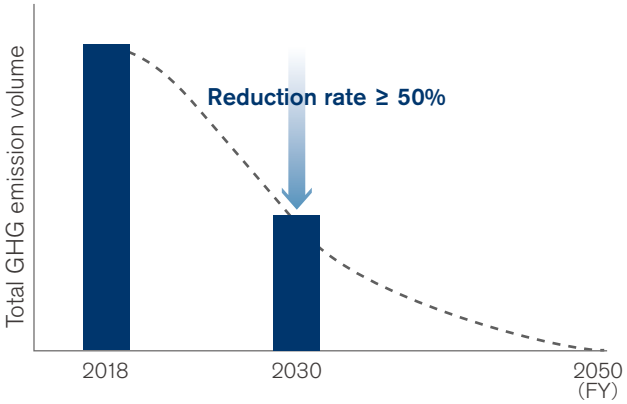


Initiatives through corporate activities

Approach to corporate activity initiatives

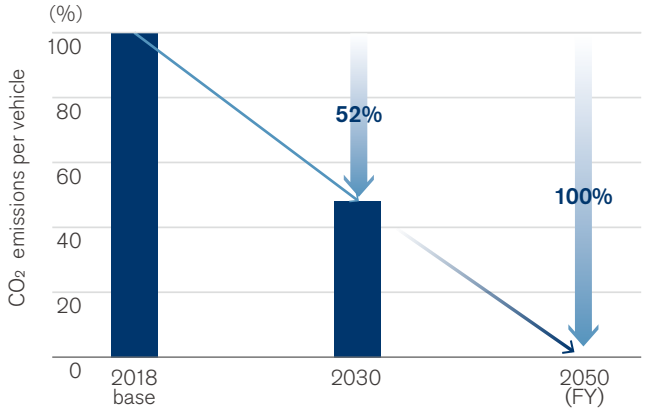
In 2018, the IPCC Special Report on Global Warming of 1.5℃ indicated the necessity of limiting the global average temperature rise to 1.5℃ above pre-industrial levels and achieving net zero emissions by 2050.
Based on the IPCC report, Nissan has estimated that it will need to reduce its total CO_2 emissions (Scope 1 and 2) by at least 50% by 2030 (compared with 2018 levels).
Aiming to achieve the 1.5℃ target, in the corporate activities under NGP2030, we have set targets for reducing CO_2 emission intensity in various areas, including manufacturing, offices, and dealerships.

Long-term vision for Scope 1 and 2



Particularly in manufacturing activities, which account for approximately 90% of Scope 1 and 2 emissions, we have calculated that a 52% reduction per vehicle (compared with 2018) is required by 2030 (compared with 2018) and have incorporated this target into the NGP.

Long-term vision for manufacturing activities



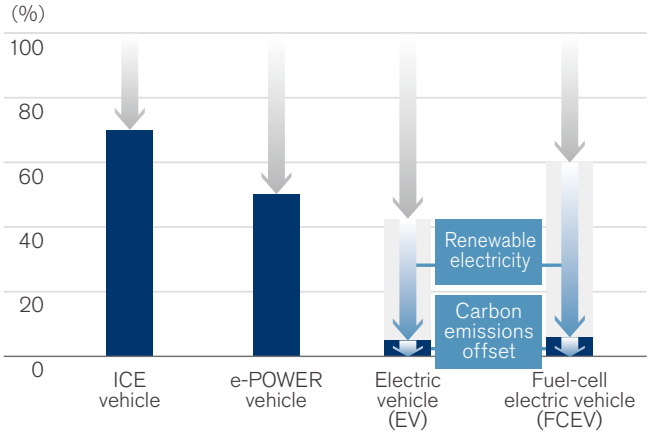
Regarding activities toward achieving this target, Nissan will first minimize energy consumption through the measurement and management of energy use and energy-saving activities. Nissan promotes the electrification and substitution of fossil fuels with carbon-free energy for our manufacturing facilities. We will also promote technological development to create further opportunities to achieve the 1.5℃ target.

Initiatives through products

Approach to climate change

CO_2 emissions from new vehicles (use stage) accounted for more than 80% of total life cycle emissions as of 2024. To minimize this impact, Nissan is committed to developing and continuing to provide vehicles with lower CO_2 emissions to its customers.

CO_2 emissions comparison by power train (WtW*1)



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

Product initiatives for climate change

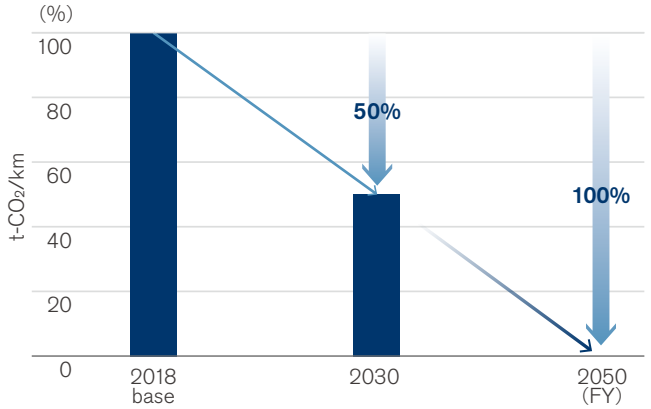
Nissan is promoting electrified vehicle innovation through a variety of technological advances to reduce the environmental impact of its products. We also aim to optimize our electrification model mix and offer a balanced product lineup that align with diverse customer preferences and the pace of electrification in each market. The vehicle electrification technologies will be applied not only to passenger cars but also to commercial vehicles.
Through the provision of innovative products, Nissan will continue to seek further advances in sustainability as one of its business foundations.

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 objectives
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)



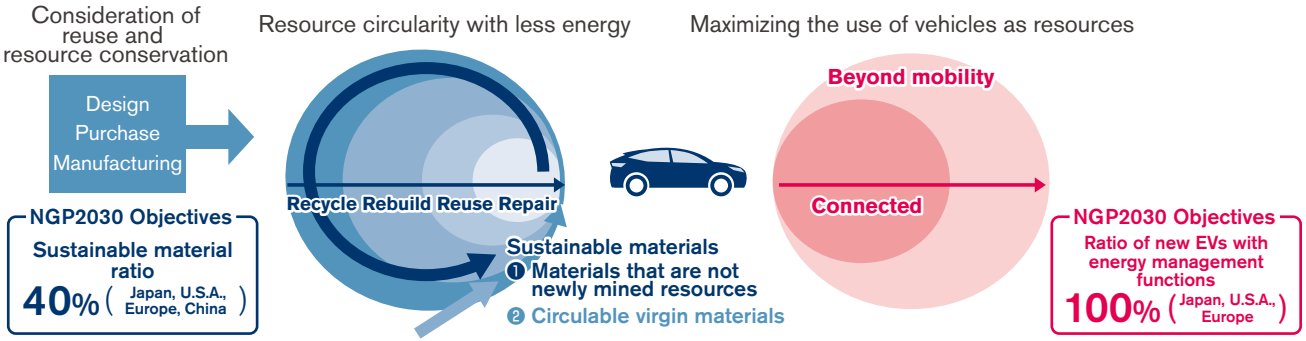
*1 Nissan is aiming to reduce WtW (well to wheel) CO_2 emissions which are from the production of fuel to driving on tires.

Resource dependency

Approach to resource dependency

Nissan aims to incorporate the circular economy into its business by efficiently and sustainably utilizing resources throughout a vehicle's entire life cycle while maximizing the value provided to customers and society.

Nissan's circular economy

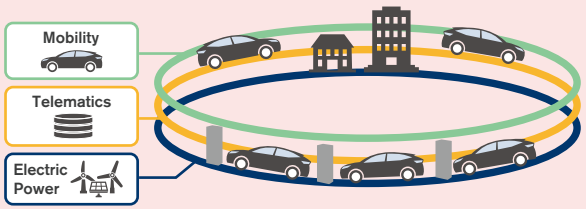


Resource circularity with less energy

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 vehicle 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 the use of vehicles as resources

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

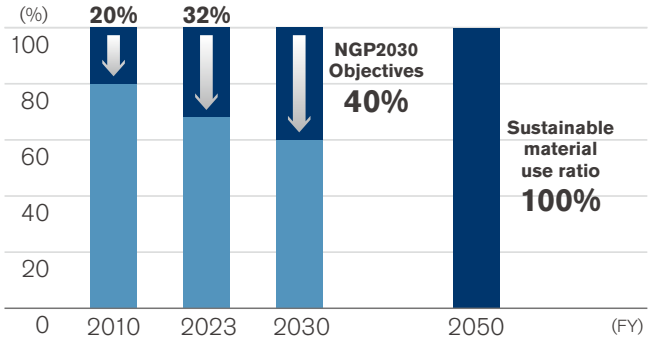
Nissan defines sustainable materials as those that meet sustainability requirements, namely "materials that are not newly mined resources (1)" and "virgin materials that can be continuously circulable (2)." We are working to expand the use of these materials. By promoting their use in new vehicles and replacement parts, we aim to ensure and expand the use of sustainable materials going forward.

Sustainability requirements*2

- Low CO_2 materials
- Non-toxic materials
- Ethically sourced materials

Sustainable material long-term vision

Ratio of sustainable material



Approach to energy management

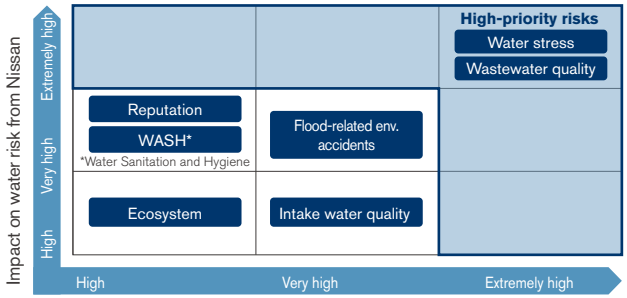
By sharing the electricity from EV batteries with homes and society during parking, EVs can contribute to society by effectively utilizing vehicles as resources, as well as supporting local energy supply through electricity bill savings, the local generation and consumption of renewable energy, and providing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

*1 Recycled materials, biomaterials, etc.
*2 Click here for more information on "Sustainability requirements" https://www.nissan-global.com/EN/SUSTAINABILITY/LIBRARY/GREEN_PURCHASING/

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 a large amount of water primarily 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" and "wastewater quality" as key priorities. Nissan will continue to reduce its impact on and dependence on local water environments where it conducts business, while reviewing water risk assessments annually for priority risks and regularly for other risks.



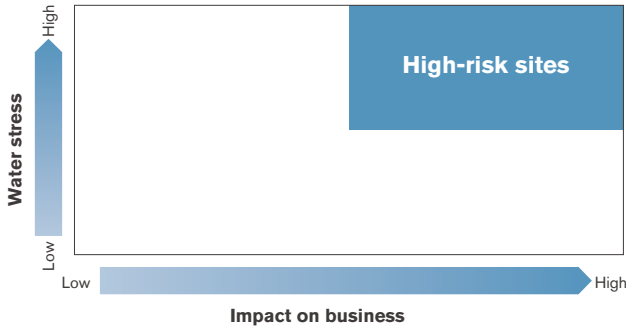
Water is an unevenly distributed resource, and we recognize it as a highly contextual issue. Nissan prioritizes activities to reduce water usage, such as recycling wastewater and making effective use of rainwater, in areas with high water stress, while also contributing to addressing local water issues.

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 baseline water stress indicators at the river basin level from the Aqueduct Water Risk Atlas along with internal expertise.
- The impact on business is evaluated based on production volume.

Wastewater quality management

The quality of wastewater can affect the amount of water available for use, especially in areas with limited water resources, which 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.

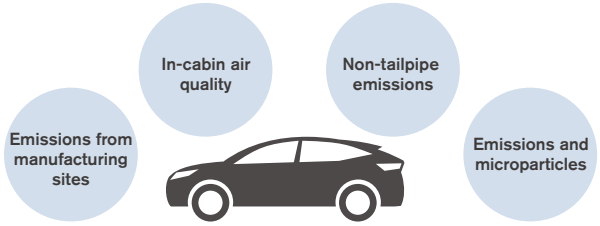
Example of water quality management initiatives
- At manufacturing sites in Japan, we have installed water quality sensors in the drains of wastewater treatment facilities and introduced systems that automatically stop discharging wastewater outside the sites if any problems are detected, thereby augmenting 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 Health Effects Institute (HEI) in the U.S.A., 95% of the world's population was 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. 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*1
Manage VOCs 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)*2
· Enhancing internal combustion engines*2
· 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 established Nissan's standards, which are in accordance with the laws and guidelines of each country regarding in-cabin VOCs.

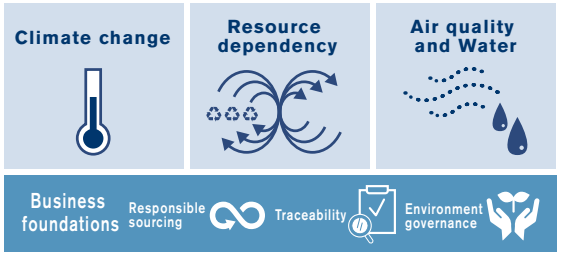
Reduction of emissions from manufacturing activities

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.
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 further by electrifying facilities that use fossil fuels. 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 related to substances released into the atmosphere, and will engage in activities to reduce both the usage and emissions of causal substances.

*1 VOC: Organic chemicals that readily evaporate and become gaseous at normal temperature and pressure conditions.
*2 Click here for information. >>>P042

Business foundations

While aiming to resolve the critical issues in NGP2030, such as climate change and resource dependency as well as air quality and water, and to create new value, Nissan will work to ascertain needs through stakeholder engagement and strengthen its business foundations that relate to environmental issues.
As a global company, we place great importance on fulfilling our responsibility to address environmental issues and on our accountability across the entire value chain. We are committed to achieving a sustainable mobility society and sustainable business operations, as well as to contributing to regional communities through the following initiatives: Identifying risks throughout vehicle life cycles using life cycle assessments; working with suppliers to improve environmental performance; establishing systems for environmental data management throughout the value chain; and continuous efforts to raise the environmental awareness of Nissan's 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 sustainability 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 and guidelines*4 (Nissan Human Rights Policy, Nissan Global Guideline on Human Rights, Nissan Supplier Sustainability Guidelines, Nissan Green Purchasing Guidelines) and engage with suppliers by holding annual environmental activity briefing meetings.
Under NGP2030 aiming to respond to external trends, including the legalization of information disclosure, we are incorporating the requirements for responsible procurement into our guidelines and actively managing supply chain risks. In addition, Nissan procures raw materials with consideration for ethical, social, and environmental aspects, and aims to achieve sustainable and responsible procurement through dialogues with its suppliers. In March 2025, Nissan joined the Global Platform for Sustainable Natural Rubber (GPSNR). For details, please refer to "Responsible Materials Sourcing"*5 and "Collaborations with relevant partners."*6

Integrated management of value chain information and accountability (traceability)

To prepare for the trend toward regulation and expanded disclosure scope throughout the entire value chain, it is 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 address these external trends, we aim to ensure accountability for the environmental impact across our entire value chain. We have introduced a digital platform for integrated environmental data management to effectively address not only climate change but also human rights issues in the supply chain and impacts on natural resources. Specifically, through this digital traceability platform, we aim to track and manage our CO_2 emissions, water usage, and waste, ensuring transparency in our information disclosure to stakeholders. Additionally, by enhancing information management and intercompany data linkage across the entire Nissan supply chain, we aim to accelerate collaboration with suppliers to reduce environmental risks.

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
*4 Click here for more information. https://www.nissan-global.com/EN/SUSTAINABILITY/LIBRARY/
*5 Click here for information. >>> P087
*6 Click here for information. >>> P059

NGP2030 action plan

Activities			NGP2030 Objectives	FY2024 result
Climate change Long-term vision: Realize carbon neutrality by 2050	Reduce CO_2 emissions (Base year 2018)	Life cycles (t-CO_2/vehicle)	-30% (Global)	-12% Reduced CO_2 emissions per vehicle by promoting CO_2 reduction in each area
		Products (g-CO_2/km)	-32.5% (Global), -50% (4Majors: Japan, U.S.A., Europe and China)	Global : -13%, 4Majors (Japan, U.S.A., Europe and China) : -17% Reduced CO_2 emissions by improving ICE fuel efficiency and promoting vehicle electrification mainly in 4Majors.
		Manufacturing (t-CO_2/vehicle)	-52% (Global)	-10% In addition to continuing energy conservation activities, promoted the introduction of renewable energy.
		Suppliers	Aim to achieve life cycle targets	Promoted reduction of CO_2 emissions during manufacturing by expanding the application of green aluminum and green steel.
		Logistics (t-CO_2/vehicle)		-8% CO_2 emissions were reduced by modal shift from trucks to rail/ships and production volume mix changes.
		R&D facility (t-CO_2/development cost)		-25% CO_2 emissions were reduced by expanding the use of renewable energy. The improvement of the electric power emission coefficient also contributed.
		Offices (t-CO_2/floor area)		-42% Promoted energy conservation activities at each site and expanded the use of renewable energy. In FY2024, the electricity and thermal energy for our global headquarters were delivered from 100% renewable energy sources.
		Dealers (t-CO_2/floor area)		-17% Visualized the energy performance of each dealer to foster a mindset for energy-saving activities. In addition, conducted energy diagnostics at individual stores to propose further energy-saving opportunities and solutions, and shared these as case studies with dealers nationwide.
Resource dependency Long-term vision: No new material resource use	Materials	Expand sustainable material (weight basis)	40% (Japan, U.S.A., Europe and China)	32.5% Expanded the use of sustainable materials through the active adoption of recycled materials and green materials.
		Manage waste / Landfill	Maintain low levels	Promoted waste and landfill reduction, including the consideration of foundry sand recycling.
	Vehicles	Expand energy management function	Installation rate on EVs: 100% (Japan, U.S.A. and Europe)	Developed charging and connected technologies, including the completion of field operational trials for AC V2G technology in the U.K. in 2024.

Activities			NGP2030 Objectives	FY2024 result
Air quality and water Long-term vision: Zero impact / Zero risk	Water	Enhance water risk management at manufacturing sites	Zero high-risk sites	Promoted activities at sites to achieve zero high-risk sites.
		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.
		Manage wastewater quality at manufacturing sites		Continued wastewater quality management at manufacturing sites.
	Air quality	Enhance management of vehicle emissions, including non-tailpipe emissions	Technology development and adoption	Continued to explore technologies to reduce brake wear dust to comply with stricter regulations.
		Manage VOCs at manufacturing sites	Continue current activities (paint shops)	Improved recovery rate of waste thinners.
		Manage in-cabin air quality	Comply with Nissan standard on in-cabin VOCs	All models designated for FY2024 complied with Nissan standard on in-cabin VOCs.
Foundation	Secure responsible sourcing		Secure supply chain risk management	Updated the Nissan Supplier Sustainability Guidelines for Suppliers and Nissan Green Purchasing Guidelines and ensured thorough compliance.
	Integrated management of value chain information and accountability (traceability)		· Build and operate carbon footprint management system for corporate activities and parts production · Secure supply chain data reliability	Revamped the information management system related to climate change, resource dependency, air quality and water in preparation for its operation starting from FY2025.
	Enhance environmental governance			Incorporated the updated global environmental policy in FY2023 into our internal training materials.