Environmental Management Initiatives

Policy

As part of its Corporate Social Responsibility, NEC seeks to reduce environmental impacts in its own business activities. At the same time, it is carrying out “environmental management” that contributes to reducing the environmental impacts of society as a whole through providing products and services. Also, to promote environmental management in NEC, it has established the “Environmental Charter” to express its environmental philosophy and action guidelines. Conduct that complies with the charter is expected of all NEC employees including executive officers.

NEC has set “Environmental action with a particular focus on climate change” as one of its “materiality,” the priority management theme from an ESG perspective. Since fiscal 2017, we have been focusing on measures to both “mitigate” and “adapt” to climate change. NEC has also formulated the “climate change policy guidelines aimed at 2050,” which demonstrates NEC’s stance on co-creating a sustainable society together with our customers. The plan raises the target to reduce CO_2 emissions linked to our business operations to effectively zero by 2050.

NEC is continuing to contribute to measures by customers and society to fight climate change from both the aspects of mitigation and adaptation by offering energy-saving products and services and developing and providing solutions that deal with the risk of climate change, such as floods and landslides.

For details about environmental management initiatives, see Annual Environmental Report 2018.

- Environmental Charter
- Climate Change Policy Guidelines (Course of Action for Climate Change towards 2050)
- Annual Environmental Report 2018

Activity Objectives, Achievements and Progress

Objectives for the Mid-term (from fiscal 2019 to 2021)

The “Environmental Management Action Plan 2020/2030” was established as the mid-term action plan for environmental management. To realize this action plan, the “NEC Eco Action Plan,” which sets specific targets for the next three years, was formulated, and activities under this plan are being advanced. The “NEC Eco Action Plan” sets forth concrete targets from the three standpoints of “Offense (Business Contributions),” “Defense (Measures against Risks),” and “Foundation,” which supports the former two measures.

The table below shows the major targets and progress related to “climate change,” one of the priority management themes from an ESG perspective. Note that in recognition of Science-Based Targets (SBT), absolute targets were added, or previous targets were changed to absolute targets, to steadily reduce Scope 1 and 2 emissions, which are produced in the course of business activities. See “NEC Eco Action Plan” for other activity objectives, achievements, and progress.

Objectives, Achievements and Progress, and Degree of Completion

(Degree of completion: ◎Achieved, ○Mostly Achieved, △Some Progress, ×No Progress)

- NEC Group Environmental Management Action Plan 2020/2030
- NEC Eco Action Plan

Objectives for the Mid-term	Indicators		FY2018 Objectives	FY2018 Achievements and Progress	Degree of Completion	FY2019 Objectives
1. IT solutions for reducing CO_2 emissions 23 megatons (2020)	Amount of CO_2 reduced through IT solutions (*new FY2019 target.)		–	16.39 megatons	–	17.70 megatons
2. Improvement of energy efficiency of products (weighted average)	Reduction of total CO_2 emission when products are used (*Compared to FY2014 products. Applies to hardware products shipped in the target fiscal year.)		15%	35%	◎	20%
3. Reduce CO_2 emissions from business activities	Reduction rate of energy consumption.	Compared with previous fiscal year	-1%	8.4%	×	-1%
	Reduction rate of the generation of energy-derived CO_2 (*Addition of absolute value targets from FY2019.)	Compared with FY2018	–	–	–	-1.9%
	Renewable energy generation capacity (*Change to absolute values from FY2019.)	Compared with FY2012	6.6x	9.7x	◎	
		Absolute value	–	323 MWh	–	520 MWh

Promotion Framework

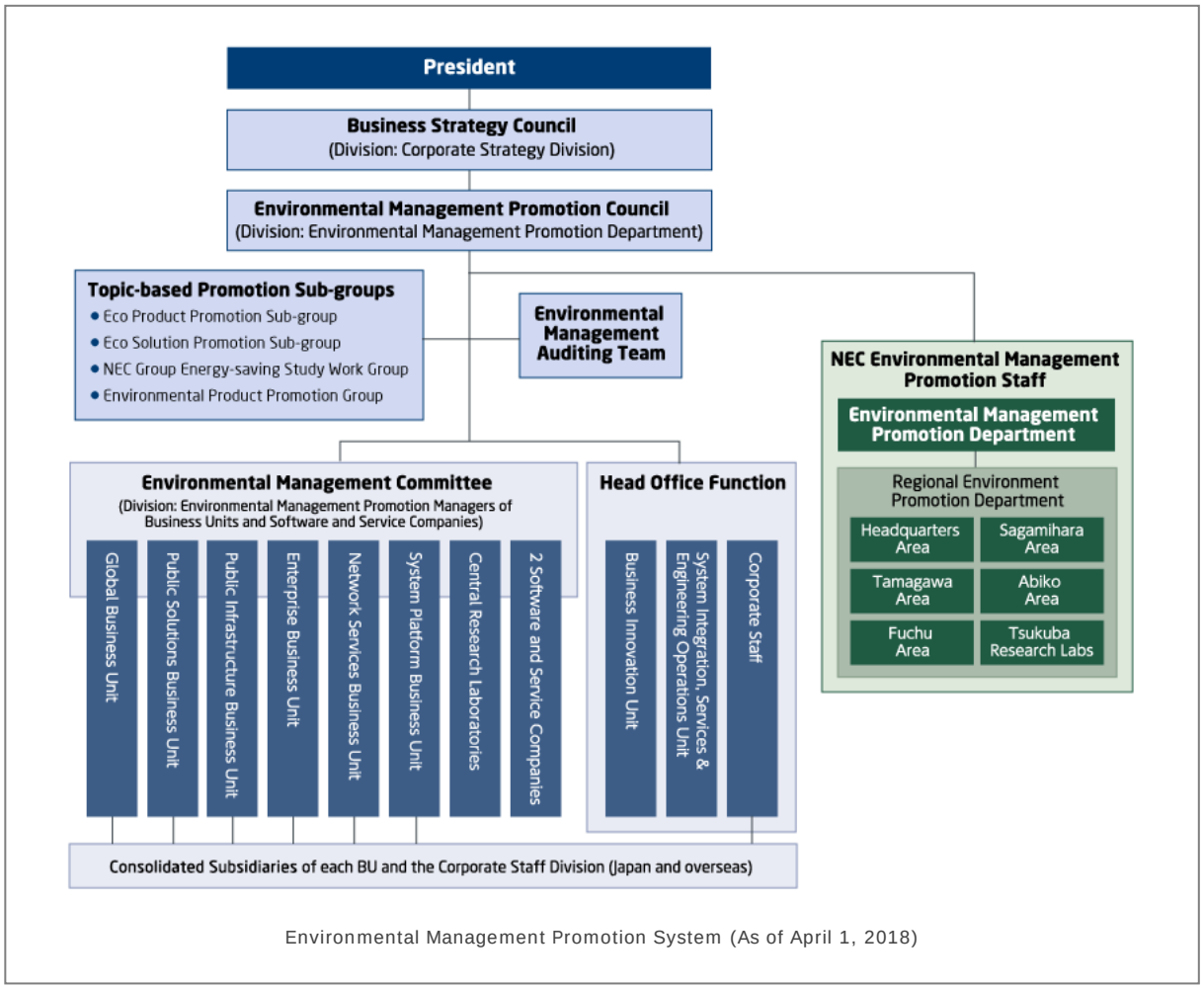
The environmental strategies and policy and long-term environmental activity plans of NEC Corporation are drafted after discussion at Business Strategy Committee, with final approval being made by the President.

Based on the environmental strategies, the results of these discussions are implemented through a system that promotes the specific measures throughout NEC, from the environmental management committees of the Business Units and divisions to NEC Group companies in Japan and overseas.

Furthermore, committees are individually formed to engage in cross-organizational initiatives such as compliance with environmental regulations for products, development of environmentally friendly products and solutions, and raising awareness in employees.

We have also established environmental promotion departments for each region, such as at our business sites and laboratories, to maintain and promote environmental management regionally as well as organizationally.

- Environmental Management Promotion Framework
- Environmental Governance



Environmental Management Promotion System (As of April 1, 2018)

Main Activities and Results for Fiscal 2018

Strengthening NEC's "Climate Change Measures"

In July 2017, NEC announced its guidelines on climate change measures from a long-term perspective up to 2050. NEC will work to reduce CO_2 emissions linked to its business operations to effectively zero by 2050.

▶ Climate Change Policy Guidelines (Course of Action for Climate Change Towards 2050)

In December 2017, NEC committed to achieving our CO_2 emission reduction targets by 2030 as Science Based Targets (SBT), and we are proceeding with the development of specific SBTs.

Progress on "Environmental Management Action Plan 2020/2030"

Through the promotion of the "Environmental Management Action Plan 2020/2030" as mid- and long-term environmental management targets, NEC is aiming to contribute to reducing CO_2 emissions through the provision of its products and services by attaining a level of CO_2 reduction that is five times the total volume of CO_2 emissions from its entire supply chain by 2020.

In fiscal 2018, the contribution against the impact became 3.5 times. We are continuing to provide value and reduce the impact of the supply chain to reach our targets.

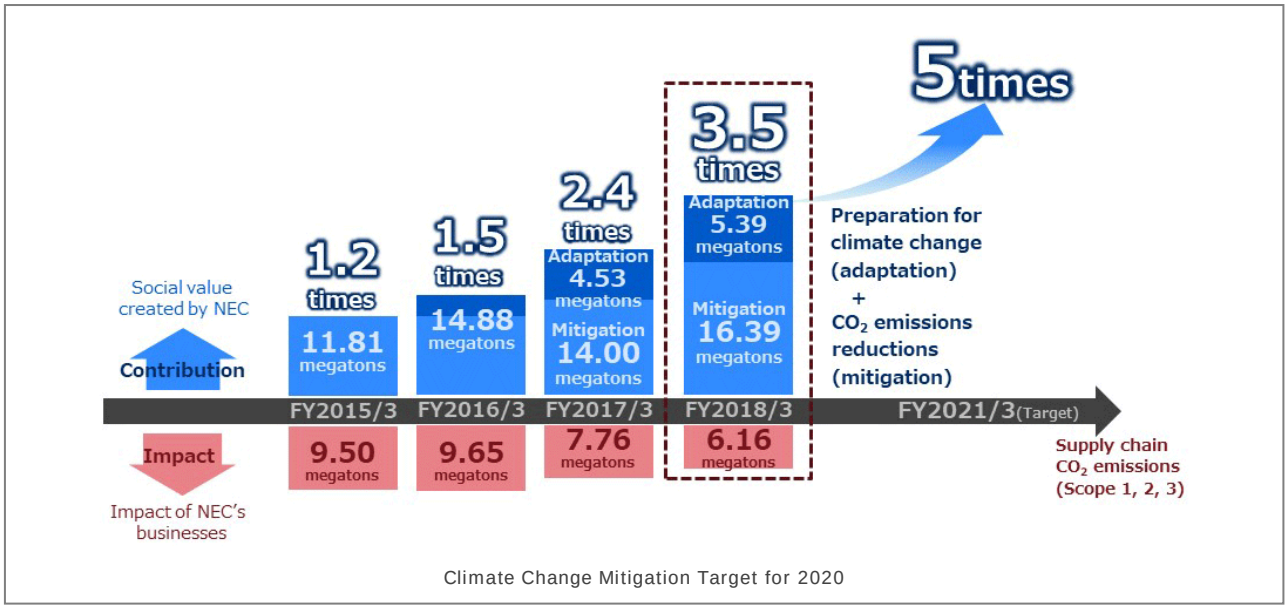
▶ Climate Change Mitigation Target for 2020

CO_2 Emissions across the Supply Chain

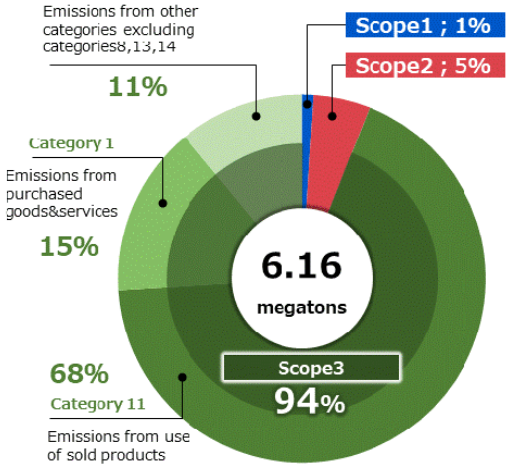
CO_2 emissions were 6.16 megatons, a decrease of 1.60 megatons from fiscal 2017. The main factor behind the decrease was a major reduction in emissions (Category 11) from product use as the shipment of heavy energy-consumption hardware fell.

Scope 3 inventory was carried out based on the "Corporate Value Chain (Scope 3) Accounting and Reporting Standard". Third-party verification was conducted by the Japan Quality Assurance Organization to ensure transparency and trustworthiness.

▶ CO_2 Emissions across the Supply Chain



Climate Change Mitigation Target for 2020



CO_2 Emissions across the Supply Chain (FY 2018)

Examples of Providing Environmental Value through Business

NEC is reducing environmental impacts in the entire company through providing its original products and services.

NEC certifies its products and services that especially reduce environmental impacts with the “Eco Symbol Star,” part of the Eco Symbol system. Eco Symbol Star-certified products and services are highlighted in NEC’s catalogs and websites.

Development of Environmentally Friendly Products

Two examples of products and services that were given the NEC “Eco Symbol Star” in fiscal 2018 are introduced below.

DMIC Logistic Visualization Solution in India

NEC and DMICDC[*1] have established a joint venture company, “DMICDC Logistics Data Service Limited.” Since July 2016, it has provided the information service basis to visualize distribution infrastructure and to perform real-time searches based on positional information of containers being transported.

The joint venture company affixes RFID tags to shipping containers being loaded and unloaded at ports of Mumbai. It has also installed RFID reader/writers at locations such as port entrances and exits, toll plazas on the expressway, and inland container depots where customs inspections are carried out. The information is uploaded to the cloud and shared with other logistics systems.

By this service, consigners and freight forwarders could obtain accurate positional information of their container in transit along the 1,500 km stretch between Delhi and Mumbai on a near real-time basis, just inputting the container number.

As the result, this service shortens shipping lead times, reduces inventory levels, improves the accuracy of production plans and also contributes to reduce the consumption of fossil fuel by realizing efficient transportation.

NEC approved this service as “ECO Symbol Star” since we expect that the service will reduce approximately 170,000 t-CO_2e emission annually in addition to shortening shipping lead times and to reducing shipping cost.

[*1] DMICDC: Delhi Mumbai Industrial Corridor Development Corporation Limited.

RFID easily attachable to container using magnets

<Related Links>

List of Eco Symbol Star

Press Releases
NEC and DMIC Trust establish joint venture to provide logistics visualization services in India

NEC’s Data Platform for Hadoop helps DMICDC Logistics Data Services drive digital transformation

Energy Efficiency in Mobile Phone Base Stations in India

The number of base stations is expanding rapidly due to the sharp increase of mobile phone subscribers nationwide in India. However, there are many regions in India with fragile power supplies that suffer from frequent power outages and regions that are not supplied with power at all. In such regions, mobile telecom operators use diesel generators during power outage to operate base station continuously, therefore the burden of diesel fuel cost of the generator becomes a big financial problem.
Since the Indian government requests for green-industry, mobile base station companies in India are required to reduce fuel consumption by diesel generators, operation cost and CO_2 emissions simultaneously on the viewpoints of both business management and environmental issue.

These issues were taken up for the energy related discussion between the governments of India and Japan (the India-Japan Energy Dialogue), and the demonstration project by Japan's New Energy and Industrial Technology Development Organization (NEDO) opened to the public in 2013.

As the result of NEC's application for the project, NEC was selected by NEDO to implement the demonstrational operation from September 2013 to March 2017. Through this operation, the energy management systems, which consisted of photovoltaic generation systems, lithium-ion rechargeable battery systems, remote monitoring of whole EMS systems, operation planning and battery charging/discharging control, were installed into 20 mobile phone base stations in India. Since the systems were confirmed to be able to reduce the annual CO_2 emissions to about 40% of their original level by the most suitable operation plan using the data acquired by the system itself, NEC approved this EMS system as "ECO Symbol Star."

Through the 2-year-operation on the actual sites, we could acquire know-how needed as a business, like various knowledge for the operation. We are going to link these findings to develop specific business in India where more than 400,000 mobile phone base stations exist.

Demonstration Project for Telecom Tower Sites in India

<Related Links>

- List of Eco Symbol Star
- Press Releases
  NEC completes demonstration project of energy efficient telecom tower sites in India
  - Capitalizing on AI and aiming for commercialization in FY2019 -

Supply and Demand Optimization Platform Aimed at Contributing to the Reduction of Food Loss and Waste

NEC is addressing food loss and waste as well as the declining labor force and other social issues by leveraging its "NEC the WISE IoT Platform", which utilizes NEC's lineup of cutting-edge technologies, "NEC the WISE."

An example of these initiatives is the "Demand and Supply Optimization Platform" announced in February 2018.
Through the solution, NEC aims to contribute to the optimization of demand and supply and reduction of food loss and waste by increasing accuracy in forecasting through the use of AI and heterogeneous mixture learning technologies for sharing and utilizing weather information, and inventory and sales data among all companies comprising the value chain.

NEC cannot carry out this initiative alone; we believe it is imperative for us to work together with our partners.

NEC, therefore, has collaborated with the Japan Weather Association (JWA) to proactively resolve food loss and waste issues. NEC will endeavor to address these social issues by combining weather data and data analysis technologies of JWA with NEC's AI technologies.

Monitoring and Improvement

Environmental Audit and ISO14001 Inspection

Including promotion of the development of environmentally friendly products in all business units and business sites including its consolidated subsidiaries, NEC is monitoring its state of implementation of measures to reduce environmental impacts and combat risks and its compliance with environmental laws.

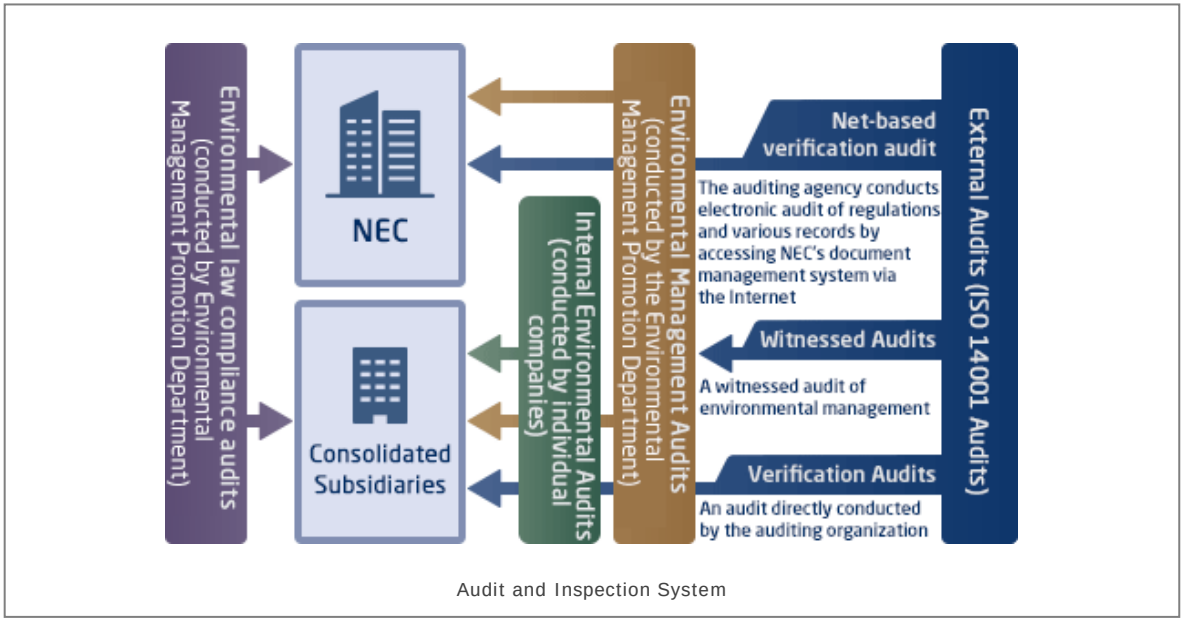
Audit and Inspection System

Each of NEC Group companies audits its own divisions and departments independently and in detail through internal environmental audits.

For the environmental management audits conducted by the Environmental Management Promotion Department of NEC Corporation, environment specialist auditors including approved environmental management system auditors evaluate our comprehensive environmental activities. The audits include examination of the effectiveness of the internal environmental audits, environmental impact reduction, risk management, and ISO14001 conformance.

The results of these audits are verified in a review of ISO14001 undertaken by an external auditing authority using “NetAudit,” a digital inspection system, and alternative audit[*1] methods. Note that in fiscal 2017, NEC began operation of environmental management systems that support the ISO14001: 2015. It received a transitional inspection in fiscal 2018 and maintained its certification.

[*1] Alternative audit: An alternative system that is a recognized part of the ISO14001 inspection system for auditing the internal environment. This internal environment auditing system consists of high-quality auditors, auditing systems, and evaluation tools. It is implemented in combination with observation and evaluation of environmental management audits (witness audits) and direct audits by inspection agencies (verification audits).



Audit and Inspection System

Environmental Law Compliance Audit

Since fiscal 2013, to strengthen risk management, we audits its compliance with environmental laws every year. Target companies are those subject to NEC’s environmental management audit.

In fiscal 2018, there were no deficiencies leading to serious environmental pollution or harm to people’s health. We have created a plan to address problems found and are keeping a close eye on the progress of corrective actions.

Environmental Audit and ISO14001 Inspection

Measures against Environmental Risks

In order to prevent risks to the environment, we carries out assessments and daily inspections. We have also prepared risk maps for use in emergencies and conduct periodic reviews of our emergency contact system. Environmental risk governance has been further strengthened through establishment of the “Environmental Risk Information Escalation and Response.”

Responding to Environmental Risks