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Water scarcity

Policies and philosophy for water resource management

Demand for water is expected to continue to increase globally, driven by rising populations and economic development. With rain patterns also changing due to extreme weather events, the stability of water supplies is likely to become a more pressing social concern with every passing year.

“Clean Water and Sanitation” is also one of the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015. The 1.5°C Special Report*¹ released by the Intergovernmental Panel on Climate Change (IPCC) in 2018 reported that risks and effects from extreme weather events, such as heavy rain and drought, would increase if temperatures rose by 1.5°C, and that such risks and effects would be even more severe and become widespread if temperatures rose by 2°C. Water resource management to mitigate water shortages, flooding, and many other challenges is a key factor in promoting sustainable development.

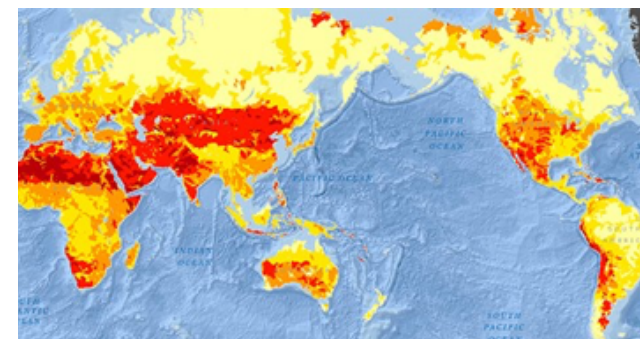
We believe that reducing dependence on water resources is important to being a sustainable company and are taking steps to improve water quality management and reduce water usage across our production sites.

Water resource management

Nissan manages wastewater quality to even stricter standards than required by local regulations at its main production sites. At sites in Japan, we have further strengthened measures against water pollution by attaching water quality sensors to the discharge points of our wastewater treatment facilities to automatically suspend water discharge if water quality problems are detected. Processing recycled water using reverse osmosis (RO) membranes*² has allowed some sites to achieve zero wastewater discharge.

Under the Nissan Green Program 2022 (NGP2022), by 2022 we aimed to reduce water usage per vehicle produced at global production sites by 21% compared to 2010. In order to achieve this, we took steps to reduce water usage, such as sharing best practices among plants, investing in equipment, and expanding the Nissan Energy Saving Collaboration (NESCO) team into “r NESCO” (r[esource] NESCO). Additionally, since the water resource situation varies considerably from region to region, we assess water risk using our own methods for each of our production sites throughout the world. At sites where a high level of risk is found, we effectively use rainwater and improve wastewater recycling rates in addition to prioritizing initiatives to reduce external water intake.

Global water risks



Created based on the World Resources Institute's Aqueduct Water Risk Atlas (aqueduct.wri.org).

*1 Full title: An IPCC Special Report on the Impacts of Global Warming of 1.5°C Above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty.

*2 Reverse osmosis (RO) membrane: A type of filtration membrane that filters impurities such as ions and salts from water.

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Water resource achievements

Reducing water used in corporate activities

Nissan strives to manage and reduce water usage at every plant. Water used per vehicle produced in fiscal 2022 was reduced by 8% from the 2010 level. We will continue our efforts to reduce water usage.

To reduce water usage, we built reservoirs to collect rainwater at the Chennai Plant in India and the second Aguascalientes Plant in Mexico, and installed wastewater recycling equipment at the Chennai Plant, the Huadu Plant in China, and the Oppama Plant in Japan. Our efforts at the Chennai Plant, in particular, were recognized as an excellent example of water resource management by the Confederation of Indian Industry (CII). At Nissan North America (NNA), plants are competing among themselves to

find new ideas for reducing water usage, such as by filtering wastewater from pre-painting processes and thus improving water quality.

We are also working to reduce water usage at Nissan's Global Headquarters in Yokohama, Japan, by processing rainwater and wastewater from kitchens and other internal sources to be reused for flushing toilets and watering some plants.



Chennai plant, honored by the CII.

Examples of efforts to reduce water usage at manufacturing plants and offices in India

In India, where the handling of water resources has a significant impact on people's lives, our manufacturing plant has installed water treatment facilities using an RO membrane to reduce water consumption. After treating domestic wastewater, it is reused as cooling for the manufacturing process and cooling towers. As a result, we are able to reduce approximately 78,000 kiloliters of water consumption per year, which is equivalent to the amount of water used by about 320,000 households a day.

In addition, India is working to revitalize lakes and ponds around its plants with consideration of the use of water in the local community to be important. India completed revitalisation of Sitheri Lake in 2020 and committed to revitalise ten lakes and ponds, including Oragadam lake which is the primary source of water for six villages, in 2023. Dredging and increasing the capacity of lakes and ponds contributes to securing drinking water and sustains biodiversity.

Moreover, Nissan Motor India's service centers provide customers with car wash services using the latest foam car wash technology. This reduces the amount of water used by 45%, from approximately 160 liters to approximately 90 liters per car washed. As well as saving water, the foam car wash service reduces wash time as it does not use strong chemical detergents and improves a car's gloss by approximately 40%.



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Water input for corporate activities

In fiscal 2022, water input for our global corporate activities was 20,208 thousand m³, same level as 20,090 thousand m³ in fiscal 2021.

In fiscal 2022, water input from global production sites was 19,065 thousand m³★, the same level as 19,495 thousand m³ in fiscal 2021.

(FY)

	Unit	2021	2022
Total	thousand m ³	20,090	20,208

Japan	thousand m ³	10,317	10,472
North America	thousand m ³	4,047	4,235
Europe	thousand m ³	1,404	1,270
Other	thousand m ³	4,322	4,231

Water discharge from corporate activities

Nissan thoroughly processes wastewater at its various plants. Wastewater from two Nissan plants in Aguascalientes, Mexico, is used to maintain landscaping on the sites, with no off-site discharge.

We also are strengthening water pollution prevention measures in our Japanese plants. In preparation for unexpected occurrences, such as the discharge of oil, we have attached water quality sensors to the discharge points of wastewater treatment facilities. Discharge of water outside the sites is automatically suspended if water quality problems are detected. In addition, we installed water quality sensors on rainwater drainage outlets which automatically close floodgates even for heavy rains. *1

(FY)

	Unit	2021	2022
Total	thousand m ³	13,620*1	13,219

Japan	thousand m ³	8,771	8,902
North America	thousand m ³	2,565	2,610
Europe	thousand m ³	707*1	596
Other	thousand m ³	1,577	1,110

Quality

Chemical oxygen demand (COD) Japan only	kg	19,941	24,884
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Water consumption in corporate activities

The total amount of water consumed in global corporate activities in fiscal 2022 was 6,989 thousand m³ *2, an increase from 6,470 thousand m³ *1 in fiscal 2021.

(FY)

	Unit	2021	2022
Total	thousand m ³	6,470*1	6,989

Japan	thousand m ³	1,546	1,570
North America	thousand m ³	1,481	1,625
Europe	thousand m ³	697*1	674
Other	thousand m ³	2,745	3,121

*1 Due to an error in the calculation of last fiscal year's figures, the figures for fiscal 2021 were revised. ★ This figure is subject to assurance by KPMG AZSA Sustainability Co., Ltd. For details, please see here. >>> P058

*2 Based on GRI 303, total water consumption is total water withdrawn minus total water discharged as calculated by Nissan.