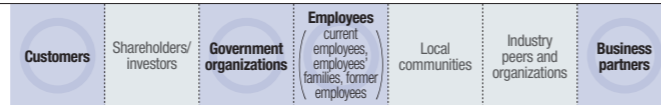


Efforts to Address Global Warming

With the aim of reducing greenhouse gas emissions and achieving a low-carbon society, the NTT Group is working to reduce CO₂ emissions from its internal business operations and improve energy efficiency in society at large by driving the adoption and spread of ICT services and providing customers with solutions, services, and products that contribute to environmental management.

Reducing CO₂ emissions from business operations



Fiscal 2009 priority topics

Deploying energy-efficient office and communications equipment

Over 90% of the CO₂ emissions created by NTT Group business operations are attributable to office and communications equipment power consumption, and so reducing CO₂ emissions depends in large part on cutting the amount of energy used by such equipment. The NTT Group has created a groupwide energy conservation strategy called Total Power Revolution (TPR) to achieve such reductions.

To promote efficient energy management at the 4,000 NTT Group facilities nationwide, we have installed energy-efficient electrical power units and air conditioning systems, switched to energy-saving DC power supply for servers, routers, and other broadband equipment, and installed renewable energy systems using solar and wind power. Improvements made through the TPR program reduced power consumption within the NTT Group by 150 million kWh in fiscal 2009.

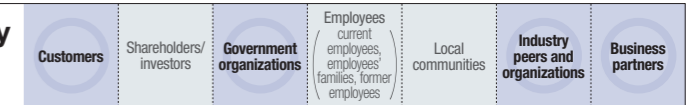
In May 2008 we also launched the 'Green NTT'

initiative to promote use of solar and other renewable energy with the goal of deploying enough renewable energy systems to generate 5MW by fiscal 2013. As of the end of fiscal 2009, we were generating a total of 2.1MW at 120 NTT facilities nationwide.



NTT FACILITIES' hybrid wind/solar power station on the island of Kumejima

Reducing society's environmental impact by offering ICT services



Fiscal 2009 priority topics

International standardization of environmental assessments at ITU-T

ICT services hold great potential to reduce CO₂ emissions across society by increasing the efficiency of production processes and reducing the need to physically move people and materials. However, evaluation and comparison of the effectiveness of deploying ICT services like teleconferencing or e-commerce on a per-service basis requires the calculation of standard units for evaluating equipment energy consumption or different methods of transportation. These evaluation methods need to enable comparisons not only in Japan, but worldwide, making standardization all the more important.

Through the Focus Group on ICTs and Climate Change founded by the Telecommunication Standardization Advisory Group (TSAG) in July 2008, the International Telecommunication Union Telecommunication Standardization Sector (ITU-T¹) has begun to develop internationally standardized methods for objectively evaluating the level of climate change

mitigation made possible by utilizing ICT. The NTT Group is actively participating in this initiative.

Establishing an environmental label system for eco-friendly solutions

The NTT Group is working to establish an NTT Group Solution Environmental Label² System as a proprietary means of identifying those of its ICT solutions with notably low environmental impacts as eco-friendly solutions so as to better communicate their benefits to its customers.

NTTEAST

Eco Drive workshops for drivers of company vehicles

NTT East Iwate Branch Group has organized Eco Drive workshops to reduce CO₂ emissions by encouraging eco-friendly driving to improve the mileage of company vehicles. This program resulted in a 3.9% improvement in mileage in fiscal 2009 compared with fiscal 2005, an achievement that was recognized with an excellence award in the 2008 Eco Drive Contest.



Eco Drive workshop

NTTWEST

Optimizing temperature in communications facilities

To optimize the temperature environment within communications facility machine rooms that house so much of its communications equipment, NTT West Group is developing means of improving air circulation control to boost the amount of cool air reaching heat producing areas and recover more waste heat from communications equipment. These efforts help not only to maintain the stability of services, but also to reduce the energy consumption of air conditioning systems.

NTT Group



167 NTT Group companies participated in the Ministry of the Environment's Team Minus 6% project

(as of May 15, 2009).

docomo NTT FACILITIES

Building of test data center to promote the ICT Ecology Project

NTT DOCOMO Group is implementing an ICT Ecology Project throughout its communication facilities to save energy by employing "intelligent" air conditioning, power saving DC-fed server systems, and other state-of-the-art energy saving technology.

As part of this project, NTT DOCOMO and NTT FACILITIES joined forces in February 2009 to launch the Tachikawa ICT Ecology Center as a facility for testing the latest energy saving technology and putting it to practical use. The Ecology Center is aiming for a 50% reduction in CO₂ emissions.



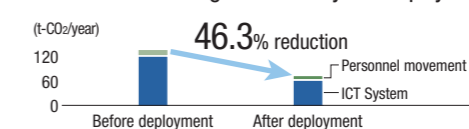
Tachikawa ICT Ecology Center

NTT Communications

Evaluating CO₂ reductions enabled by thin client systems³

Calculations performed at NTT Communications regarding CO₂ reductions enabled by the use of thin clients and free address (non-fixed seating) systems for offices with 1,000 users revealed that the resulting reduction in required office space and computer terminals would translate into an annual 46.3% reduction in CO₂ emissions.

CO₂ reductions through thin-client system deployment



docomo Studying the effects of i-channel service on CO₂ reduction

Comparing CO₂ emissions derived from the acquisition of news, weather, and other various types of information through the use of FOMA's i-channel service to the acquisition of such information through conventional media, NTT DOCOMO found that the average i-channel user achieves a CO₂ reduction of approximately 2 kg per year. Based on the total number of i-channel users at the time the study was conducted, this result is equivalent to the amount of CO₂ absorbed annually by 2.36 million cedar trees.

Terminology

1. ITU-T (International Telecommunication Union Telecommunication Standardization Sector)
A department of the International Telecommunication Union (ITU), a United Nations agency that makes policy recommendations for developing international standards in telecommunications. Japan has participated in the ITU as a Council Member since 1959.

2. Environmental Label
A label that displays quantitative environmental information for a product or service (or explains that such information will be provided if requested). Japan's Ministry of the Environment has drawn up its Guidelines for Eco-Labeling in accordance with the International Organization for Standardization (ISO). The NTT Group system is a self-declared environmental label (Type II) that is used for products that meet the criteria established by the declaring party's own standards.

3. Thin client systems
A method for server-side management of application software and files so as to give only the minimum required processing capabilities to employee computers (clients) in corporate information systems. Since no data files are saved on the client side, thin clients can be used by any number of employees, thus reducing the number of clients needed.

NTT

Assessing environmental contributions of research topics

Objective assessment of the positive environmental contribution of eco-friendly ICT services and products is a vital aspect of the R&D that goes into them. To this end, the NTT Information Sharing Laboratory Group conducts quantitative evaluations of environmental contributions for a range of specific research topics.

Efforts to Address Global Warming

Providing solutions, services, and products that help customers reduce CO₂ emissions



Fiscal 2009 priority topics

Reducing data center power consumption with Green Data Center service



NTT DATA launched a Green Data Center service in January 2008 to boost the benefits of ICT and reduce environmental impacts by improving server performance to reduce steeply rising data center power consumption and CO₂ emissions.

In fiscal 2009, NTT DATA launched a Shared IT Platform Service to leverage virtualization and other technologies to provide high quality yet affordable shared ICT infrastructure where discrete systems were previously the norm. The company has also installed solar power generation and energy efficient air conditioning systems, and in January 2009 launched the first ever trial in Japan of a high voltage DC power supply system. NTT DATA aims to achieve further energy savings by expanding the use of high voltage DC power supply systems based on the results of this trial.

Monitoring services for visualization of energy use



NTT FACILITIES has provided Remoni, an energy monitoring service, since February 2009. Remoni, which was developed to support energy management in line with the revised Energy Conservation Law, enables the visualization of energy consumption at multiple locations.

Remoni is an application service provider (ASP)-based service that collects data such as cumulative and spot power consumption, temperature, humidity, and CO₂ concentration from customer sites via the Internet. This information can then be used for a wide range of applications such as energy management, environmental measurement, and remote monitoring of facilities.



Customer server power consumption reduction

Nippon Information and Communication (NI+C) helps to reduce the power consumed by customers and society at large through offering server consolidation solutions that leverage virtualization technology to host multiple virtual servers on a single high-performance physical server. NI+C supplied 422 consolidated servers in fiscal 2009, resulting in energy savings of approximately 14 million kWh.



Switching to biomass CD-ROMs



NTT West delivers software to customers of its remote support service via CD-ROM, and in January 2009, started using biomass-based ECO&B brand CDs produced by NTT NEOMEIT for some of these CD-ROMs.

ECO&B CDs require 25% less petroleum products to manufacture and produce 53% less CO₂ emissions (total for both for manufacture and incineration) than do conventional CDs.

NTTEAST Reducing power consumption of broadband equipment

At the end of fiscal 2008 NTT East introduced a low-power consumption Home Gateway router developed for home users of fiber optic broadband services.

NTT FACILITIES Eco-friendly GreenITy Buildings

NTT FACILITIES has leveraged its rich expertise to develop long-life, low impact GreenITy Buildings that efficiently combine various environmental technologies to reduce CO₂ emissions by approximately 40% compared with conventional office buildings.