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CLIMATE CHANGE

STRATEGY FOR ADDRESSING CLIMATE CHANGE

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Toward a Carbon-Neutral Society

In 2015, the United Nations Climate Change Conference (COP21) adopted the historic Paris Agreement to keep the increase in global temperature to “well below” 2° C.

At COP24, held in 2018, parties agreed on concrete guidelines to achieve the goals of the Paris Agreement, namely, to peak-out global greenhouse gas (GHG) emissions as early as possible and to strike a balance between GHG emissions from human activity and carbon absorption by nature by the second half of this century.

The United Nations' Sustainable Development Goals (SDGs), announced as part of its 2030 Sustainable Development Agenda in 2015, the same year as the Paris Agreement, set goals for climate actions. Nissan is responding to these developments by focusing on electrification and other innovative technologies and by promoting decarbonization through reductions in CO₂ emissions throughout the value chain, including by suppliers.

Nissan's Steps to Reduce CO₂ Emissions

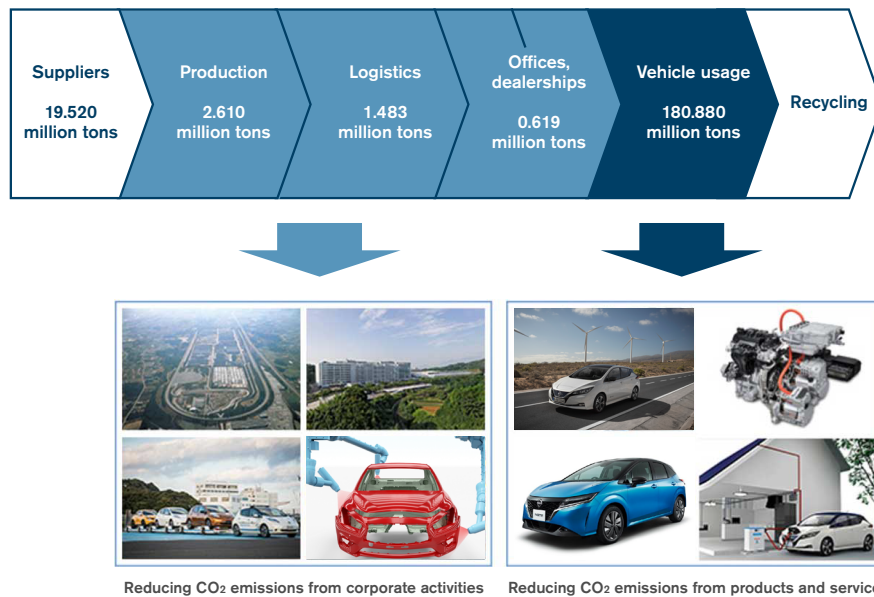
The business structure of the automobile industry is changing greatly in the face of demands to reduce CO₂ emissions and dependence on fossil fuels. Nissan has been proactively engaged in environmental responsiveness and the creation of social value, such as reducing CO₂ emissions and realizing the practical use of electrification technologies. We will further develop these initiatives and promote global activities targeting carbon neutrality in 2050, aiming for 100% electrification in the early 2030s. 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.

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Efforts at Every Link in the Value Chain

The Nissan Green Program 2022 (NGP2022) aims to achieve carbon neutrality by reducing emissions from our corporate activities, products and services.

CO₂ Emissions in the Value Chain*



* Actual emissions in 2018.

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PRODUCT INITIATIVES

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Policies and Philosophy for Product Initiatives

Reduction of Emissions from Products and Services

According to a 2014 report from the Intergovernmental Panel on Climate Change (IPCC), the transport sector was responsible for 14% of anthropogenic greenhouse gas emissions from all economic sectors in 2010. As a business in this sector with continued growth in both unit sales and amount of passenger activity, Nissan is aiming to decouple emissions from company growth.

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 CO₂ emission reduction target for new vehicles by 2050.

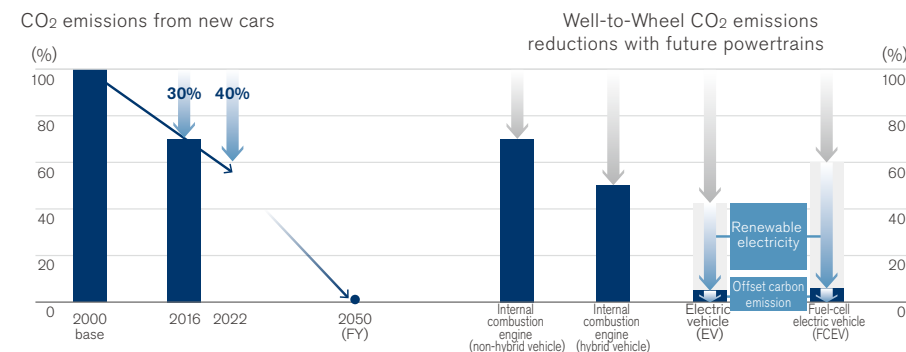
Recognizing that this would require drastic reduction of “well-to-wheel” CO₂ emissions from new vehicles, we set about developing a new scenario for powertrain technologies. Additionally, under the Nissan Green Program 2022 (NGP2022), to remain on track with this target, we are aiming to reduce CO₂ emissions from new vehicles by 40% compared to fiscal 2000 by 2022 (in Japan, the U.S., Europe and China) throughout the value chain as a whole. As a global leader in technological advancements through the electrification of our products, we believe we can substantially contribute to the 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 some success, in recognition that efforts made so far are insufficient in terms of the IPCC “Special Report: Global Warming of 1.5° C” published in 2018, and in terms of national / local government and customer expectations for carbon neutrality in each market, 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.

Nissan will promote the evolution of new technologies and businesses, and under the umbrella of Nissan Intelligent Mobility,* we take a unified approach to bringing new technologies, functions, businesses and services to market.

* Click here for more information on Nissan Intelligent Mobility.
<https://www.nissanusa.com/experience-nissan/intelligent-mobility.html>

CO₂ Reduction Scenario



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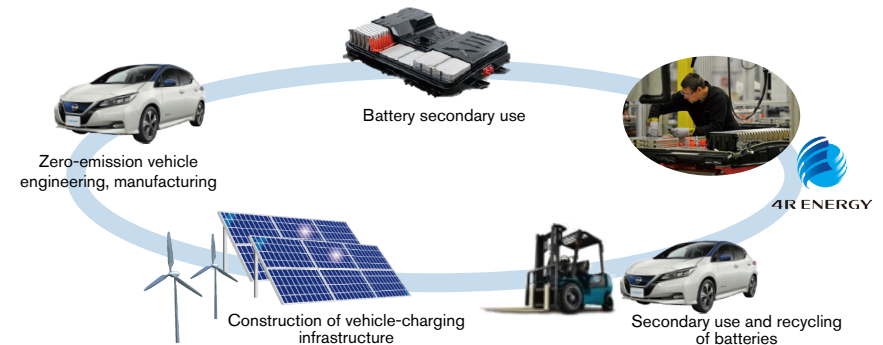
Pursuing a Zero-Emission Society

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 CO₂ 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



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Establishing Leadership in the EV Sector

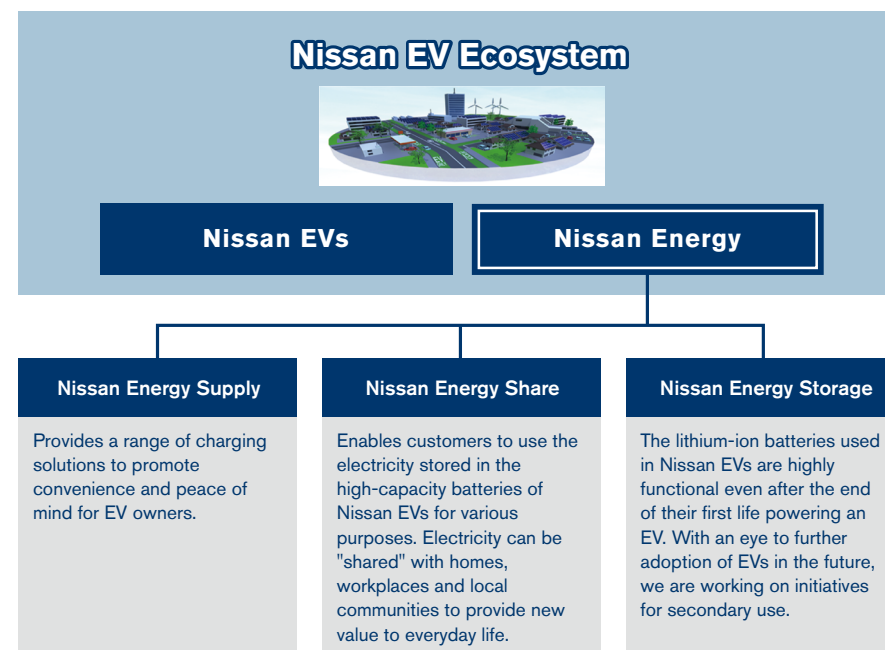
Our commitment to sustainable mobility addresses concerns over climate change and supports the sustainable growth of the company.

Our 2010 launch of the first Nissan LEAF made us pioneers of mass-produced EVs. Since then, we have sold more than 690,000 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



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Managing actions through Products

Key Activities in NGP2022

The CO₂ 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 CO₂ emissions that addresses vehicle, driver and new mobility value.

1. Adopt cleaner energy to reduce vehicle CO₂ emissions

Extend electrification across all brands under the Nissan Intelligent Mobility strategy*1. Expand electric vehicle (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.nissanusa.com/experience-nissan/intelligent-mobility.html>

*2 V2X: Abbreviation for Vehicle to Everything, a term describing technology and systems for handling communication in vehicles. One example of V2X technology is Vehicle-to-Grid (V2G), which allows smart optimization of electricity supply according to demand.

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Product Initiatives: Achievements

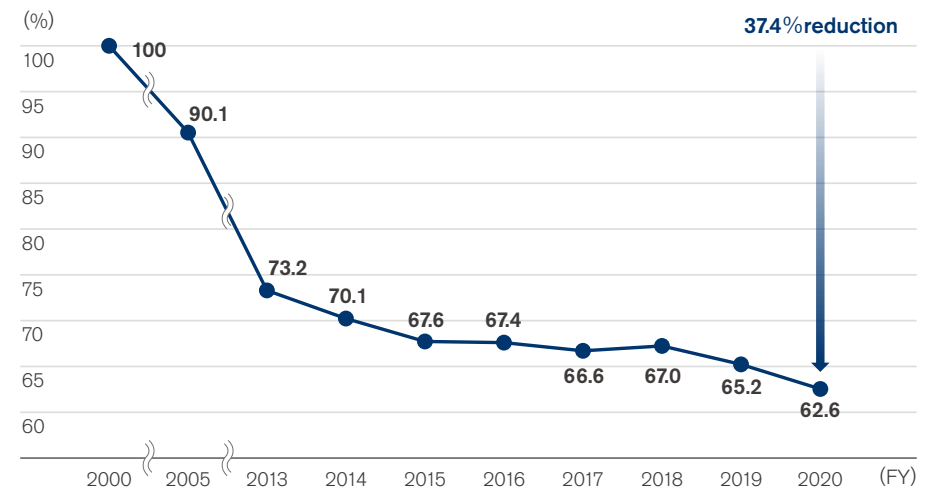
Toward a 40% Reduction in New Vehicle CO₂ Emissions

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 fuel consumption and CO₂ emissions without sacrificing the pleasure and ease of driving.

By fiscal 2022, we aim to achieve a 40% reduction in CO₂ emissions* compared to fiscal 2000 levels.

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

CO₂ Emissions from New Vehicles (Global)*



In fiscal 2020, CO₂ emissions in Nissan's main markets of Japan, the U.S., Europe, and China were 37.4% lower than fiscal 2000 levels, as measured by Corporate Average Fuel Economy (CAFE).

In particular, fuel efficiency has improved compared to fiscal 2019 due to the introduction of new models in the United States and Europe.

* Reduction in CO₂ emissions calculated by Nissan.

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Nissan's technologies of electrification realizing Carbon Neutrality

Accelerating the Advancement and Promotion of Electrification Technologies

Nissan has set the goal to achieve 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 as we pursue further innovations in electrification.

Nissan calculations show that the Nissan LEAF and other EVs can reduce CO₂ emissions over their entire lifecycle 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, EVs 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 CO₂ emissions, as well as the development of systems that can be installed in various vehicle models.

* The vehicle life cycle includes raw material extraction, manufacturing, use, and the recycling or reuse of end-of-life vehicles.

EV Evolution from the Nissan LEAF to the Nissan ARIYA

Nissan LEAF is Zero Emissions Vehicle, emitting no CO₂ 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 celebrated its 10th anniversary in 2020, has exceeded 524 thousand units (as of Mar. 2021). We believe this is not only due to values such as its zero emission driving, but the result of customers appreciating Nissan unique EV characteristics such as outstanding 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 announced in 2020, 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 across all grades. The newly developed motor reduces energy consumption during

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high-speed cruising, realizing a range of up to 610 km*1 (2WD 90 kWh battery-equipped model WLTC mode, Nissan measurement). 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. As the gasoline engine does not directly drive the wheels, it can be run under optimal conditions (RPM, load) at all times to generate electricity. In city driving, where it is expected to see frequent use, the e-POWER achieves top-class fuel economy*. In e-POWER Drive mode, 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, 29.5 km/L.

In November 2016, in Japan, we launched the first vehicle to feature our innovative new 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. The Note e-POWER, Serena e-POWER and Nissan Kicks have received high praise from customers, with the Nissan Kicks named one of the "6 Best Cars of the Year" at the 30th Annual (2021) RJC Car of the Year Awards sponsored by the Automotive Researchers' & Journalists' Conference of Japan (RJC). At the same time, the e-POWER system

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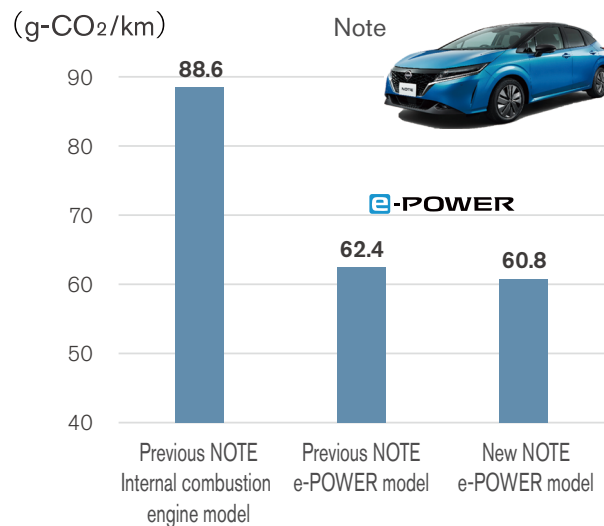
equipped on the Nissan Kicks won the “RJC Technology of the Year.” Having been launched in markets both in Japan and overseas, the e-POWER equipped Nissan Kicks has received favorable praise from local media and journalists around the world.

In December 2020, we launched the all-new Note, equipped with the second-generation e-POWER system. Additionally, global expansion of e-POWER equipped vehicles is progressing, starting with the addition of an e-POWER model on the Qashqai for Europe.

We are also working on the development of a system for the premium segment that can achieve overwhelming quietness by taking advantage of e-POWER functionality to minimize vibration from the power generating engine.

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

Replaced Serena with old and new Note fuel economy comparisons



* CO₂ emissions calculated from the fuel consumption rate in JC08 mode (measurement method of Japan's Ministry of Land, Infrastructure, Transport and Tourism).

performance and driving performance at a high level. As with EVs, we will work to further reduce costs by developing battery technologies, dedicated engines for power generation and simplified systems customized for fixed-point operation. Additionally, 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 CO₂ 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 vehicles electrification is important for carbon neutrality.

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 with the

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"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 the ambulance 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 Alliance platform, and promote the manufacture of commercial vehicles with zero emissions.



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 CO₂ 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 Corp., Honda Motor Co. 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.

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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 vehicle is important for reducing CO₂ emissions.

Nissan is working 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 applied

the use of aluminum materials for hoods and doors to which the closed-loop recycling process*¹ is applied. 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. In 2020, the Note adopted the use of Ultra High Tensile Strength Steel with increased strength up to 1470MPa. 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.

In addition to technological advances in terms of materials and production methods, 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 CO₂ emissions and reduce dependence on new mined resources in order to achieve carbon neutrality.

*¹ Closed loop-recycling: 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.

* For details about aluminum recycling activities, please see the following page:
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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 January 2021, approximately 35,600 quick chargers conforming to the CHAdeMO protocol have been installed worldwide.

Nissan Energy Share

The electricity stored in the Nissan EV's battery can do more than just power the 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.

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Global Spread of Nissan Energy Share

Through collaborations with electric power companies, Nissan participates in demonstration projects around the world to verify how Nissan EV charge and discharge control (V2G, 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 United Kingdom, in conjunction with the electric power company E.ON, we launched a project to install bi-directional chargers onsite at Nissan Technical Center Europe and verify compatibility between V2G and the efficient operation of company-owned vehicles (e4Future Project). We have also launched a project with the electric power company OVO Energy to install bi-directional charger 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 in the U.K., France, Belgium and Italy in collaboration with the electric power company EDF, a V2G project (REVS Project) aimed at frequency stabilization in the Australian Capital Territory implemented with the electric power company Actew AGL and the local government, and building energy management services (V2B, Vehicle to Building) in collaboration with US 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 want 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 Corp. to establish 4R Energy Corp., 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.

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Reuse system realized using EV batteries

In conjunction with 4R Energy Corp., 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 electric vehicle lifecycle.

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 will introduce a package consisting of the Nissan LEAF electric vehicle 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 CO₂ reductions during regular operations, Nissan is promoting the introduction of this package in a wide range of companies and municipalities as a BCP response for emergency situations.

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 NEDO, and with the California government's cooperation, Nissan Motor Co., Ltd. (NML) and Kanematsu Corp. started a project in November 2016 in partnership with U.S. charging infrastructure service provider EV go 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.

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CORPORATE ACTIVITY INITIATIVES

GRI103-1 GRI103-2 GRI302-5

Policies and Philosophy for Corporate Activity Initiatives

Reducing CO₂ Emissions from Corporate Activities

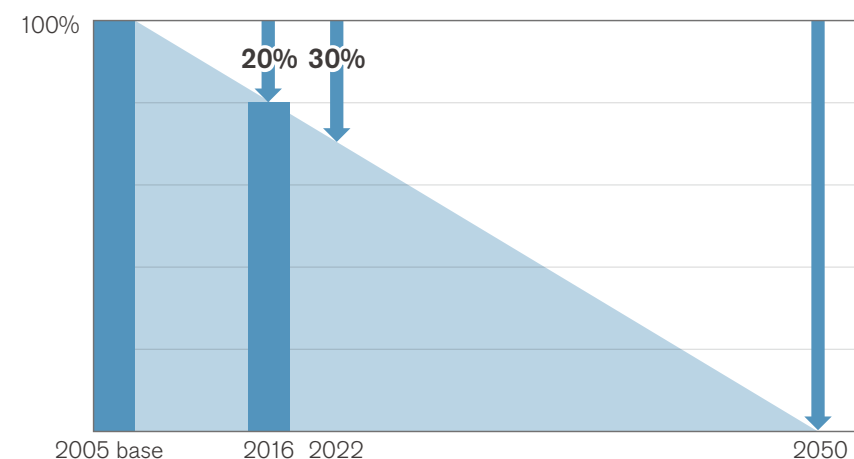
Nissan is taking steps to reduce its greenhouse gas emissions from corporate activities by promoting energy efficiency measures and also the use of renewable energy.

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 CO₂ 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 CO₂ emissions by 2022. Manufacturing is our largest emissions source, but we are also aiming to reduce greenhouse gas emissions from logistics, offices and dealerships, setting targets and taking action in each area.

Long-Term Vision and Road Map

IPCC 1.5°C special report published in 2018 stated the impacts of global warming of 1.5°C above pre-industrial levels and the context of strengthening the global response to the threat of climate change. Although NGP2022 has achieved some success of greenhouse gas reduction from corporate activities, in 2021, Nissan set targets for realizing carbon neutrality in the vehicle life cycle in 2050, and will accelerate greenhouse gas reduction from corporate activities to realize carbon neutral society

NGP2022 Long-Term Vision



* CO₂ emission per vehicle

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GRI103-2

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 in 2050 are as follows:

Overall

(manufacturing, logistics, offices, dealerships):

30% reduction in CO₂ emissions from global corporate activities by 2022 (vs. 2005/per vehicle sold)

Manufacturing

36% reduction in CO₂ emissions from global manufacturing sites by 2022 (vs. 2005/per vehicle manufactured)

Logistics

12% reduction in CO₂ emissions from logistics in Japan, North America, Europe and China by 2022 (vs. 2005/per vehicle manufactured)

Offices

12% reduction in CO₂ emissions from global offices by 2022 (vs. 2010/per floor area)

Dealerships

12% reduction in CO₂ emissions from dealerships in Japan by 2022 (vs. 2010/per floor area)

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Corporate Activity Initiatives: Achievements

33.7% Reduction in Emissions from Corporate Activities

In fiscal 2011, Nissan broadened the scope of its CO₂ reduction objectives to include logistics, offices and sales companies, as well as production sites. We expanded our emission-related initiatives, introducing high-efficiency equipment, energy-saving measures and the use of renewable energy, and also strengthened our management of these initiatives. Our objective is to reduce CO₂ emissions associated with corporate activities by 30% globally by fiscal 2022 compared to fiscal 2005 levels, as measured by the index of CO₂ emissions per vehicle (total emissions generated from Nissan global corporate activities divided by total Nissan vehicles sales volume). In fiscal 2020, we achieved a 33.7% reduction from the fiscal 2005 t-CO₂/vehicle level.

* Global CO₂ emissions per vehicle: Calculated by dividing the total volume of CO₂ emissions produced through Nissan's corporate activities globally by the number of Nissan vehicles sold globally.

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 CO₂ emissions by 25%. 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 to collect 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>



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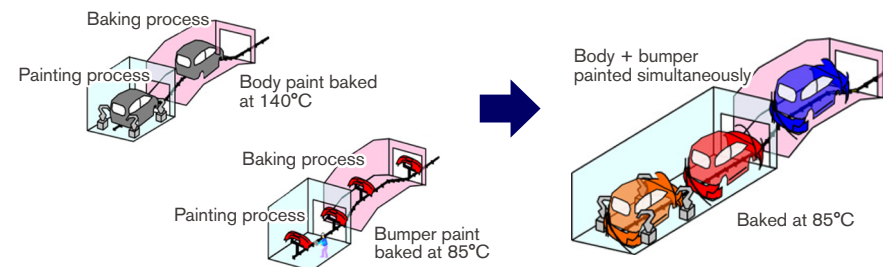
Saving Energy in Global Production

Most CO₂ 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 CO₂ emissions of any automaker.

In the realm of automotive production technology, we are introducing highly efficient equipment, improving manufacturing techniques and using energy-saving lighting in our assembly plants. 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 CO₂ 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 CO₂ 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 CO₂ 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 United Kingdom (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

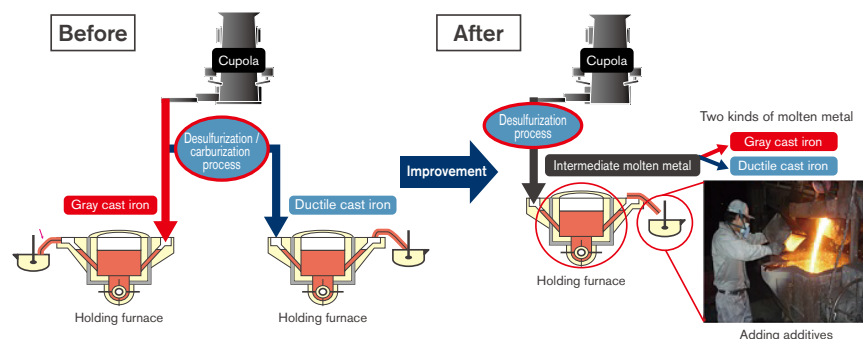
CO₂ emissions have been reduced by simultaneously painting the body and bumpers using a new technology and consolidating them into one process (right) and drying at a low temperature (85°C) instead of the conventional two-step process (left).

At the same time, 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. Traditionally, 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 (CO₂ 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 onsite at the Tochigi Plant. In light of this achievement, Nissan won the Agency for Natural Resources and Energy

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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 CO₂ emissions and energy use, we solicit facility proposals from each global site, preferentially allocating investment based on the potential CO₂ 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 CO₂ 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 CO₂ emissions of some 45,300 tons*³ in fiscal 2020, according to our calculations.

When sourcing energy, we consider the balance of CO₂ emissions for the entire company alongside renewable energy usage rate and cost, choosing suppliers best suited for achieving each goal. Through such activities, CO₂ emissions per vehicle produced in fiscal 2020 were brought down to 0.52 tons, a reduction of 29.7% from the fiscal 2005 level.

*² Established in Japan in 2003, then in Europe, Mexico and China in 2013

*³ Source Nissan

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Energy Input

(FY)

	Unit	2016	2017	2018	2019*3	2020
Total	MWh	10,189,082	9,532,840	9,252,737	8,313,893	7,655,514
By region						
Japan	MWh	4,497,562	4,084,912	3,700,532	3,438,939	3,015,419
North America	MWh	2,643,303	2,452,299	2,570,438	2,180,450	1,909,902
Europe	MWh	1,093,103	1,126,186	1,048,201	913,521	888,089
Other	MWh	1,955,115	1,869,443	1,933,566	1,780,983	1,842,105
By energy source						
Primary						
Natural gas	MWh	3,537,674	3,701,640	3,579,998	3,079,723	3,089,803
LPG	MWh	249,426	179,945	191,405	175,559	144,478
Coke	MWh	217,431	218,618	200,527	154,961	100,144
Heating oil	MWh	209,232	147,522	113,200	90,078	69,618
Gasoline	MWh	303,040	299,000	259,045	243,166	184,021
Diesel	MWh	57,488	48,259	53,074	23,246	25,315
Heavy oil	MWh	43,853	27,652	15,995	16,303	22,816

(FY)

	Unit	2016	2017	2018	2019*3	2020
External						
Electricity (purchased)	MWh	5,247,663	4,755,897	4,711,467	4,384,282	3,851,011
Renewable energy*1	MWh	157,226	133,212	135,574	123,225	181,815
Chilled water	MWh	12,919	6,661	7,487	5,086	3,530
Heated water	MWh	4,690	5,000	5,000	2,706	2,635
Steam	MWh	136,593	128,038	102,324	125,662	96,960
Internal						
Electricity (in-house generation)	MWh	11,847	14,609	13,214	43,668	65,183
Renewable energy*2	MWh	11,847	14,609	13,214	43,668	65,183
Total renewable energy	MWh	169,073	147,821	148,788	166,893	246,998

*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.

*3 Manufacturing base and office closures due to COVID-19 prevented the finalizing of FY2019 data in Sustainability Report 2020. FY2019 data has been updated for Sustainability Report 2021.

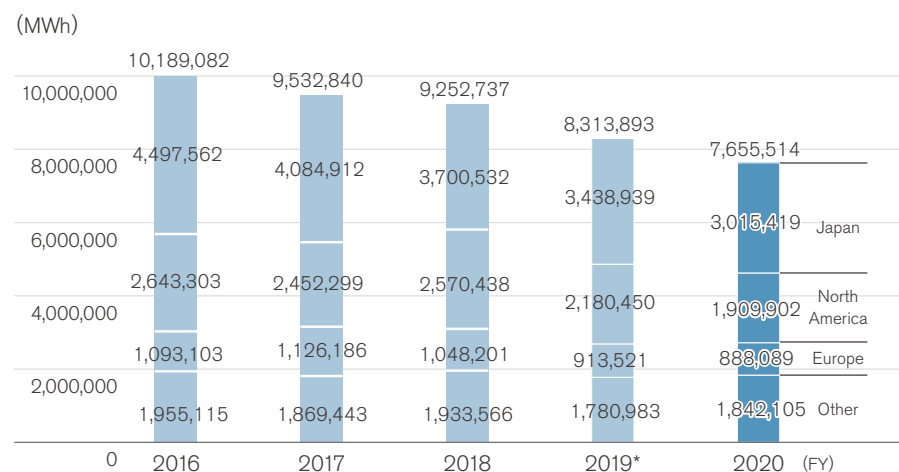
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Energy Inputs and Energy Consumption

The total energy consumption of our global corporate activities during fiscal 2020 was 7.656million MWh, a 9% decrease from fiscal 2019. This reduction was primarily due to the promotion of energy-saving activities at facilities and a decline in total production volume. Production sites globally accounted for 6.513million 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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* Manufacturing base and office closures due to COVID-19 prevented the finalizing of FY2019 data in Sustainability Report 2020. FY2019 data has been updated for Sustainability Report 2021.

Carbon Footprint of Corporate Activities

(FY)

	Unit	2016	2017	2018	2019*	2020
Scope 1	t-CO ₂	963,661	912,476	889,444	774,164	737,683
Scope 2	t-CO ₂	2,614,028	2,394,109	2,339,883	2,105,700	1,804,759
Scope 1+2	t-CO ₂	3,577,689	3,306,584	3,229,327	2,879,864	2,542,442
Japan	t-CO ₂	1,579,089	1,333,335	1,208,303	1,147,686	923,892
North America	t-CO ₂	823,340	683,332	738,234	648,754	647,465
Europe	t-CO ₂	176,285	228,998	221,692	163,553	156,441
Other	t-CO ₂	998,976	1,060,920	1,061,098	919,871	814,644
Scope 3	t-CO ₂	150,462,000	213,715,000	203,106,900	173,138,601	135,068,055

In fiscal 2020, the total of Scope 1 and 2 emissions was 2.542 million tons. Total CO₂ emissions from manufacturing processes were 1.951million tons★ (Scope 1 emissions: 0.599million tons★ Scope 2 emissions: 1.353million tons★).

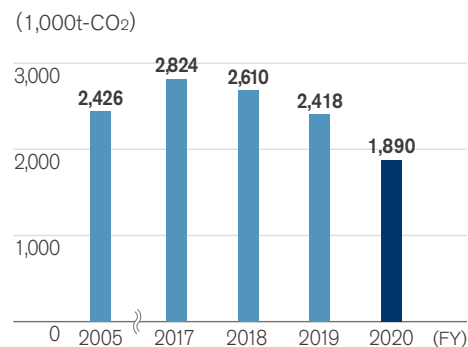
★ This figure is subject to assurance by KPMG AZSA Sustainability Co., Ltd. For details, please see here.

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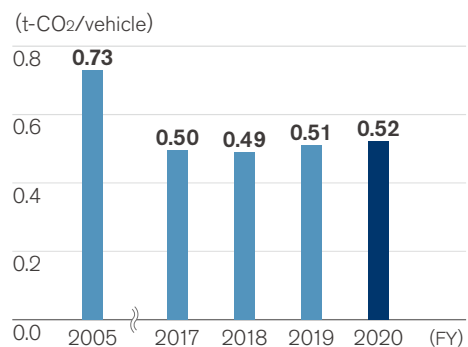
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Carbon Footprint of Manufacturing Activities



Manufacturing CO₂ per Vehicle Produced



In fiscal 2020, our manufacturing CO₂ emissions per vehicle produced were 0.52 tons, 29.7% less than fiscal 2005.

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 United Kingdom 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 20MW capacity has 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 has achieved a renewable energy usage rate of 50% since 2013. Since June 2020, we have further expanded the renewable energy usage rate to reach 70%. 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.

Through these efforts, we have enhanced the renewable energy usage rate at our production plants as part of reducing CO₂ emissions. In fiscal 2020, our renewable energy usage rate reached 10.5%.

* In addition, we installed a solar farm (with an output of approximately 200 kW) at a plant in Spain.

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More Efficient Logistics and Modal Shifts

In 2000, Nissan began sending chartered trucks for pickup and delivery of parts. This approach—adapted widely across the company, including at overseas manufacturing sites—has increased global operational efficiency. We work together with suppliers to optimize the frequency of deliveries and transport routes and improve packaging specifications for better loading ratios so fewer trucks are required. We are also pursuing a modal shift from trucks to rail for transport.

Through a 2014 expansion of this approach to include cooperative transport of production parts with other original equipment manufacturers (OEMs), in addition to complete vehicles and service parts, we are seeking further efficiency in this area. We work from the design stage of new vehicles to reduce transportation distances by sourcing necessary production components for plants through localization as much as possible.

Our engineers devise efficient packaging for the huge number of parts of different shapes and materials that go into automobiles. Through simultaneous-engineering logistics, we work from the design stage to create parts and develop new vehicles that enhance transportation efficiency, as well as reduce parts shipments per vehicle.

In container transport, we have taken a range of measures to improve container filling rates for parts transport, from 40-foot “high cube” containers to software simulations that reduce wasted container space.

We constantly review transport methods and are currently undertaking a modal shift to rail and maritime transport. Some 80% of completed vehicles in Japan are now transported by sea. Parts shipments to NMK from the Kanto area in and around Tokyo 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.

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*1.

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 CO₂ emissions by fiscal 2022 compared to fiscal 2005 levels, as measured by the index of CO₂ emissions per vehicle*2. In fiscal 2020, CO₂ emissions per global vehicle were 0.31 tons - a reduction of 11.5% reduction of 11.5%.

*1 More information can be accessed on Nissan's energy-efficient car carriers' page.

*2 Total emissions generated from transportation to Nissan manufacturing sites and retail outlets in Japan, North America, Europe and China divided by the total number of vehicles transported.

* Data related to climate change (initiatives through corporate activities) is also available here.

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CO₂ Emissions from Logistics

(FY)

	Unit	2016	2017	2018	2019	2020
Total	t-CO ₂	1,926,477	1,567,248	1,482,982	1,144,338	891,817
Inbound*	t-CO ₂	809,088	739,610	762,314	582,957	392,014
Outbound*	t-CO ₂	1,117,389	827,638	720,667	561,381	499,803

Sea	%	17.8	20.0	19.9	21.1	20.1
Road	%	62.1	64.6	60.3	64.1	65.9
Rail	%	5.6	7.0	6.7	5.9	6.7
Air	%	14.5	8.4	13.1	8.9	7.4

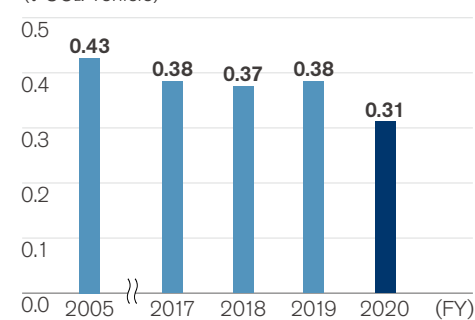
* "Inbound" includes parts procurement from suppliers and transportation of knockdown parts;
"Outbound" includes transportation of complete vehicles and service parts.

* Value in 2016 were corrected after recalculation.

In fiscal 2020, CO₂ emissions from logistics were 891,817 tons, down approximately 22% from the previous fiscal year. A substantial contribution to the reduction of overall CO₂ emissions was made by production volume decrease and reduction of air shipping.

CO₂ Emissions per Vehicle Transported

(t-CO₂/vehicle)



In fiscal 2020, CO₂ emissions per vehicle transported were 0.31 tons.

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Office Initiatives

We promote efforts to reduce CO₂ 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 which CO₂ emissions and costs have been taken into account through Japan's PPS system.

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 go beyond just CO₂ management. We are pursuing other environmentally-friendly policies, such as improving our video and telephone conference facilities and using software to bring participants in multiple locations together when they need to share documents. This reduces the number of business trips required worldwide, improves workplace efficiency and reduces 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 CO₂ 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.

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 CO₂ 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

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Dealership Initiatives

Nissan promotes CO₂ management at dealerships with the aim of reducing total 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. In addition, to source electricity with low environmental load, we have broadened supply from PPS systems, including our own, to provide 120,407 MWh of power (equivalent to an annual reduction of 1,011 tons in CO₂ emissions) to 901 retail outlets in the Hokkaido, Kanto, Chubu, Tohoku, Kansai, Chugoku and Kyushu regions. 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.