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Strengthening our business foundations to address environmental issues

Environmental governance

Enhancing environmental management based on ISO 14001

As of January 2011, the Nissan global headquarters and all other main Nissan facilities in Japan have acquired ISO 14001 certification for environmental management systems.

We have appointed an environmental management officer to oversee our environmental activities. The coordinated goals set by the environmental management officer for the Companywide management system are cascaded down to the employees working in all facilities in Japan through local offices.

Nissan’s ISO secretariat oversees companywide efforts, while local offices in Japan are responsible for activities at each facility and division, and for coordinating the proposals submitted by employees. By engaging in discussions at least once a month, the ISO secretariat and local offices confirm progress made toward established goals, to share best practices, to improve management systems, to develop plans for the next fiscal year, and to communicate requests from local facilities and divisions. The items discussed are reported to the environmental management officer twice a year (once in the management review conference) so that Nissan can decide on needed improvements.

To confirm that management is functioning properly with respect to environmental management, we periodically retain third-party organizations to conduct audits. Additionally, to strengthen compliance, we conduct internal audits with

respect to areas covered by third-party audits as well as all other environmental activities, prioritizing adherence to government reporting requirements and identifying risks. Nissan’s overseas production plants have also acquired ISO 14001 certification. Nissan’s policy is to establish environmental management systems in all regions where we operate in accordance with the same standards. *1

Nissan’s voluntary operational standards

Stricter controls on environment-impacting substances are being implemented in countries around the world. Examples include the European ELV directive, the European Union’s Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation, which went into effect in June 2007, and Japan’s Act on the Evaluation of chemical substances and regulation of their manufacture. The Japan Automobile Manufacturers Association (JAMA) has launched a voluntary program to help minimize the potential release of formaldehyde, toluene, and other volatile organic compounds (VOCs)*2 in vehicle cabins. This program utilizes the VOC guidance value established by the Ministry of Health, Labor and Welfare for specific substances in January 2002 to be met for all new models manufactured or sold by Nissan in Japan after April 2007. In accordance with the Ministry’s guidance value revision in January 2019, new guideline values have been met from new models released in 2022 or later.

Nissan is strengthening its management of environment-impacting substances, adhering to a planned schedule

for their reduction and advancing the use of alternative substances. In 2005, we drew up policies regarding the use of substances scientifically recognized as being hazardous or carrying high hazard risks, as well as those identified by NGOs as dangerous. In 2007, these policies, which restrict environment-impacting substances even more than the domestic laws of the countries where we operate, were rolled out globally.

Based on the above-referenced policies, Nissan developed a specific Nissan Engineering Standard (NES) for the Restricted Use of Substances, which identifies the chemical substances whose use is either prohibited or controlled. The NES is applied in material selection and also in the components and parts used in our vehicles from initial development onward. For example, four heavy metal compounds (mercury, lead, cadmium, and hexavalent chromium) and the polybrominated diphenyl ether (PBDE) flame retardant have been either prohibited or restricted in models*3 (excluding OEM vehicles) launched globally since July 2007. To control VOC use in car interiors, Nissan adopted the voluntary targets of JAMA as our own standards for global operations, and we are reviewing and reducing the use of prohibited and controlled chemical substances in materials and adhesives for seats, door trim, floor carpet and other parts.

Every year, we revise the Restricted Use of Substances standards to reflect changes in international laws and regulations and to add new substances covered by our voluntary internal standards. For the 2017 revision, the

*1 Click here for more information on our Environmental governance. >>> P018

*2 VOC :Organic chemicals that readily evaporate and become gaseous at normal temperature and pressure conditions.

*3 Excluding non-consolidated OEM plants

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members of the Renault-Nissan Alliance implemented shared standards based on a reassessment of select criteria for hazards and risks that enhance the level of compliance, strengthening alliance activities by anticipating regulations. We build and maintain communication and management systems throughout the supply chain. For example, we disclose information to users and submit REACH reports to the relevant authorities about the vehicles and parts produced in or exported to Europe from Japan and other countries (including some from the U.S.). We also comply with Classification, Labeling and Packaging of Substances and Mixtures regulations.

Sanctions and government guidance at Nissan production facilities

During fiscal 2022, in relation to the environmental management system, none of Nissan’s production facilities received notifications or sanctions from the government regarding significant violations of environmental laws or regulations. However, there was one environmental incident (total nitrogen level in factory effluent exceeding the standard value) at a manufacturing site in Japan for which government guidance was received. The root cause was poor condition of the septic tanks, and we will prevent recurrence by reviewing septic tank maintenance and management methods and strengthening the monitoring system.

Raising employee awareness

Nissan’s environmental activities are enabled by the knowledge, awareness, and competency of its employees. Based on ISO 14001 standards, we have conducted employee education rooted in the Nissan Green Program 2022 (NGP2022) regarding CO₂ emission reductions, energy, water consumption, and waste. In addition, education regarding environmental accident prevention and the

management of hazardous materials is provided every year to employees, including those from affiliated companies working in our production facilities. Training programs with quantitative evaluation are deployed to improve the skills and knowledge of each employee on how to reduce environmental impact in their activities. The content of these training programs is updated every year. In Japan, we have original educational curriculums to deepen their understanding of NGP2022 and environmental issues surrounding the auto industry through an orientation for new employees, seminars for middle managers and town hall meetings between managements and employees. Employees can stay up to date on our latest environmental attempts through features in the intranet, internal newsletters, and in-house video broadcasts. Overseas, we provide information and education to employees through the intranet, videos, events, and various other communication approaches suited to each region.

Employee-initiated activities and evaluation system

In fiscal 2008, we added “environment” to the range of kaizen issues addressed by quality control (QC) circles. This offers opportunities for employees to think proactively and propose ideas to improve environmental aspects of our business. Managers encourage the active participation of employees by communicating how these activities of QC circles are linked to the achievement of our midterm business plan. The ideas proposed by employees are evaluated by managers and QC circle secretariats for their potential contribution to environmental improvement, among other factors, after which we may implement those with the highest potential. The knowledge and skills of the frontline employees on CO₂ emission reduction, energy management, water conservation, and waste and landfill reduction have been compiled in a best-practices manual and shared among

global facilities. We hold contests in some facilities during officially designated months in Japan to keep employees motivated about participating in environmental activities. These include the Energy Use Reduction Idea Contest in February (energy-efficiency month), the Water Usage Reduction Idea Contest in June (environment month), and the Waste Reduction Idea Contest in October (3R promotion month). We also use various methods to reward employees for their contributions to environmental improvement activities. These activities are included in the annual performance goals used at some Japanese and overseas locations. This system assesses employees’ achievement of goals, reflecting this in performance-related elements of employee bonuses. Employees are also recognized for environmental improvement through Nissan prizes presented by the CEO or other executives, awards given by plant heads, and “THANKS CARD” recognition from managers for excellent work or achievements.

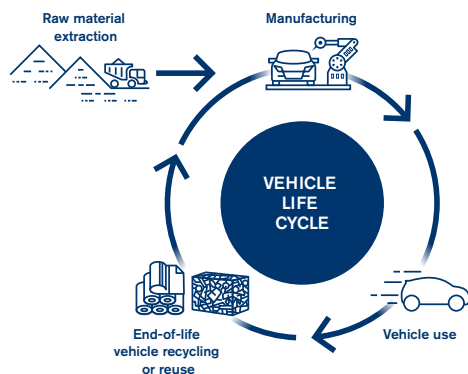
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Lifecycle assessment to reduce environmental impact

Nissan conducts environmental risk management based on solid environmental policy by assignment personnel in each facility, validation by supervisors, and regular inspections. We also identify potential risks by conducting life cycle assessments (LCAs). The LCA method is used to quantitatively evaluate and comprehensively assess environmental impact, not just when vehicles are in use, but at all stages of their life cycle, from resource extraction, manufacturing, and transport to disposal.

Our LCA methods have been certified by the Japan Environmental Management Association for Industry since 2010 and since 2013 by third party TÜV Rheinland in Germany (renewed in November 2021). The latter certification is based on ISO 14040 / 14044 standards and validates the environmental impact calculations in our product LCAs.

In NGP2022, LCA was conducted for new vehicles and technologies based on this calculation procedure to further reduce the environmental impact over the vehicle life cycle by improving efficiency during both manufacture and operation of vehicles.

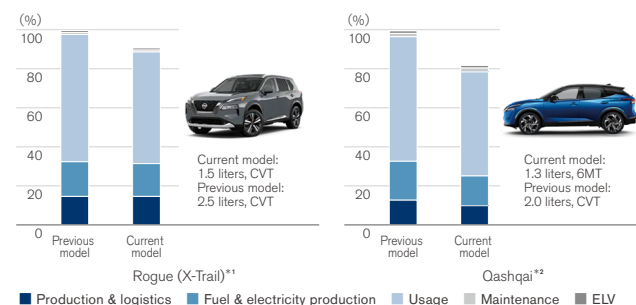


Global top-selling model's LCA improvements

We have been expanding the application of the LCA method and enhancing the understanding of the environmental impact of our products in quantitative terms, especially our best-selling models worldwide. Coverage on a unit basis has reached approximately 80% of models globally and approximately 90% in Europe.

With the Rogue (X-trail) and Qashqai, for example, improvements in internal combustion engine efficiency and vehicle weight reduction have led to both enhanced safety features and lower CO₂ emissions.

Lifecycle CO₂ equivalent emissions (CO₂, CH₄, N₂O, etc.)



*1 Production in the U.S., 120,000 miles driven in the U.S. (basis for comparison).
 *2 Production in EU, 150,000 km driven in EU (basis for comparison).

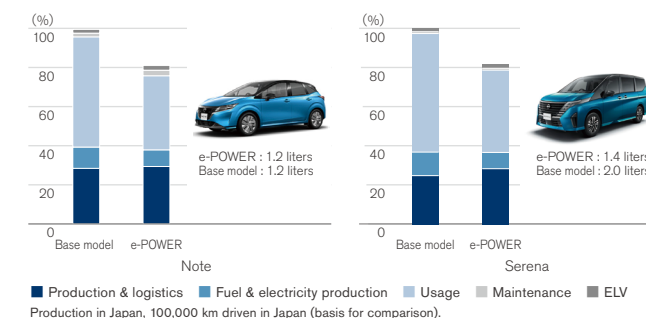
LCA comparison for e-POWER models

Nissan introduced its new e-POWER powertrain in 2016, marking another significant milestone in the electrification strategy with life cycle emission improvements. For example, the Note e-POWER, Nissan Kicks e-POWER, X-Trail e-POWER, and Serena e-POWER have achieved 18% to 27% reductions in CO₂ emissions compared to their gasoline-powered counterpart models.

Electrified e-POWER vehicles use a system in which a gasoline engine operates only under certain circumstances and is used to generate electricity. As a result, e-POWER vehicles achieve lower exhaust emissions and better fuel efficiency for driving than conventional gasoline engines. Also, since an e-POWER vehicle only requires a small battery (unlike one that is 100% electric), emissions from the manufacture of dedicated EV parts such as batteries can be kept at a level only slightly above that for parts for conventional vehicles.

There is future potential for further reductions in CO₂ emissions through additional weight reductions and the optimization of "running energy management by e-POWER".

Lifecycle CO₂ equivalent emissions (CO₂, CH₄, N₂O, etc.)



Production in Japan, 100,000 km driven in Japan (basis for comparison).

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LCA comparison of EV models

The Nissan LEAF reduces its lifecycle CO₂ emissions by approximately 32% compared to conventional vehicles of the same class in Japan. The Nissan ARIYA and Nissan Sakura launched in 2022, further improve EV product appeal

and reduce environmental impacts. Compared to Japanese gasoline-powered vehicles in the same class, the Nissan ARIYA and Nissan Sakura reduce lifecycle CO₂ emissions by 17-18%.

Initiatives to reduce CO₂ emissions at each stage of the lifecycle

In Nissan ARIYA production at the Tochigi Plant, we have strengthened efforts to reduce CO₂ emissions at each stage of the lifecycle.

In the production stage, we contributed to the reduction of CO₂ equivalent emissions through ongoing efforts that include increasing the yield of materials and utilizing recycled raw materials. Through the Nissan Intelligent Factory method introduced at the Tochigi Plant in 2021, we are engaged in efforts to ensure all production plants are carbon neutral by promoting innovations that improve production efficiency during vehicle assembly, increasing the efficiency of energy and materials used in plants, electrifying plant equipment, and utilizing renewable energy sources.

To reduce environmental load in vehicle use, Nissan is continually reducing CO₂ emissions by improving efficiency of electric powertrains including battery, power savings on accessories and increasing renewable energy usage.

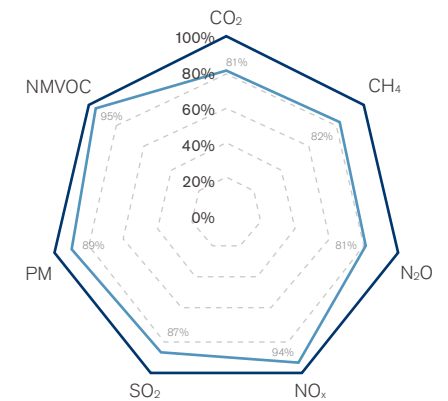
Nissan is also promoting vehicle battery reuse to help realize the decarbonization of society as a stationary battery for distributed power supply to store various renewable energies.

Nissan will keep reducing the environmental impact from the entire life cycle of electric vehicles.

Lifecycle improvements beyond climate change

Nissan is expanding the scope of LCAs to include not just greenhouse gases but also a variety of chemicals. Our calculations show that, compared to conventional gasoline engines, the new Qashqai achieves reductions in emission 5-19% for all targeted chemical substances, and reduces environmental impacts throughout its life cycle.

Emissions improvement in the New Qashqai over its lifecycle



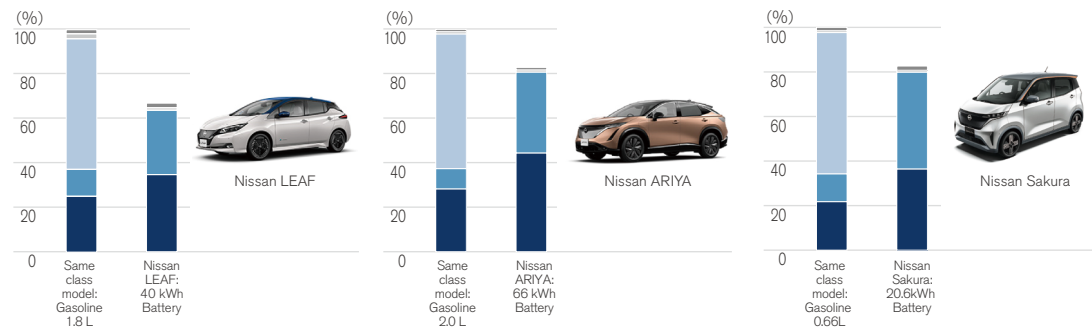
● Conventional
● Mild Hybrid

Production in EU, 150,000 km driven in EU.

Lifecycle CO₂ equivalent emissions (CO₂, CH₄, N₂O, etc.)

■ Production & logistics
■ Fuel & electricity production
■ Usage
■ Maintenance
■ ELV

Production in Japan, 100,000 km driven in Japan (basis for comparison).



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Stakeholder engagement

Working with suppliers

As part of NGP2022, we are working to improve suppliers' environmental performance via the following initiatives.

Suppliers' environmental performance improvement initiatives

Nissan Green Purchasing Guidelines	
2008	Newly published Nissan Green Purchasing Guideline as globalized edition.
2010	Document edited according to the revised EU regulations for environment impacting substances (EU REACH regulation, MSDS report requests) Document edited according to the publication of the Renault-Nissan CSR Guidelines for Suppliers.
2011	Document edited according to the announcement of the NGP 2016.
2016	Unification of Engineering Standards of Renault and Nissan (RNESB-00027)
2018	Alignment with NGP2022
2019	Mandate self-diagnostic assessment requirement added
2021	Revise of corporate purpose, data submission for LCA, description of CDP survey
2022	Revision of CO ₂ emission reduction through value chain, technical standard and regulation revision
Supplier environmental data surveys in global	
2012-13	Conducted Nissan's original survey (CO ₂ , water, waste)
2014-	Participate in the CDP supply chain program (FY2022 response rate Climate change: 81%, Water security: 74%)
THANKS activities	
2009	Promoted joint improvement THANKS activities*1 with suppliers

Working with consolidated production companies

We encourage our consolidated production companies in a variety of markets to acquire ISO 14001 certification and to undertake other environmental initiatives based on their respective policies. Meetings with major consolidated companies in Japan were held to exchange views on cooperation toward the goals outlined in NGP2022 as well as to work toward to a deeper understanding of the details of NGP2022 and sharing of the environmental initiatives undertaken by each company.

Working with dealerships

We believe that concern for the environment at our dealerships is essential to earning the trust and appreciation of our customers for Nissan's environmental activities. Our dealerships in Japan have introduced an original approach to environmental management based on ISO 14001 certification called the "Nissan Green Shop" certification system. This program is managed through internal audits conducted by the dealerships every six months, in addition to annual reviews and certification renewal audits carried out every three years by Nissan Motor Co., Ltd. (NML). As of the end of June 2023, the system has certified approximately 2,700 dealerships of 150 dealers, including parts dealers, as Nissan Green Shops. Certified dealers introduce and proactively communicate their environmental initiatives to customers.

*1 THANKS is abbreviation of Trusty and Harmonious Alliance Network Kaizen activity with Suppliers. Click her for more information. >>> [P099](#)

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Working with future generations

We are working to share information on environmental issues with the younger generation, and to raise awareness among tomorrow's leaders.

We have been conducting environmental programs for students in school visits in Japan since 2008 in which more than 123,000 students had participated as of March 2023. In NGP2022, we have expanded the program in Japan and in other countries.

Key activities in NGP2022

Youth education programs, such as Nissan Waku-Waku Eco School, an interactive program delivered by Nissan employees to schoolchildren, have been expanded globally to:

- Share knowledge of global environmental issues
- Introduce our environmental initiatives, such as the Nissan LEAF EV and our other green technologies

Through environmental education, the program encourages participants to adopt eco-friendly activities in their daily lives.



Working with NGOs

Nissan believes that environmental activities are critical in social contribution activities, thus we are engaged in various activities to realize a low carbon society, including implementing educational programs to deepen understanding of global environmental issues. At the same time, in order to respond to the increasing complexity of environmental issues, we believe that it is effective to collaborate with NGOs, NPOs, governments, and various other stakeholders to enhance these activities while making the most of our mutual strengths.

In contributing to local communities, Nissan aims to create a society that is cleaner, safer, and offers equal opportunities to all. NGP2022 sought to support local communities through various projects by collaborating globally with NGOs to respond to issues such as climate change and water scarcity.

Key activities in NGP2022

- Fostering employees' environmental awareness through participation in World Wide Fund for Nature Japan (WWF Japan) campaigns
- Continue participation in WWF Japan's worldwide Earth Hour environmental awareness-raising campaign toward greenhouse gas emission reduction
- Support the "Walk in Her Shoes" campaign organized by Care International Japan to build awareness of water scarcity and human rights issues in developing countries, and promote employees to participate in the campaign.