Climate Change

Strategy for Addressing Climate Change

Toward a Carbon-Neutral Society

In 2015, the UN Climate Change Conference (COP21) adopted the historic Paris Agreement to keep the increase in global temperature to "well below" 2℃.
At COP26 in 2021, "1.5℃," which had been seen as an effort target, was given more emphasis and "Secure global net zero by mid-century and keep 1.5℃ within reach" and was added.
Furthermore, the Sustainable Development Goals (SDGs) adopted by the UN in 2015, like the Paris Agreement, also call for concrete measures to address climate change. Nissan is focusing on electrification of vehicles and innovation in corporate activities to promote carbon neutrality throughout the entire life cycle together with our suppliers.

Nissan's Steps to Reduce CO_2 Emissions

The business structure of the automobile industry is changing greatly in the face of demands to reduce CO_2 emissions and dependence on fossil fuels. Nissan has been proactively engaged in environmental responsiveness and the creation of social value, such as reducing CO_2 emissions and realizing the practical use of electrification technologies. We will further develop these initiatives and promote global activities targeting carbon neutrality in 2050, aiming for 100% electrification by the early 2030s in key markets.
As a global automaker, Nissan considers emissions across the entire value chain it shares with its suppliers, from procurement of raw materials to transportation and operation of vehicles. We understand how important it is to balance environmental initiatives with business activities, and strive to reduce emissions through new technology development, renewable energy, use and other measures.
Climate change also greatly heightens customer needs for energy-efficient mobility. We are meeting those needs by clearing stringent CO_2 emissions regulations, as outlined in the Nissan NEXT*1 transformation plan calling for annual aggregate sales of 1 million 100% EV and e-POWER vehicles by fiscal 2023. In our corporate activities, we are actively advancing energy-saving measures, shifting to climate-efficient logistics and introducing renewable energy sources. Viewing these risks as opportunities, Nissan announced it will achieve carbon neutrality in the vehicle life cycle by 2050 as a long-term vision for climate change. We will realize a carbon-neutral future by promoting the electrification of automobiles and pursuing the sustainability of our business activities in line with the expansion of renewable energy and charging infrastructure in society.

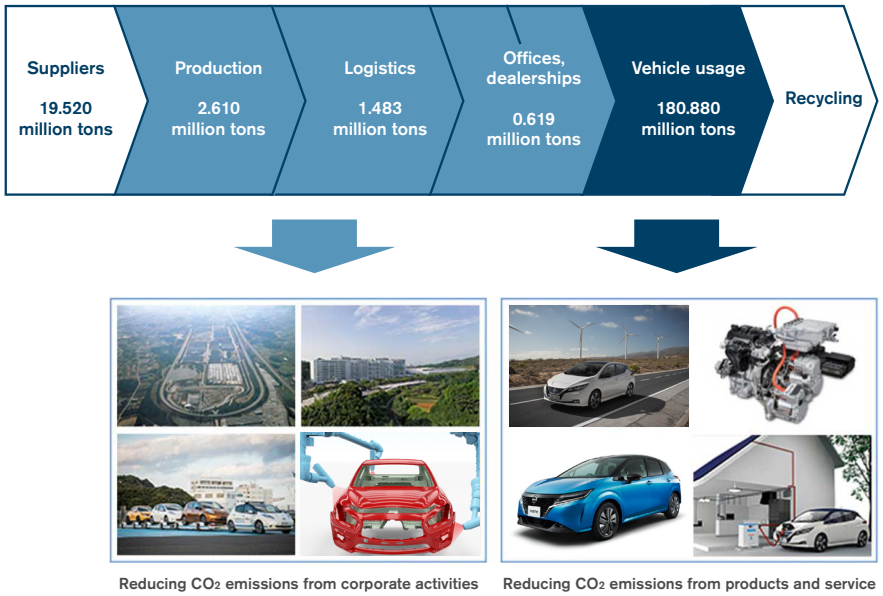
In addition, Nissan has established a medium-term environmental action plan NGP2022*2 as its strategy, which runs through 2022, and has developed various future climate change scenarios to strengthen the resilience of its climate change strategy.

*1 Click here for more information on Nissan NEXT
https://www.nissan-global.com/EN/COMPANY/PLAN/NEXT/
*2 Click here for more information on the Nissan Green Program 2022 (NGP2022)
https://www.nissan-global.com/EN/SUSTAINABILITY/ENVIRONMENT/GREENPROGRAM/

Efforts at Every Link in the Value Chain

As a global automaker, Nissan considers CO_2 emissions across the entire value chain it shares with its suppliers, from procurement of raw materials to transportation and operation of vehicles. We understand how important it is to balance environmental initiatives with business activities, and strive to reduce CO_2 emissions through new technology development, renewable energy use and other measures.

CO_2 Emissions in the Value Chain*



Reducing CO_2 emissions from corporate activities

Reducing CO_2 emissions from products and service

* Actual emissions in 2018.

Climate Change Scenario Analysis to Strengthen Strategies for 2050 Society

Nissan's efforts toward the environment have achieved continuous results by consistently reaching milestones back-casted from our Long-term Vision. However, compared to 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, thus 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 assumes 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 the opportunities and risks posed by climate change in the following four steps.

Four Steps for Review

- 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.
- Categorizing main drivers into physical risks and transition risks, then considering the trade-off relationships of each, we confirmed the degree of risk in three scenarios where the average temperature on Earth increased by 1.5℃, 2℃ and 4℃.
- 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.
- Changes, conditions, and effects were adjusted in each scenario to provide guidance based on qualitative evaluation of the elements necessary for enhancing strategies.

As a global automobile company, it will be more than 170 countries and markets where our production facilities operate and our products are provided, therefore we will get the impact from climate change all over the world. When taking a comprehensive perspective of this scenario analysis, even the market infrastructure, regulations and actual usage are different, Nissan's electrification and other related advanced technologies have the potential to create opportunities for effective capabilities in scenarios other than 2℃. Nissan has come to recognize once again the importance of further accelerating efforts toward this realization as well as the fact that activities integrated with the supply chain are essential for responding to risks.
In particular, the expansion of zero-emission vehicles is not only a major step towards the shift to a carbon-free society as an automobile sector, it is also a technology that contributes to the resilience of society in power management and disaster mitigation and prevention. Nissan believes this will create value for society and business.
However, if the societal response to climate change is delayed, possible transition risks include transition additional policies and regulations for a decarbonized society, increases in R&D efforts and changes in market demand or corporate reputation among other transition risks, and physical risks such as an increase in extreme weather and rising sea levels may lead to cost increases and declines in vehicle sales that have the potential to

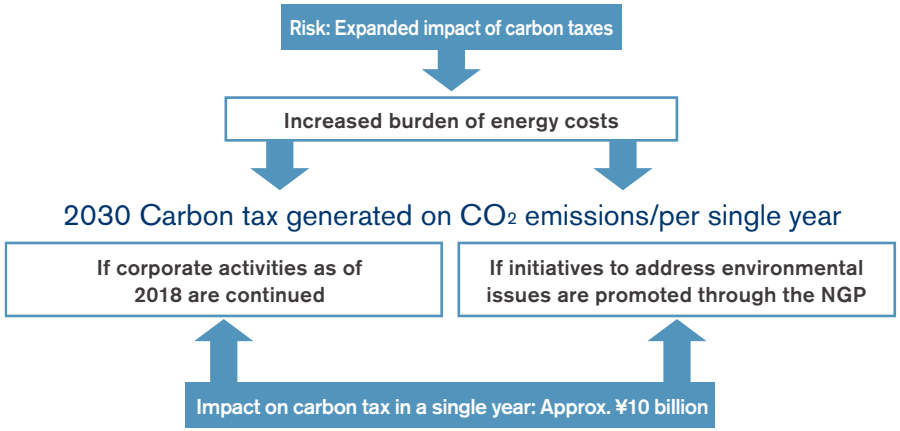
substantially influence on our financial situation.
To avoid risks such as these to the extent possible and create future opportunities, Nissan is leveraging knowledge gained from scenario analysis for use in actual activities and reviewing strategies for expanding resilience. We believe it is important to more 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. (TCFD: The Task Force on Climate-related Financial Disclosures)
In fiscal 2021, we have started a financial impact assessment, based on the scenario analysis that we have already disclosed. Below are the results of our assessment of the impact of carbon taxes.

Background of 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 its 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 & 2 could be kept to approximately ¥10 billion if the environmental issues addressed in the Nissan Green Program were implemented, compared to the case where GHG emissions were not reduced.

Response Strategies

Nissan has been promoting the Nissan Green Program for about 20 years to address environmental issues and has achieved a 32.9% reduction in CO_2 emissions per vehicle in fiscal 2021 compared to the fiscal 2005 level.

The EV36Zero, announced in July 2021, which creates an ecosystem for EV production, and the Nissan Intelligent Factory, announced in October that year, are concrete examples of Nissan's future roadmap. We are working toward energy reduction, making manufacturing facilities more efficient, and applying electrification technology while expanding the use of alternative energy sources such as renewable energy, bioethanol, and solid oxide fuel cells (SOFCs).

In addition, we will assess the impact of the transition to decarbonization, and promote activities that take into account a just transition that does not have negative impacts, thereby achieving carbon neutrality.

We will continue to improve the accuracy of our scenario analysis methods and expand the scope of clients to be analyzed to more accurately ascertain the amount of risk.

We will further enhance our disclosure of information to concretize our vision for 2030, and promote our initiatives while placing importance on dialogue with our stakeholders.

Envisioned scenarios and associated opportunities and risks

Scenario Assumption	Area of impact	Business Activity Opportunities and Risks Related to Ongoing Climate Change
1.5℃	Policies and regulations	Respond to further tightening of vehicle fuel efficiency and exhaust gas regulations, develop electric powertrain technologies and may influence production costs
		Increased burden of energy costs due to expansion of carbon taxes, expand investment in energy-saving equipment as policy
	Technological changes	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
		Increased demand will affect supply chains for rare earth metals used for in-vehicle battery material and cause an increase in stabilization costs
	Market changes	Changes in consumer awareness leads to reduce new vehicle sales due to the selection of public transportation and bicycles and the transition to mobility services.
	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)
4℃	Extreme weather	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
	Opportunities	The need for securing emergency power sources using EV batteries is increasing as a disaster prevention and mitigation measure

Product Initiatives

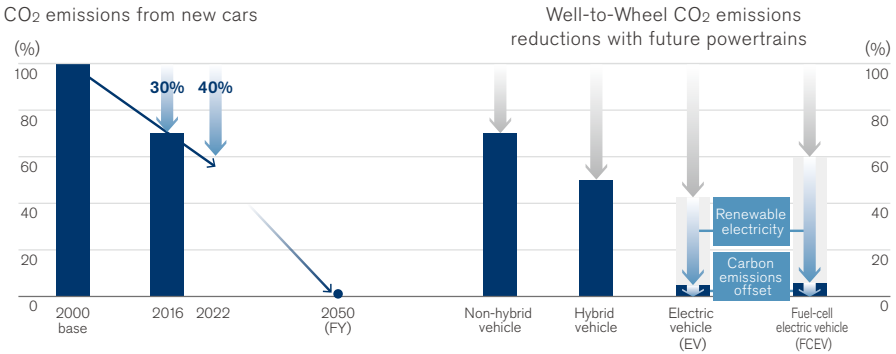
Policies and Philosophy for Product Initiatives

Our Long-Term Vision

Based on the IPCC Fourth Assessment Report, Nissan made its own estimation, and in 2006, set a scientifically-based long-term CO_2 emission reduction target for new vehicles by 2050. Recognizing that this would require drastic reduction of "well-to-wheel" CO_2 emissions from new vehicles, we set about developing a new scenario for powertrain technologies. Additionally, under the Nissan Green Program 2022 (NGP2022), to remain on track with the 2050 target, we are aiming to reduce CO_2 emissions from new vehicles by 40% compared to fiscal 2000 by 2022 (in Japan, the U.S., Europe and China).
As a global leader in technological advancements through the electrification of our products, we believe we can substantially contribute to global efforts to keep the temperature increase "well below" 2°C. These initiatives also reinforce the sustainability of our own business.
Although NGP2022 has achieved a certain success, the IPCC's Special Report published in 2018 pointed out the impact of 1.5°C of global warming and related global greenhouse gas (GHG) emission pathways on the Earth as a whole. Furthermore, governments, municipalities, and customers in each market have even higher expectations for carbon neutrality.

Nissan is working toward higher goals by aiming for carbon neutrality in the vehicle life cycle and all business activities by 2050. As a milestone toward the realization of this goal, in January 2021 we announced that Nissan has set the goal of achieving carbon neutrality across the company's operations and the life cycle of its products by 2050. As part of this effort, by the early 2030s every all-new Nissan vehicle offering in key markets will be electrified.

CO_2 Reduction Scenario



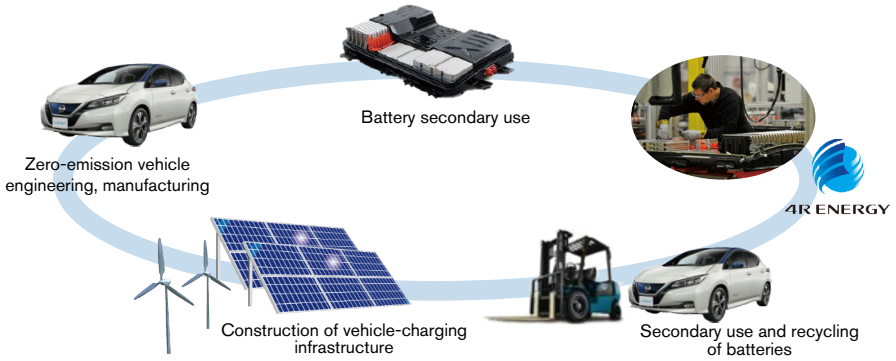
Pursuing a Zero-Emission Society

Electric vehicles (EVs) demonstrate that what is good for drivers and the planet is also good for business. Widespread use of zero-emission vehicles, which produce no CO_2 tailpipe emissions during operation, is an effective way of moving toward a sustainable society. The auto industry must go beyond simply producing and selling these vehicles to help establish the infrastructure necessary to make them economical to use. No company can achieve this on its own. We consider the introduction and adoption of zero-emission vehicles one of the pillars of our corporate strategy. We are taking a comprehensive approach that involves boosting production and sales of zero-emission vehicles along with other activities coordinated with a variety of partners to popularize their use. We are committed to becoming a leader in the field of zero-emission vehicles. Not only are we increasing our development and production of zero-emission vehicles, we are forging numerous zero-emission partnerships with national and local governments, electric power companies and other industries to promote zero-emission mobility and explore how the necessary infrastructure can be built.

We participate in a comprehensive range of vehicle-related initiatives, including the development of lithium-ion batteries, secondary use and recycling of batteries, construction of vehicle-charging infrastructure, helping to make smart grids a reality and standardization of charging methods with other manufacturers.

Increasing uptake of zero-emission vehicles will bring lifestyle changes that lay the groundwork for a new mobility society. We provide more than just EVs themselves; we also embrace the new values that they represent.

Building a Zero-Emission Society with EVs



Establishing Leadership in the EV Sector

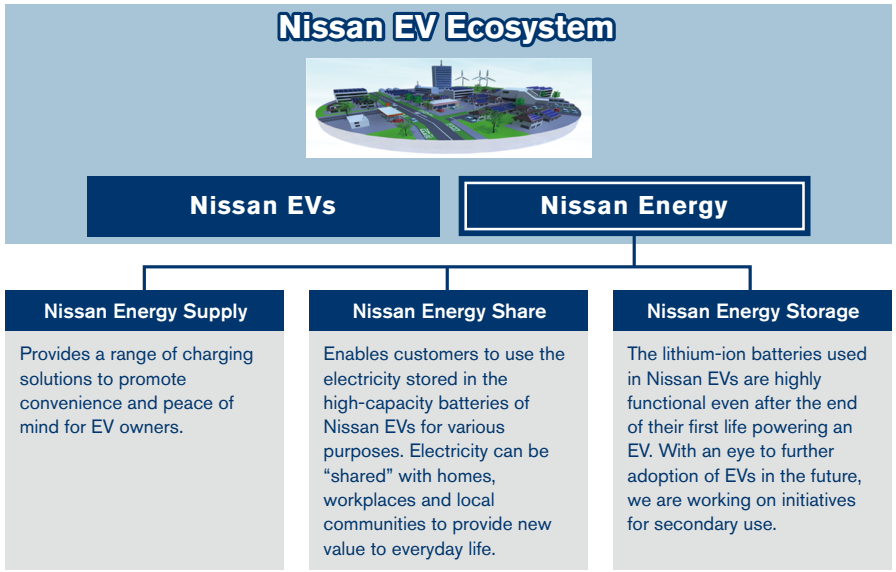
Our commitment to sustainable mobility addresses concerns over climate change and supports the sustainable growth of the company.

Our 2010 launch of the first Nissan LEAF made us pioneers of mass-produced EVs. Since then, we have sold more than 810,000 EVs (including joint venture sales) around the world in total, and our transformation plan, Nissan NEXT, calls for even more Nissan EVs, designed to appeal to customers with an ever-wider range of needs.

Furthermore, our history with EVs goes deeper than simply manufacturing and selling the vehicles themselves. We helped to establish an environment allowing EVs to become part of our customers' lifestyles, and developed the Nissan Energy solution for enjoying life with an EV to the fullest. Together, these initiatives created what we call the Nissan EV Ecosystem.

As we continue to strive for a zero-emission society, we will expand and develop the Nissan EV Ecosystem even further.

Nissan EV Ecosystem



Managing Actions through Products

Key Activities in NGP2022

The CO_2 emissions of a vehicle in use are influenced not only by engine performance and fuel type but also by traffic conditions and driving skills. Decarbonizing society will require new vehicle usage patterns. Nissan takes a threefold approach to product development aimed at mitigating real-world CO_2 emissions that addresses vehicle, driver, and new mobility value.

1. Adopt cleaner energy to reduce vehicle CO_2 emissions

Extend electrification across all brands under the Nissan Intelligent Mobility strategy.*1 EV lineup and deploy e-POWER technology in core Nissan products.

2. Promote technology-based driver assistance and accelerate connected car development and commercialization

Develop e-Pedal, which regenerates energy when the driver eases up the accelerator pedal,. and e-POWER electric powertrain fusing gasoline engines and electric motors. Promote adoption of route guidance technologies based on real-time information from departure point to final destination.

3. Provide new mobility value

Provide new mobility services and expand the value of vehicle use. Pursue global expansion of V2X*2 energy management solutions (commercialization in the United States and Europe, and expansion of LEAF to Home in Japan) and engage with stakeholders to support V2X device commercialization.

*1 Click here for more information on Nissan Intelligent Mobility.
https://www.nissan-global.com/EN/INNOVATION/TECHNOLOGY/ARCHIVE/NIM/

*2 V2X: Vehicle to Home, Vehicle to Grid etc. are collectively called as V2X. One example of V2X technology is Vehicle to Grid (V2G), which allows smart optimization of electricity supply according to demand.

Nissan’s Vehicle-to-X (V2X) is a technology that efficiently utilizes the electrical energy stored in the batteries of electric vehicles by transferring it to the Smart Grid via bi-directional chargers. Renewable energy sources such as solar and wind power will drive carbon neutrality. Still, they are also challenging to manage, as fluctuations in power generation can lead to surpluses or shortages. Electric vehicles' batteries can absorb fluctuations by charging and discharging this valuable electricity to be used more stably in Smart Grid. Also, with its application in times of disaster, the value and potential of V2X are expanding.

Product Initiatives: Achievements

Toward a 40% Reduction in New Vehicle CO_2 Emissions

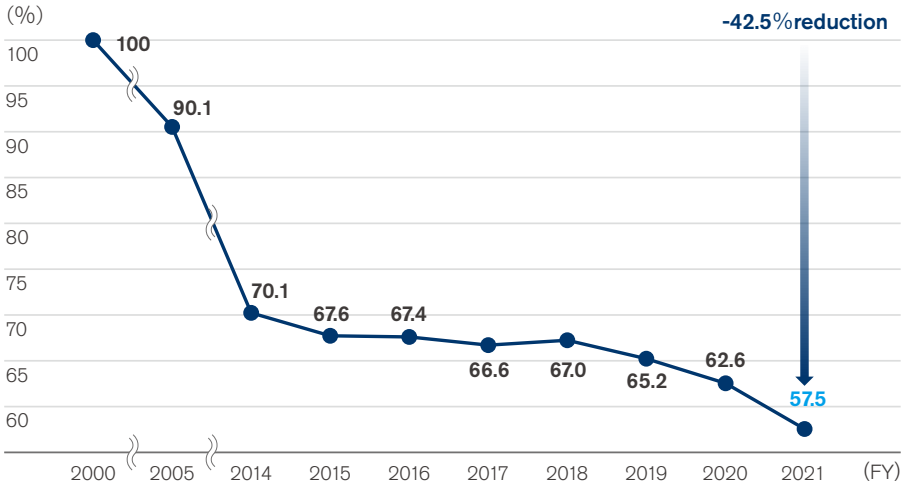
In fiscal 2021, CO_2 emissions in Nissan's main markets of Japan, the U.S., Europe, and China were 42.5% lower than fiscal 2000 levels. In particular, fuel efficiency has improved compared to fiscal 2020 due to the introduction of new models in the China and Europe.

Nissan strives to develop technologies that maximize the overall energy efficiency of conventional internal combustion engines and improve transmission performance. We are also working to boost the efficiency of electrification systems that capture and reuse kinetic energy from braking. Electrification is just one of our concrete monozukuri initiatives in technical innovation. We select the optimal fuel economy technologies for particular vehicles, taking into consideration factors like space within the vehicle, usage, and economics, and bring them to market. Our goal is to reduce both fuel consumption and CO_2 emissions without sacrificing the pleasure and ease of driving.

As a result of these initiatives, we achieved over 40% reduction in CO_2 emission compared to fiscal 2000 levels with 1 year early to target.

* From new vehicles in the Japanese, U.S., European, and Chinese markets

CO_2 Emissions from New Vehicles (Global)*



* Reduction in CO_2 emissions calculated by Nissan.

Nissan's Electrification Technologies for Achieving Carbon Neutrality

Accelerating the Advancement and Promotion of Electrification Technologies

By the early 2030s every all-new Nissan vehicle offering in key markets will be electrified as we pursue further innovations in electrification.
Nissan calculations show that electrified vehicles can reduce CO_2 emissions over their entire life cycle relative to gasoline-powered vehicles of the same class—from the extraction of raw materials, manufacturing, logistics, and use to end-of-life disposal. By contributing to the shift to renewable energy, electrified vehicles play an essential role beyond transportation in helping to achieve a low-carbon society.
Nissan is working on advances in electrification technologies that can reduce CO_2 emissions, as well as the development of systems that can be installed in various vehicle models.

EV Evolution from the Nissan LEAF to the Nissan ARIYA

The Nissan LEAF is a zero-emission vehicle, emitting no CO_2 or other exhaust when driving. Since its launch in 2010, it has earned high praise for the smooth, strong acceleration and quiet operation of its electric motor powered by a lithium-ion battery. Cumulative global sales of the Nissan LEAF, which celebrate its 12th anniversary in 2022, has exceeded 580,000 units (as of the end of March 2022).
We believe this is the result of customers appreciating Nissan's unique EV characteristics, such as zero CO_2 emissions while driving, low driving and other running cost, and excellent driving performance such as acceleration and steering stability.

Nissan LEAF


Nissan ARIYA

* For more information on Nissan LEAF lifecycle assessment.
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Nissan's first crossover EV, the Nissan ARIYA, is a further refinement of technologies cultivated in the Nissan LEAF, resulting in an advanced EV that combines powerful acceleration and smooth, quiet operation to make the most of the EVs unique qualities.
The newly developed powertrain boasts superior performance. The newly developed motor reduces energy consumption during high-speed cruising,

realizing a range of up to 610 km*1 (2WD 90 kWh battery-equipped model WLTC mode, Nissan measurement*1) . Supporting quick charges up to 130 kW, the addition of a water-cooled temperature control system keeps the temperature of the battery more constant to enable charging sufficient for distances up to 375 km with a quick charge of 30 minutes *2.

*1 The distance ranges referenced in this report are Nissan measurements prior to certification and are subject to change until the starting sales.
*2 Using a CHAdeMO quick charger capable of 130 kW output or above. Charging times and amounts subject to change based on conditions such as battery state of health.

Lower cost powertrains are essential for broader EV adoption, but battery technical innovations in particular are a major issue. Specifically, Nissan will further promote the development of battery materials that reduce the amount of costly cobalt used. We are also conducting research and development on all-solid-state batteries which have the potential to dramatically improve safety and reduce costs.

Depending on the spreading of EVs, the utilization of used battery will be the next issue and its market will also expand. 4R Energy Corp., which is funded by Nissan, established a plant in Namie, Fukushima Prefecture, and has been developing technologies for the reuse of used batteries. Nissan is already creating a business model in which used batteries collected from the market are sorted according to their condition and performance and supplied to various secondary users, passing on the value of reused batteries to customers. We will drive the increased spread of electric vehicles by expanding this model into a business and further reducing the hurdles to EV ownership for customers.

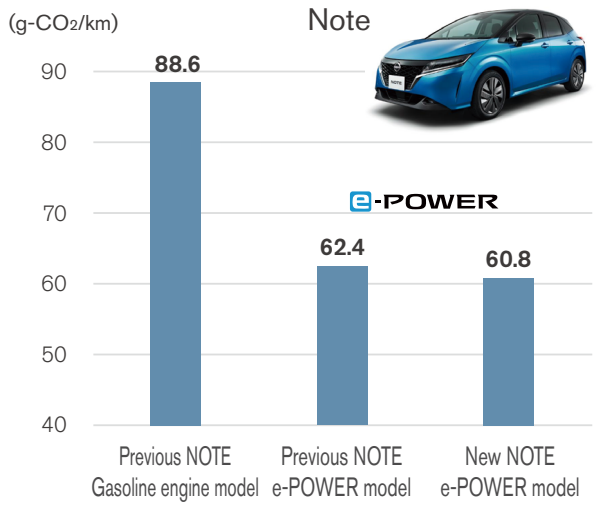
Enhancing Our 100% Electric Motor-Powered e-POWER Drivetrain

The e-POWER system combines an electric motor, which drives the wheels, with a gasoline engine that charges the vehicle's battery. e-POWER is a technology that achieves both the smoothness and strength of 100% motor drive and top-level fuel efficiency. It also offers driving comfort similar to that of an EV, making e-POWER a new powertrain completely different from the hybrid systems commonly used in previous compact cars.
Also, because the engine and tires are not directly connected, power can be generated at the most efficient engine settings (RPM, load), resulting in top-class fuel economy*.
The driver can accelerate or decelerate simply by using the accelerator pedal, and the regenerative brake system also helps improve fuel economy by charging the battery.

* As of when the model first went on sale, as measured in WLTC mode: Note e-POWER, 29.5km/L.

In November 2016, in Japan, we launched the first vehicle to feature our innovative e-POWER drive system: the new compact Note e-POWER. In March 2018, the e-POWER system was further expanded to the Serena e-POWER, also for the Japanese market. In June 2020, it was expanded to the Nissan Kicks. In December 2020, we launched the all-new Note, equipped with the second-generation e-POWER system. Furthermore, the Note Aura was launched in August 2021.
The Note and the Note Aura won the 2021-2022 "Japan Car of the Year", "RJC Car of the Year" at the 31st Annual (2022) RJC Car of the Year Awards, and "2021-2022 Japan Automotive Hall of Fame Car of the Year", while the second-generation e-POWER installed on both models won the "RJC Technology of the Year 6 Best."

Additionally, global expansion of e-POWER-equipped vehicles is progressing, starting with the addition of e-POWER models on the Slyphy for China and Qashqai for Europe.



* CO_2 emissions calculated from the fuel consumption rate in JC08 mode (measurement method of Japan's Ministry of Land, Infrastructure, Transport and Tourism).

Going forward, e-POWER will continue to evolve as a technology that can be installed in a wide range of vehicle models while balancing environmental performance and driving performance at a high level. We are developing technologies that achieve the world's highest level of 50% thermal efficiency with a next-generation engine dedicated to power generation for e-POWER and we promote technological developments enabling further reductions in CO_2 emissions (fuel efficiency improvement).

The Growing Importance of Commercial Vehicle Electrification

It is estimated that commercial vehicle sales, which account for 25% of automobile sales, will increase to 50% in 2030, thus commercial vehicle electrification is important for carbon neutrality*1.
From June 2014, Nissan was first to sell the EV multipurpose commercial van e-NV200 in European countries and Japan. Compared to commercial vehicles based on internal combustion engines, the e-NV200 is able to reduce running costs and offer superior environmental responsiveness, including consideration for the impact of noise on the surroundings. Furthermore, the e-NV200 has power outlets in two locations drawing up to a total of 1,500 W of electricity from the onboard engine for electrical generation, which can be used to secure power on the go in business, for outdoor events and leisure activities, such as for refrigerators when outdoors or camping, as well as a power source in the event of a disaster. On construction sites, noise problems can be alleviated as there is no need to use an engine-powered generator. In Europe, Nissan is proposing a concept combining comfort and practicality through self-sufficient electricity to enhance outdoor activities in winter with the e-NV200 Winter Camper concept making it possible to charge the 220-volt battery using solar panels mounted on the roof.
Additionally, in 2020 the Tokyo Fire Department will begin using a zero-emission EV ambulance based on the NV400. Since ambulances must reduce the physical discomfort for both patients and paramedics, and because they need to be equipped with precision medical equipment, Nissan thinks quiet EVs with low vibration have strong merits. As this vehicle is also equipped with two lithium-ion batteries providing 33 kWh and 8 kWh, it is possible to operate electrical equipment and air conditioners for longer

periods of time. It also enables these ambulances to be used as a mobile power source in the event of a power outage or disaster.
Going forward, Nissan will continue to expand its lineup of electric commercial vehicles, including the introduction of next-generation small vans utilizing the Renault-Nissan-Mitsubishi Motors Alliance platform, and promote the manufacture of commercial vehicles with zero emissions.

*1 Based on PwC Consulting LLC research

As a mobile power source, the e-NV200 has a range of business applications.

Zero-emission EV ambulance based on the NV400

Progress in Plug-In Hybrid Vehicles

Plug-in hybrid electric vehicles (PHEVs) are hybrid cars that can run on electricity charged from an external source as well as fuel. With this combination of engines and electric motors, they provide motor operation equivalent to EVs. We are actively developing PHEVs, leveraging Alliance technologies with a view to launching them in the future.

Fuel-Cell Electric Vehicles

Powered by electricity generated from hydrogen and oxygen, fuel-cell electric vehicles (FCEVs) are another type of zero-emission vehicle that does not produce CO_2 or other harmful emissions. We believe that, as part of building a sustainable mobility society, both FCEVs and EVs are viable options from an energy diversity perspective.
In alignment with Japanese government policies, we joined forces with Toyota Motor Corporation, Honda Motor Co., Ltd., and other companies to establish Japan H2 Mobility, LLC (JHyM), targeting the full-fledged development of hydrogen stations for FCEVs in Japan. Addressing the key issues raised during the initial stage of FCEV promotion, JHyM will ensure that infrastructure developers, automakers, and investors all do their part to support the successful strategic deployment of hydrogen stations and effective operation of the hydrogen station business in Japan.
In June 2016, Nissan unveiled an e-Bio Fuel-Cell system that runs on bioethanol electric power. The new system features a solid oxide fuel-cell (SOFC) power generator. SOFC technology can produce electricity with high efficiency using the reaction of oxygen with multiple fuels, including ethanol and natural gas.
SOFCs can use a variety of fuels, enabling the use of existing fuel

infrastructure, and have the advantage of presenting relatively low hurdles in terms of infrastructure adoption. Because our technology combines the efficient electricity generation of SOFC with the high energy density of liquid fuels, it can enable driving ranges on par with gasoline-powered vehicles. Commercial users that require higher uptime for their vehicles should increasingly be able to take advantage of this solution thanks to the short refueling times it offers.

Weight-Reduction Technologies Supporting Carbon Neutrality

Along with improving the efficiency of batteries, engines, and electric powertrains, reducing the weight of vehicles is important for reducing CO_2 emissions.

Nissan is working on weight reduction in three ways: substituting materials, developing better forming and joining techniques, and optimizing vehicle body structure. In terms of materials, we are rapidly expanding the use of Ultra-High-Tensile Steel realizing high strength and formability, which is used for the body frame components on a wide range of vehicle models, from “kei” minicars to the INFINITI.

In 2018, we adopted 980 megapascal (MPa) Ultra-High-Tensile Strength Steel with High Formability, which features further improvements in collision energy absorption performance, for the INFINITI QX50, and in 2019, SAE International presented Nissan with the “SAE/AISI Sydney H. Melbourne Award for Excellence in the Advancement of Automotive Steel Sheet,” among other accolades. In 2020, we expanded use of 980 MPa Ultra-High-Tensile Strength Steel with High Formability to the Rogue and use of Ultra-High-Tensile Strength Steel with increased strength up to 1,470 MPa to the Note. We use aluminum materials for hoods and doors to the Rogue and Qashqai in a closed loop recycling process*1. The recycling of waste aluminum is an environmentally friendly technology that can save more than 90% of energy required to make a comparable amount of aluminum from raw materials. We are promoting the use of these technologies in a wide range of vehicle models to reduce weight and contribute to the reduction of energy consumption by reducing the amount of materials used and engaging in recycling.

The e-POWER system, which employs a newly designed motor and inverter in line with structural optimization, has been adopted for the new Note released in 2020. This realizes vehicle weight reductions of 15% for the motor and 30% for the inverter while increasing output by 6%. Nissan will continue to proactively develop lightweight technologies to lower CO_2 emissions and reduce dependence on newly mined resources in order to achieve carbon neutrality.

*1 Closed loop recycling process: The reuse of waste and scrap generated during manufacturing and used products collected in-house as materials for parts of the same quality or reuse in similar products.

* Click here for more information about aluminum recycling activities.

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Initiatives for Partnerships with Society

Nissan Energy: Solutions that Enrich Life and Society with EVs

As part of our efforts to help build the EV ecosystem, we launched a group of solutions we call Nissan Energy. Nissan Energy has three main components, each of which is designed to support our customers' lifestyles with EVs in a different way.

Nissan Energy Supply

Nissan Energy Supply includes various electric charging solutions that bring ease and convenience to the lifestyles of our EV customers.
The majority of our EV customers find it convenient to charge their EVs at home. To help ensure that our vehicles can be safely charged, we guide customers to use suitable charging equipment and engage qualified installers to install electrical outlets dedicated to EVs.
The Nissan LEAF, which offers an ample driving range for daily use, utilizes a fast-growing charging network, providing drivers with confidence during longer distance drives and short outings.
Our dedicated EV app lets customers find and check the real-time status of charging stations. This not only makes charging easier and more convenient but also provides a seamless charging experience. As of the end of May 2022, approximately 49,100 quick chargers conforming to the CHAdeMO protocol have been installed worldwide.

Click here for more information about CHAdeMO protocol.
https://www.chademo.com/

Nissan Energy Share

The electricity stored in the Nissan EV's battery can do more than just power a vehicle; it can be shared with homes, buildings, and local communities through bi-directional chargers.
Using inexpensive electricity in the evening during off-peak periods and excess electricity generated by solar panels during daytime reduces electricity costs and helps promote a model of local generation of electricity for local-consumption.
Furthermore, Nissan Energy Share makes it possible for EVs to provide backup power during blackouts or emergencies.
Local communities can connect multiple EVs to regional power grids to charge or discharge electricity in accordance with power supply and demand balance, which contributes to the stability of a community's power supply and promotes renewable energy use. EV's high-capacity batteries have high potential for usage as social infrastructure, by storing renewable energy like solar power for which generation is difficult to control.

Global Spread of Nissan Energy Share

Nissan participates in collaboration with electric power companies and others in demonstration projects around the world to verify how Nissan EV charge and discharge control (V2G or Vehicle to Grid), which is connected to power systems, help stabilize the supply and demand of electricity in society and the extent of economic and environmental benefits.

In the U.K., in conjunction with the electric power company E.ON, we conducted a project to install bi-directional chargers on-site at Nissan Technical Center Europe and verify compatibility between V2G and the efficient operation of company-owned vehicles (e4Future Project). We have also finished a project with the electric power company OVO Energy to install bi-directional chargers in Nissan EV customer homes and verify the economic benefits of optimally controlling household power consumption (Sciurus Project).

Going forward, Nissan will continue to conduct V2G projects including a V2G project (REVS Project) aimed at frequency stabilization in the Australian Capital Territory implemented with the electric power company ActewAGL and the local government, and building energy management services (V2B or Vehicle to Building) in collaboration with U.S. charging service provider Fermata Energy among other initiatives with our partners to increase and disseminate the value of EVs as batteries throughout the world. Based on results obtained from projects in each region, Nissan wants to maximize the efficacy and economic benefits of EV charging and discharging operations and make Nissan Energy Share into a business as soon as possible.

Nissan Energy Storage

Nissan EV batteries offer high performance even after being used in cars. As more and more customers switch to EVs, the supply of batteries capable of secondary use is expected to increase significantly.

In 2010, Nissan, as an EV pioneer, joined forces with Sumitomo Corporation to establish 4R Energy Corporation, which specializes in repurposing lithium-ion batteries. The intention is to fully utilize resources by promoting the four Rs of lithium-ion batteries — reuse, resell, refabricate, and recycle — with the aim of building an efficient cycle of battery use.

Reuse System Realized Using EV Batteries

In conjunction with 4R Energy Corporation, Nissan aims to create secondary usage method business models compatible with the capacity changes of individual Nissan EVs and batteries that will be fully utilized (cascade reuse) throughout the EV life cycle.
In September 2019, Nissan and 4R Energy announced the establishment of a new solution for fixed storage batteries built with used batteries from the Nissan LEAF. To get started, we launched a proof-of-concept demonstration of “procuring electric power from renewable energy” at 7-Eleven stores in 10 locations across Kanagawa Prefecture. Under this scheme, 7-Eleven introduced package consisting of the Nissan LEAF EV and fixed storage batteries built with used batteries from the Nissan LEAF. The Nissan LEAF, which will be introduced as a commercial vehicle, will become a stationary storage battery after its use as a car has ended. The introduction of a package like this facilitates the creation of a circular system that takes into account the reuse of batteries. 4R Energy has developed a stationary storage battery with Vehicle to Everything (V2X) functionality, representing a further advance in the aforementioned stationary storage battery, and in line with CO_2 reductions during regular operations, Nissan is promoting the introduction of this package in a wide range of companies and municipalities as equipment to be used in BCP response for emergency situations.
Furthermore, East Japan Railway Company will introduce recycled lithium-ion storage batteries (EneHand Green) as a power source for railroad crossing security equipment, reusing modules from the 24kWh used batteries in the Nissan LEAF. This power supply unit contributes to the realization of an eco-friendly, circular system through the use of recycled batteries, while achieving a longer service life and lower operating costs compared to conventional lead-acid battery power supplies.

Launched Testing to Expanding EV Usage in California

California’s active promotion of five million zero-emission vehicles by 2030 has helped make it the U.S. state with the largest volume of private EV sales. Even so, drivers still tend to use EVs for short-distance travel such as shopping or commuting. At the request of the New Energy and Industrial Technology Development Organization (NEDO), and with the California government’s cooperation, Nissan Motor Co., Ltd. (NML) and Kanematsu Corporation started a project in November 2016 in partnership with U.S. charging infrastructure service provider EVgo to install over 57 fast chargers in more than 26 new locations along one of California’s most important travel arteries. At the same time, the project created information service systems to guide EV users to the most appropriate fast charger. These initiatives are part of a pilot business to demonstrate the efficacy of expanding the driving range of EVs. The project was designed to expand the driving range of EVs to include intercity travel, and ran until September 2020, collecting and analyzing a range of EV data to establish models for further expansion of EV usage.

Corporate Activity Initiatives

Policies and Philosophy for Corporate Activity Initiatives

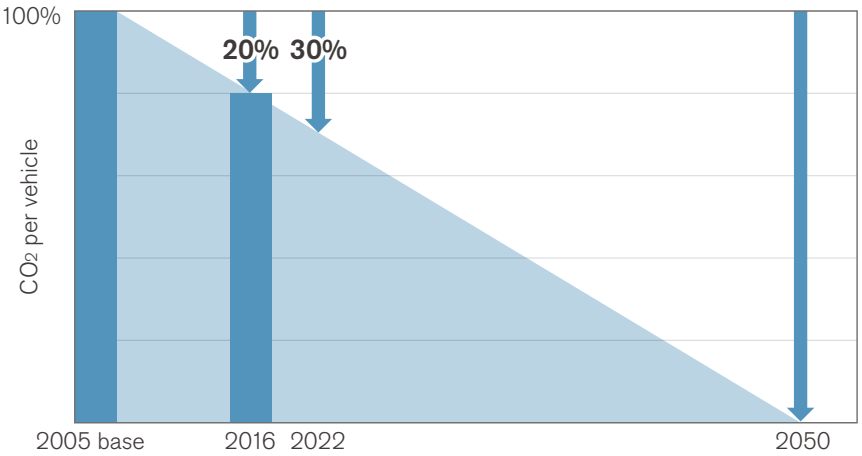
Reducing CO_2 Emissions from Corporate Activities

Nissan is taking steps to reduce its greenhouse gas emissions from corporate activities by promoting energy efficiency measures and also the use of renewable energy.
Based on calculations incorporating the findings of the Fourth Assessment Report from the Intergovernmental Panel on Climate Change (IPCC), Nissan established the goal of reducing its overall corporate CO_2 emissions by 2050. Also, as part of the Nissan Green Program 2022 (NGP2022), we set the midterm goal of a 30% reduction in overall corporate CO_2 emissions by 2022. Manufacturing is our largest emissions source, but we are also aiming to reduce greenhouse gas emissions from logistics, offices and dealerships, by setting targets and taking action in each area.

Long-Term Vision and Road Map

In January 2021, Nissan set targets for realizing carbon neutrality in the vehicle life cycle by 2050.

NGP2022 Long-Term Vision



Management of Corporate Activity Initiatives

NGP2022 Objectives

Targets for each link in the value chain under the Nissan Green Program 2022 (NGP2022) aimed at achieving our long-term goal of carbon neutrality in the vehicle life cycle by 2050 are as follows:

Overall (Manufacturing, Logistics, Offices, Dealerships):

30% reduction in CO_2 emissions from global corporate activities by 2022 (vs. 2005/per vehicle sold)

Manufacturing

36% reduction in CO_2 emissions from global manufacturing sites by 2022 (vs. 2005/per vehicle manufactured)

Logistics

12% reduction in CO_2 emissions from logistics in Japan, North America, Europe, and China by 2022 (vs. 2005/per vehicle manufactured)

Offices

12% reduction in CO_2 emissions from global offices by 2022 (vs. 2010/per floor area)

Dealerships

12% reduction in CO_2 emissions from dealerships in Japan by 2022 (vs. 2010/per floor area)

Corporate Activity Initiatives: Achievements

32.9% Reduction in CO_2 Emissions from Corporate Activities

The scope of management regarding climate change through corporate activities includes all vehicle and parts production sites, logistics activities, office locations, and sales companies within the consolidation scope, including subsidiaries and affiliates.
This represents that Nissan has significantly expanded the scope of its CO_2 emission reduction activities, which previously covered only production sites, and has broadened the scope of initiatives that have been conducted individually, such as the introduction of highly efficient equipment, energy conservation activities, and renewable energy from fiscal 2011. The objective is to strengthen the management level of the entire company's activities.

In addition to overall corporate activities, we have set KPIs and targets for each domain that enable us to identify the progress of each. For overall corporate activities, we have established a target of reducing CO_2 emissions from corporate activities by 30% per unit of global sales compared to fiscal 2005 by fiscal 2022*. In fiscal 2021, we reduced CO_2 emissions (t-CO_2/unit) by 32.9% compared to fiscal 2005.

* Global CO_2 emissions per vehicle sold by dividing the total volume of CO_2 emissions produced through Nissan's corporate activities globally by the number of Nissan vehicles sold globally.

Energy Inputs and Energy Consumption

The total energy consumption of our global corporate activities during fiscal 2021 was 7.495 million MWh, a 2% decrease from fiscal 2020. This reduction was primarily due a decline in production volume at each manufacturing site. Production sites globally accounted for 6.875 million MWh★ total energy consumption.

★ This figure is subject to assurance by KPMG AZSA Sustainability Co., Ltd. For details, please see here.

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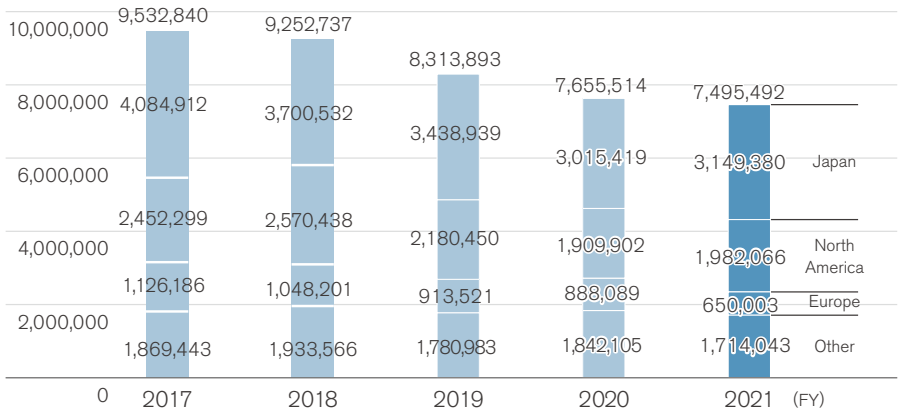

Energy Input

(FY)

	Unit	2020	2021
Total	MWh	7,655,514	7,495,492
By region			
Japan	MWh	3,015,419	3,149,380
North America	MWh	1,909,902	1,982,066
Europe	MWh	888,089	650,003
Other	MWh	1,842,105	1,714,043
By energy source			
Primary			
Natural gas	MWh	3,089,803	2,907,420
LPG	MWh	144,478	145,717
Coke	MWh	100,144	112,154
Heating oil	MWh	69,618	69,868
Gasoline	MWh	184,021	177,147
Diesel	MWh	25,315	23,800
Heavy oil	MWh	22,816	22,383

(FY)

	Unit	2020	2021
External			
Electricity(purchased)	MWh	3,851,011	3,859,386
Renewable energy*1	MWh	181,815	229,754
Chilled water	MWh	3,530	3,598
Steam	MWh	96,960	114,506
Internal			
Electricity (in-house generation)	MWh	65,183	59,313
Renewable energy*2	MWh	65,183	59,313
Total renewable energy	MWh	246,998	289,067

*1 Volume of renewable energy in electricity purchased by Nissan.

*2 Volume of renewable energy generated by Nissan at its facilities and consumed for its own purposes.

*Please refer to the data book for the past 5-year historical trends.

Carbon Footprint of Corporate Activities

(FY)

	Unit	2020	2021
Scope 1	t-CO_2	754,453	697,851
Scope 2	t-CO_2	1,631,551	1,541,276
Scope 1 + 2	t-CO_2	2,386,004	2,239,127
Japan	t-CO_2	949,269	990,367
North America	t-CO_2	529,044	507,584
Europe	t-CO_2	156,442	112,157
Other	t-CO_2	751,250	629,019
Scope 3	t-CO_2	135,068,055	127,735,901

*Please refer to the data book for the past 5-year historical trends.

In fiscal 2021, the total of Scope 1 and 2 emissions was 2.239 million tons. Total CO_2 emissions from manufacturing processes were 1.944 million tons★ (Scope 1 emissions: 0.622 million tons★ Scope 2 emissions: 1.332 million tons★).

★ This figure is subject to assurance by KPMG AZSA Sustainability Co., Ltd. For details, please see here.

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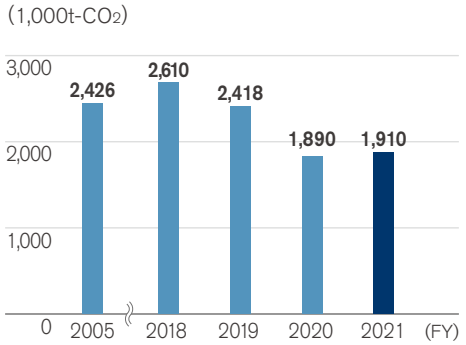
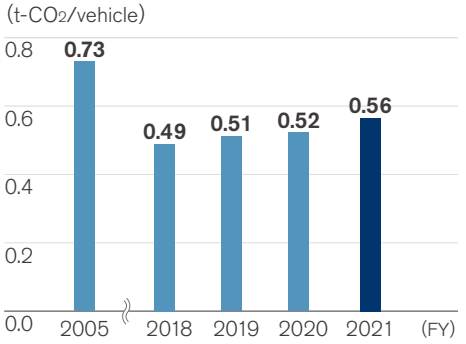
Manufacturing Activities

Carbon Footprint of Manufacturing Activities



Manufacturing CO_2 per Vehicle Produced



In fiscal 2021 , our manufacturing CO_2 emissions per vehicle produced were 0.56 tons, 23.4% less than fiscal 2005.

Next-Generation Vehicle Manufacturing Concept: Nissan Intelligent Factory

In line with the acceleration of vehicle electrification, intelligence, and the Nissan Intelligent Mobility concept promoted by Nissan, vehicle functions and construction are becoming increasingly complex. As further technological innovations will be essential in the production process, we announced the Nissan Intelligent Factory* vehicle manufacturing concept. These innovations include Nissan's development of a new water-based paint that successfully controls the viscosity of body paint, which had been difficult to control at low temperatures, realizing a low-temperature body paint. This enables the simultaneous painting of the body and bumpers, reducing CO_2 emissions by 25% or more. In the past, residual airborne paint was mixed with water and disposed of as waste. However, the adoption of dry booths do not use any water at all and enable the collection of 100% of the residual airborne paint, which is reused as an alternative to auxiliary agents to remove impurities in the iron casting process.

* Click here for more information on Nissan Intelligent Factory.
https://global.nissannews.com/en/releases/release-ca298f94d2418782118342f5fd0448b6-191128-02-e
https://www.youtube.com/watch?v=YH5x_wBe1hM (Japanese only)
https://www.nissan-global.com/JP/INNOVATION/TECHNOLOGY/ARCHIVE/NIF/

EV36Zero, an Electric Vehicle (EV) Hub to Achieve Carbon Neutrality

Nissan is a pioneer in not only the development and production of EVs, but also in comprehensive efforts to utilize the onboard battery as a storage battery and for secondary use, with the aim of achieving carbon neutrality throughout the entire life cycle of a vehicle.

In July 2021, we unveiled EV36Zero as the world's first hub to create an ecosystem for electric vehicle (EV) manufacturing in order to advance the next phase of the automotive industry together with our partners and achieve carbon neutrality in Europe.

- New-generation Nissan electric crossover to be manufactured at the Nissan Sunderland, U.K. Plant
- Envision AESC will build a new giga-factory with an annual production capacity of 9GWh adjacent to the Nissan Sunderland Plant
- Renewable energy 'Microgrid' to deliver 100% clean electricity for the Sunderland Plant
- 2nd life EV batteries used as energy storage for ultimate sustainability
- This comprehensive project represents 6,200 jobs at Nissan and at its UK suppliers

Centered around the plant in Sunderland, U.K., Nissan EV36Zero will supercharge the company's drive to carbon neutrality and establish a new 360-degree solution for zero-emission motoring. The transformational project has been launched with an initial £1 billion investment by Nissan and its partners Envision AESC and the Sunderland City Council. Comprised of three interconnected initiatives, Nissan EV36Zero brings together EVs, renewable energy and battery production, setting a blueprint for the future of the automotive industry. The experience and know-how gained through the project will be shared globally, enhancing Nissan's global competitiveness. Nissan will continue to leverage its strengths in electrification to become a company that continues to provide value to its customers and society.

Promoting Renewable Energy

Nissan takes three approaches toward promoting the adoption and integration of renewable energy in line with the characteristics of each region: (1) generating our own power in company facilities; (2) sourcing energy with a higher proportion of renewables; and (3) leasing land, facilities, and other assets to power companies.

As an example of the first approach, our Sunderland Plant in the U.K. introduced 10 wind turbines supplying up to 6.6 MW of power. In 2016, the plant installed 4.75 MW solar power, and in 2021, additional installation of 20 MW capacity has been planned. At our Iwaki Plant, the guest hall for plant visitors is powered by solar energy. By storing surplus electricity in secondhand Nissan LEAF batteries, the plant both stabilizes the energy supply and uses resources more effectively. At the Huadu Plant of Dongfeng Nissan Passenger Vehicle (DFL-PV) in China, solar panels with a total capacity of 30 MW have been in operation since 2017, providing roughly 8% of the electricity used at the plant.

Regarding the second approach, our first Aguascalientes Plant in Mexico actively uses energy generated from biomass gas and wind power and achieved a renewable energy usage rate of 50% in 2021.

Solar power generators were also installed on a parking structure roof at the India Plant in October 2020 and on a warehouse roof at the Egypt Plant in March 2021, both of which have commenced operation.

We are also installing 5.5 MW of solar power generation at our Thailand Plant starting in January 2022.

Through these efforts, we have enhanced the renewable energy usage rate at our production plants as part of reducing CO_2 emissions. In fiscal 2021, our renewable energy usage rate reached 11.1%.

5.5 MW of solar power generation at the Thailand Plant

Saving Energy in Global Production

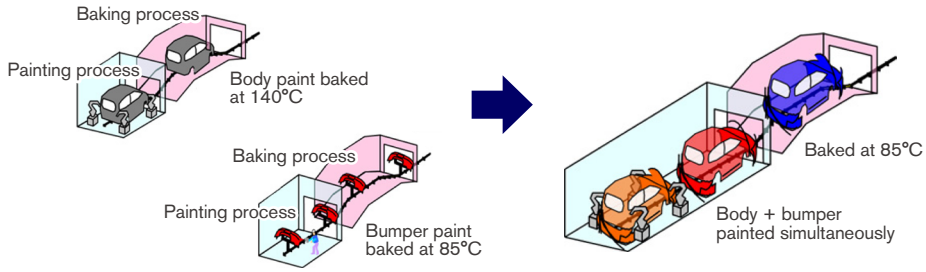
Most CO_2 emissions in the manufacturing process come from the consumption of energy generated by fossil fuels. We engage in a variety of energy-saving activities in the manufacturing process in pursuit of the lowest energy consumption and CO_2 emissions of any automaker.

Initiatives in automotive production technology

In the realm of automotive production technology, we are introducing highly efficient equipment and improving manufacturing techniques. Other key approaches are the three-wet paint process and low-temperature baking technology used for vehicle painting, which enables the body and bumpers to be painted at the same time. Approximately 30% of CO_2 emitted from manufacturing plants comes from the painting process, thus shortening or eliminating processes and lowering temperatures during the process will lead to a reduction in CO_2 emissions. The low-temperature three-wet painting technology introduced by Nissan enables the body and bumpers, which were previously painted separately, to be painted at the same time, reducing CO_2 emissions from the painting process by 25% or more.*1 Nissan has implemented this technology in the new production line at the Tochigi Plant (launched in 2021) and will gradually expand its roll out as painting facilities become more sophisticated in the future. Also, systems for recycling air expelled from booths for reuse needed dehumidifying processing to ensure that the air was at the humidity required. Dry paint booths can reuse air without dehumidifying it, reducing energy consumption to less than half its previous levels. This technology was adopted for the dry paint booths at our Sunderland Plant in the U.K. (operating since September 2018) and has also been implemented on the new line at the Tochigi Plant.

*1 Source: Nissan

Three-Wet Paint Process (Combined Primer and Topcoat Application)



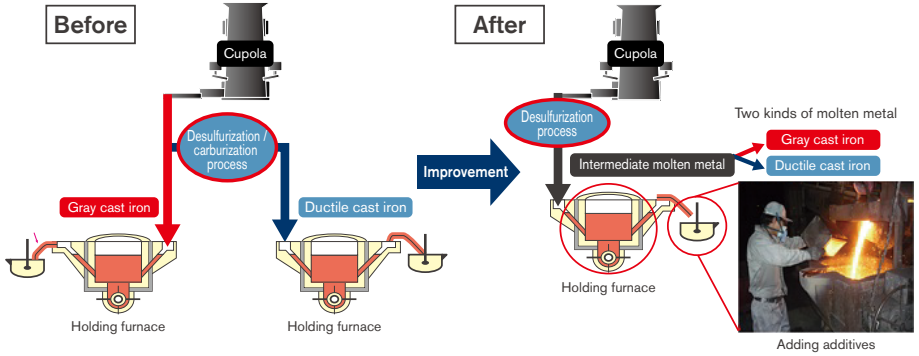
Simultaneous Painting of Body and Bumpers
CO_2 emissions have been reduced by simultaneously painting the body and bumpers using a new technology and consolidating them into one process (right) and drying at a low temperature (85℃) instead of the conventional two-step process (left).

Initiatives in the field of powertrain production technology

In the powertrain production technology area, Nissan is working to reduce holding furnace energy usage in cast iron melting processes conducted by the Casting Division. Conventionally in the melting process, two holding furnaces were used to store two types of cast iron melts with adjusted carbon and sulfur component contents. Now, intermediate molten metal with a low carbon and sulfur content is stored in one holding furnace. When transporting from the holding furnace to another process, the ingredients are adjusted by adding additive materials, creating two types of molten metal and making it possible to eliminate one holding furnace. As a result, power consumption was reduced by approximately 3,600 MWh per year (CO_2 conversion: Approximately 1,700 tons per year; oil conversion amount: Approximately 900 kiloliters per year). This corresponds to about 11% of the power consumed in the melting processes conducted by the cast iron factory located on site at the Tochigi Plant. In light of this achievement,

Nissan won the Agency for Natural Resources and Energy Award in the Small Group Activities category at the Energy Conservation Grand Prize Awards for fiscal 2019, sponsored by The Energy Conservation Center, Japan (ECCJ).

Cast Iron Melting Process



To reach our defined objectives for CO_2 emissions and energy use, we solicit facility proposals from each global site, preferentially allocating investment based on the potential CO_2 emission reduction compared to project costs. Making the value of carbon a key factor in internal evaluations lets us invest more efficiently and be more competitive. In Japan, we converted outdated facilities into cutting-edge, high-efficiency facilities with investments to improve energy efficiency, including energy-saving roof insulation upgrades. Our plants use finely controlled lighting and air conditioning for low-energy use and low-energy-loss operations. We promote CO_2 emission reduction activities and introduced cutting-edge, energy-conservation technology from Japan in our plants worldwide. Around the globe, our plants learn and share best practices with each other, while Nissan Energy Saving Collaboration (NESCO)*2 diagnoses energy loss at plants in regions where it is active and proposes new energy-saving countermeasures. These proposals amount to a potential reduction in CO_2 emissions of some 44,551ton*3 in fiscal 2021, according to our calculations.

When sourcing energy, we consider the balance of CO_2 emissions for the entire company alongside renewable energy usage rate and cost, choosing suppliers best suited for achieving each goal. At manufacturing facilities in fiscal 2021, CO2 emissions per vehicle produced in were brought down to 0.56 tons, a reduction of 23.4% from the fiscal 2005 level.

*2 Established in Japan in 2003, then in Europe, Mexico, and China in 2013
*3 Source: Nissan

More Efficient Logistics and Modal Shifts

Nissan is working to optimize the frequency of deliveries and transport routes, and improve packaging specifications (load shapes) for better loading ratios so fewer trucks are required, while expanding cooperative transport with other companies to achieve even more efficient transportation.
We work from the design stage of new vehicles to reduce transportation distances by sourcing necessary production components as close to our plants as possible. In addition, we incorporate parts shapes and transfer units that take transportation efficiency into consideration during parts design, thereby reducing the amount of parts procured per vehicle, which in turn reduces transportation volume.
In response to social trends in workstyles, such as driver shortages and shorter working hours, we are constantly reviewing our logistics methods and promoting a modal shift to rail and marine transport. In Japan, parts shipments from the Kanto area to our plants in the Kyushu are nearly all conducted by rail and ship. The Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has recognized Nissan as an outstanding enterprise for this modal shift to sea transport.
At Nissan sites outside Japan, transport methods are selected to best match the local geographical conditions. Transport of completed vehicles is increasingly shifting from truck to rail or ship, depending on the destination. In China, we are increasing the proportion of completed vehicles that are transported domestically by ship or rail.
In the future, we will actively collaborate with carriers that are working on environmental measures to establish logistics with a lower environmental impact. Since 2010, we have also been promoting the use of energy-efficient vessels for sea shipments of our vehicles. Today, our fleet has grown to include seven energy-efficient car carriers.
As we expand our global logistics operations, we will continue to increase efficiency and effect a modal shift in transportation, targeting a 12% reduction in CO_2 emissions by fiscal 2022 compared to fiscal 2005 levels, as measured by the index of CO_2 emissions per vehicle.*1 In fiscal 2021, CO_2 emissions per global vehicle were 0.29 tons, a reduction of 27.9%.

*1 Total CO_2 emissions from transportation of parts to our manufacturing bases in Japan, North America, Europe, China, Thailand, and India, and transportation of vehicles from our manufacturing bases to dealerships, divided by the number of vehicles produced.

※ Data related to climate change (initiatives through corporate activities) is also available here.
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CO_2 Emissions from Logistics

(FY)

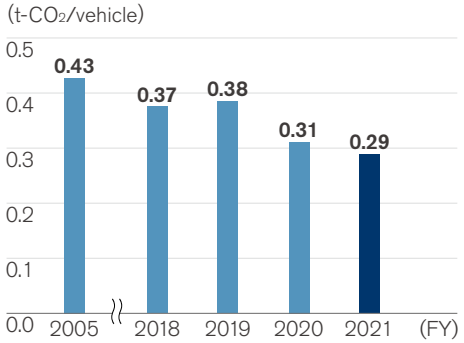
	Unit	2020	2021
Total	t-CO_2	900,234	874,936
Inbound*	t-CO_2	397,822	366,190
Outbound*	t-CO_2	502,412	508,746

Sea	%	19.9	20.8
Road	%	66.2	65.6
Rail	%	6.6	7.1
Air	%	7.3	6.5

*1 "Inbound" includes parts procurement from suppliers and transportation of knockdown parts;
*2 "Outbound" includes transportation of complete vehicles and service parts.
* Please check the data book for the past 5-year historical trends.

In fiscal 2021, CO_2 emissions from logistics were 874,936 tons, down approximately 3% from the previous fiscal year.

CO_2 Emissions per Vehicle Transported



In fiscal 2021, CO_2 emissions per vehicle transported were 0.29 tons.

Office Initiatives

We promote efforts to reduce CO_2 emissions at Nissan offices in Japan, North America, Europe, and China. In Japan, through Nissan Trading, we operate the Nissan Power Producers and Suppliers (PPS) scheme, sourcing clean energy for whichCO_2 emissions and costs have been taken into account through Japan's PPS system.

Nissan Energy Saving Collaboration (NESCO) teams have also expanded the scope of their activities beyond production plants to contribute to reducing emissions in the Nissan Technical Center in Atsugi.

Our efforts for environment go beyond just CO_2 management. Employees are encouraged to use online meeting tools as much as possible to reduce the number of business trips required worldwide, which also improves workplace efficiency and reduces the costs.

Green Building Policy

Based on ISO 14001 management processes to evaluate environmental impact, we make it a key task to optimize our buildings during construction or refurbishing to make all our structures greener. Evaluation metrics in this area include environmental footprint, such as CO_2 emissions; waste and emissions from construction methods; and use of hazardous materials and other quality control issues. Furthermore, one performance index for Nissan in Japan is MLIT's Comprehensive Assessment System for Built Environment Efficiency (CASBEE). *

Among our current business facilities, our Global Headquarters in the city of Yokohama, Kanagawa Prefecture, has earned CASBEE's highest "S" ranking, making it the second Nissan structure to do so following the Nissan Advanced Technology Center (NATC) in Atsugi, which is located in the same prefecture.

Our Global Headquarters gained a Built Environment Efficiency Rating of 5.6, the highest CASBEE rating for a new structure, making it one of Japan's greenest office buildings. The building's use of natural energy sources to reduce its energy usage and its CO_2 emissions were evaluated highly, as were its methods of water recycling and its significant reduction in waste produced.

*Comprehensive Assessment System for Built Environment Efficiency.

Dealership Initiatives

Nissan promotes CO_2 management at dealerships with the aim of reducing total CO_2 emissions per floor area by 1% each year. Our retail outlets also work continually to increase energy efficiency. Many have adopted high-efficiency air conditioning, insulation films, ceiling, fans and LED lighting. During renovation work, some outlets have installed lighting systems that make use of natural daylight, as well as insulated roofs.

Since April 2000, we have run a unique environmental facility certification system based on ISO 14001 for dealerships called “Nissan Green Shop.” Our environmental policy requires all dealerships in Japan to meet certain standards and undergo annual audits performed by our teams. The dedicated evaluation sheet has a total of 84 key performance indicators (KPIs) and is regularly revised to reflect the requirements of national legislation, local communities, and the Nissan Green Program (NGP).

Solar panels installed on the roof of a Kanagawa Nissan dealership. Power from the panels is supplied to dealerships through the Nissan PPS system.