Water

Our Approach

Water is an essential resource for all of humankind. However, there is a concern that growing demands from population growth coupled with climate change will bring a greater risk of worldwide water shortages.

Based on our Environmental Policy, we comply with environmental laws and regulations and promote reduction efforts in our water usage and environmental impact. We are also employing water risk management practices, which include addressing the issues of water shortages, water pollution, and flooding.

The Environmental Management Promotion Council meets to discuss NEC's water management system during which time it assesses the Company's progress toward reaching its water reduction targets and reports its findings to the executive officer in charge of the environment. When necessary, the results of activities for meeting these targets are reported to the Business Strategy Council and announced to the public.

Floods and other risks could harm business if they affect certain facilities. In such cases, the division overseeing the supply chain predicts the impact of these risks and formulates countermeasures. These countermeasures are reported to and discussed with the Business Strategy Council and the Board of Directors when necessary, after which the division implements and supervises their execution.

Response to Water Risk

Surveying Risks and Implementing Countermeasures

NEC evaluates and confirms how water risks such as water shortages, water pollution, and flooding caused by climate change affect the Group's production sites and supply chain.

Put specifically, the Group identifies the water risks that exist at its domestic and international production sites based on its in-house water risk management questionnaire and the Aqueduct water risk evaluation tool provided by the World Resources Institute (WRI).

The first surveying stage of this process utilizes Aqueduct to gain an understanding of risks in three categories: physical risks related to water volume, quality, and damage from storms and floods; regulatory risks from water-related tax revisions and policies; and reputation risks stemming from ESG-related conduct.

In the second survey, we take the results from the first survey and compare them with how supervisors perceive water risks at their respective production sites. From that point, we perform a detailed 11-items survey that includes items based on past experiences where floods, water shortages, and other water-related issues and damage made it physically difficult to utilize water; preventive measures used to mitigate these risks; and previous countermeasures implemented when such floods or water shortages occurred.

In fiscal 2021, after a survey of 26 locations was conducted that focused on production sites, it was determined that the main water risks were inundation due to storm-related overflows of rivers and the resulting water outages. Inundation countermeasures are being implemented at sites that were determined to be prone to such risks. These include hard measures to counteract flooding, such as installing waterproof doors and moving power equipment. We also implement countermeasures against water outages, such as installing water tanks and equipment for converting well water to drinking water, in addition to keeping a stockpile of drinking water.

Moreover, at business sites, production sites, and research laboratories, we collect water volume monitoring and sampling data at discharge outlets to quickly identify any change in environmental status. We have also set in-house standards that are stricter than national and local regulations and implement countermeasures to water risks.

Since water risks in the supply chain include suppliers, we conduct environmental risk surveys on their water usage and wastewater output. This allows us to calculate totals for these figures, better understand their situation and take steps to ensure business continuity in the event of wind or water damage, while engaging in activities to correct or improve any problems that arise.

NEC's water usage and the amount and quality of wastewater produced bear a negligible impact on the ecosystems and habitats. Furthermore, there were no violations and incidents involving water in conjunction with the Environmental Act in fiscal 2022.

Measures in Water-stressed Area

NEC Platforms Thai Co., Ltd.—a production base for NEC products—is located in a water-stressed area in terms of baseline water stress.* Based on the results from the Aqueduct survey, NEC Platforms Thai has installed a water storage tank capable of securing enough water for three days of use, and has also established a system that allows collaboration with the municipal government and the local industrial estate in the event of an emergency. Moreover, during normal times NEC engages in regular communication with industrial zone groups and nearby conglomerates that entails sharing information about measures to prevent flooding. We prepare for emergencies by maintaining a system of cooperation with these parties.

* A state in which the balance between water supply and demand in a region is tight. The indicator score is based on the "maximum volume of water available per capita," and a region is considered to be under water stress if the score falls below 1,700 m^3, which is the minimum standard for water required per capita every year to meet domestic, agricultural, industrial, energy, and environmental needs. According to Aqueduct, a region is considered to be at very high risk if its water withdrawals are more than 80% of its available supply on average every year.

Internal Water Pricing System

NEC calculates values for reductions in CO_2 emissions based on its approach to internal carbon pricing to inform decisions on whether to invest in equipment, and follows a similar methodology for water. When setting prices for water, we take into account future increases in the cost of water, and assume the future unit price of water will be 2.5 times higher than it is now. We recalculate the cost impact on this basis when water usage is projected to change by at least five cubic meters per day.

Finding Risks and Opportunities

Risk / Opportunity	Description	Risk reduction measures / specific opportunities
Risk	Droughts and disaster-related water outages may affect business continuity and cause delay or tie-ups in production.	BCP measures have been implemented at each site to prepare for water outages.
Opportunity (economic value)	There is growing market demand for disaster prevention-related businesses to minimize damage from typhoons and other storms.	Expanded introduction of river water level prediction and other flood control support systems has begun.

Prevention of Water Pollution and Wastewater

NEC manages its wastewater with stricter standards than national and local governments to ensure their wastewater production does not exceed region-specific legal limits.

We are also working to reduce the amount of chemical substances used during water treatment to reduce the impact of chemical trade-offs. Specifically, we prevent inputting more chemical substances than necessary by constantly monitoring water quality.

Targets and Results

Item	Targets	Achievements
Water usage	1.5% reduction (compared with fiscal 2019)	Achieved 22.7% reduction (compared with fiscal 2019)
BOD and COD emissions (absolute values)	At least 1% reduction (compared with fiscal 2018)	Achieved

Action: Take thorough measures to expand use of recycled coolant water, operate production facilities more efficiently, and conserve water

☞ Example of initiatives to reduce water usage