

1 NTT Group Ecology Program 21

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In July 1999, the NTT Group was reorganized into NTT <holding company>, NTT East Corporation, NTT West Corporation, NTT Communications Corporation, NTT Mobile Communications Network, Inc. (NTT DoCoMo), and NTT Data Corporation in a group management system, with NTT <holding company> serving as the headquarter. In an effort to adapt environmental protection activities to the new system, a basic strategy for 21st century environmental protection activities was drawn as the NTT Group Ecology Program 21.

NTT Group Ecology Program 21 is composed of the following three main components:

- * **The NTT Group Global Environment Charter (*)**
- * **Active participation in community-centered environmental protection**
- * **R&D for advanced environmental technologies**

To achieve the objectives set up in the program, a system for promoting NTT environmental actions was also established. *(For more information, please refer to p.3.)*

(*) The basic principle of the new NTT Group Global Environment Charter is similar to the charter established in 1991, with policies on paper resource management, prevention of global warming, and substantial reductions in environmental impact through waste management. The principle also embraces establishment of an environmental management system, social contribution, and disclosure of environmental information.

The three main components of the NTT Group Ecology Program 21 are described in detail below.

◆ NTT Group Global Environment Charter

[Foreword]

We need to recognize the extent and gravity of current environmental issues, including global warming, ozone layer depletion, destruction of the tropical rain forests, desertification, acid rain, and contamination of the oceans.

We must also recognize the degree to which these issues are the direct result of current societal systems, which are intimately linked to corporate activities. As a business enterprise, we have a responsibility to dedicate ourselves to harmonizing our business activities with global efforts to protect the environment in order to realize sustainable growth and to eliminate problems for future generations. Based on this fundamental recognition, we here establish the NTT Group Global Environment Charter to clarify our basic policies and actions taken concerning these issues.

[Basic Principle]

To ensure the harmonious co-existence of people with nature and to achieve sustainable growth, the NTT Group will do our utmost to protect the global environment in all our corporate activities.

[Basic Policies]

1) Compliance to laws and regulations and fulfillment of social responsibilities

- * To observe all laws and regulations regarding environmental protection issues and to carry out our responsibilities as global corporate citizens.

2) Reducing environmental loads

- * To establish action plans for energy conservation (reduced greenhouse gas emissions), resource conservation (conservation of materials such as paper), and waste reductions, and to strive to make continuous improvements.

3) Establishing and maintaining an environmental management system

- * Establishing an environmental management system enables each business unit to pursue voluntary environmental protection actions.

4) Developing environmental technologies

- * To contribute to the reduction of environmental load through various areas of research and development, including multimedia services.

5) Social contribution efforts

- * To promote daily environmental protection efforts in coordination with citizens and government agencies.

6) Disclosure of environmental information

- * To enhance both internal and external communications through the disclosure of environmental information.

Fig. 1.1-1: The NTT Group Global Environment Charter

The above figure shows "The NTT Group Global Environmental Charter", a manifesto of the NTT Group's basic philosophy on environmental protection. (Fig. 1.1-1)

The charter pledges the complete compliance to relevant laws and regulations and fulfillment of social responsibilities. It covers the following issues.

- * **Preventing global warming and energy conservation**
- * **Conservation of resources such as paper**
- * **Alleviation of various environmental impacts, including waste reductions**
- * **Establishment and maintenance of an environmental**

management system

- * **Research and development into environmental technologies**
- * **Social contribution**
- * **Disclosure of environmental information**

Based on this charter, we have established action plans to be implemented by 2010 in the areas of paper resource management, prevention of global warming, and waste reductions. All NTT Group companies will participate in coordinated efforts to achieve these goals.

◆ **Active participation in community-centered environmental protection efforts**

The NTT Group will promote extended and diversified environmental protection activities based in each community.

The NTT Group Ecology Community Plaza will be established as a hub for the distribution and exchange of information on environment issues, being a measure to contribute to the creation of an environmentally active community.

In the beginning, several model branches will carry out diverse community-based environmental protection actions, the effects of which will be reviewed subsequently before the system is expanded throughout Japan.

◆ **R&D activities taken as an information-sharing corporate group for advanced technology in environmental load reduction**

As a corporate group intimately involved in the information industry, we undertake research and development into advanced technologies primarily involving low-power telecommunication devices, very-low-power-consumption LSI, single-electron devices, low-power-consumption mounting methods, clean energy, nondestructive processing technologies for PCB, optical fiber recycling, and plastics recycling. Moreover, our research and development activities cover environmental sensing networks and meteorological forecast

technologies, aiming at reduction of environmental negative impacts. At the reorganization of January 25, 1999, we established two new research labs. These include a Telecommunications Energy Laboratories and a Lifestyle and Environmental Technology Laboratories within NTT <holding company>, which will undertake the preceding research and development challenges. The following figure (Fig. 1. 1-2) illustrates the relationship between the three components of the NTT Group Ecology Program 21.

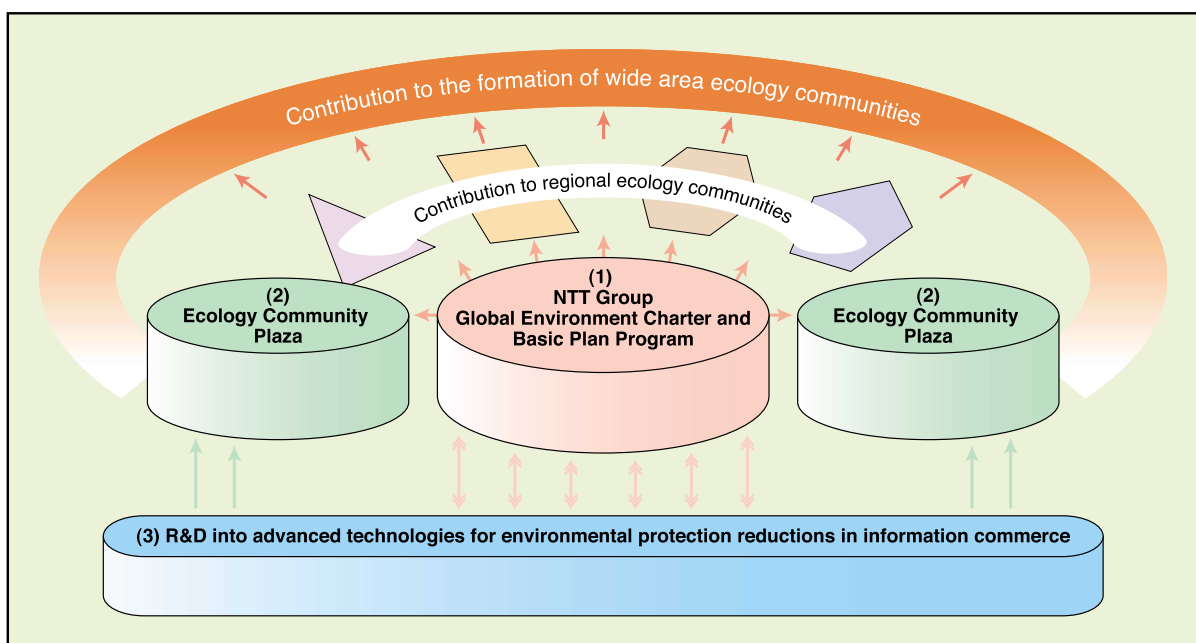


Fig. 1. 1-2: Relationships between the three components of the NTT Group

Based on the NTT Group Global Environment Charter, we will establish NTT Group Ecology Plaza as a private/public liaison. This center will serve as a liaison between NTT and specific communities, while laboratories within the holding company will serve as centers of R&D efforts dedicated to advanced technologies.

Our Group-wide environmental protection efforts date back some 50 years, when we began recycling telecommunication facilities, including the Model 600 black telephone units,

communication cables, and switchboards. In 1991, we issued our NTT Global Environment Charter, on the basis of which we developed a basic action program and various environmental policies. We take pride in the successes made possible by these efforts, which include initiatives to save energy and paper and to eliminate CFCs, etc. In addition, each office and branch has established an environmental protection promotion committee, carried out internal environmental audits, and gave presidential awards to recognize outstanding efforts.

2 System for promoting environmental protection

◆ NTT Group system for promoting environmental protection

* NTT Group environmental protection promotion committee

(Meeting director: Yusuke Tachibana, Senior executive vice president of the <holding company>; chairperson: Shigehiko Suzuki, Senior vice president executive director, department III (R&D strategy department) of the <holding company>)

As the supreme decision-making body of NTT Group's global environmental protection promotion activities, the committee is comprised of directors responsible for environmental issues at the main Group companies and division heads of the holding company. This committee prepares basic environmental policies, establishes goals, and evaluates achievements for the entire Group.

* NTT Group global environmental protection promotion advisory committee

(Chief examiner: Shigehiko Suzuki, Senior vice president executive director, department III (R&D strategy department) of the <holding company>)

This committee proposes basic policies and specific measures and provides advisory opinions to the NTT Group environmental protection promotion committee.

* Environmental Promotion Office: NTT <holding company>

This office serves as the secretariat for various Group-wide committees, overseeing the various offices and divisions responsible for environmental protection promotion functions at NTT Group companies.

Within the NTT Group environmental protection promotion committee, we have established the following committees, which are in charge of specific functions, to respond to challenges shared by the entire Group and to develop basic policies.

Fig. 1.2-1 provides an illustration of the system for promoting environmental protection issues at the NTT Group.

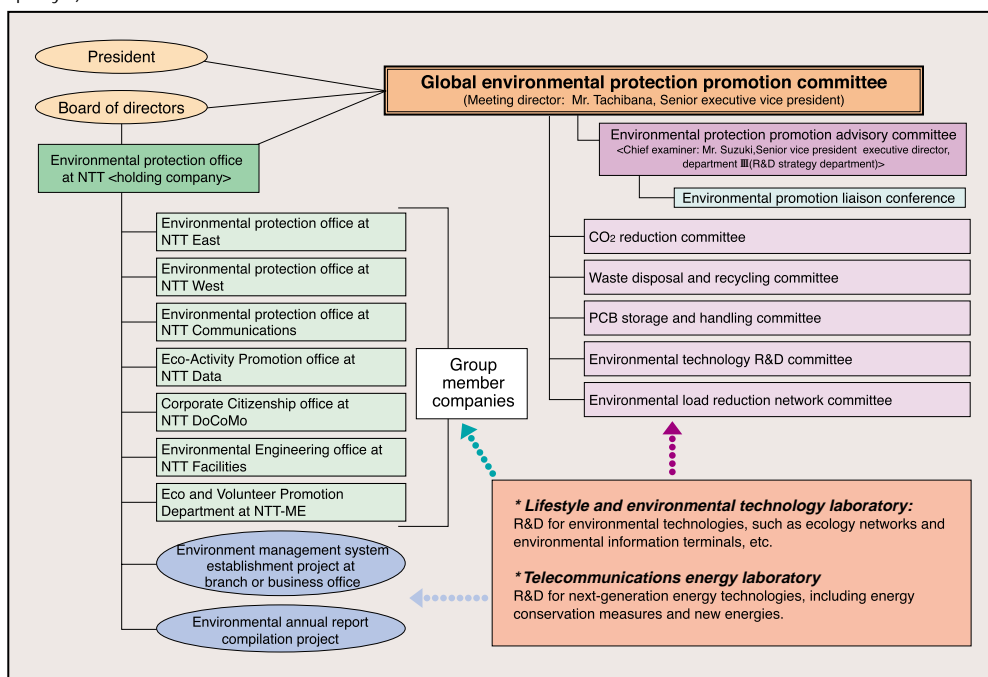


Fig. 1.2-1: NTT Group environmental promotion system

1) CO₂ reduction committee

To achieve the goals adopted at the Kyoto Conference of December 1997 (Third Conference of the Parties to the United Nations Framework Convention on Climate Change), the committee is responsible for developing basic policies, including new measures and reduction goals, to allow the NTT Group to fulfill corporate responsibilities. More specifically, it establishes basic policies for reducing CO₂ emissions from electricity generation for communication facilities and offices, company vehicles, building-related sources, and work-related tasks. The committee supervises and promotes the TPR (Total Power Revolution) initiative, which is designed to reduce power-consumption and CO₂ emissions, and anti-idling initiatives for employee vehicles and company cars. *(For more information, please refer to p. 17.)*

2) PCB storage and handling committee

Since we are major users of equipments, which involve PCBs the committee develops basic policies for proper storage and chemical treatment to neutralize the PCBs. With the enactment of the Revised Waste Disposal Act on June 17, 1998, which allows PCB to be rendered harmless by chemical decomposition methods, the committee has been encouraging on-site PCB decomposition, reducing off-site environmental contamination risks. The committee has adopted the BCD (Base Catalyzed Decomposition) process as the most promising of chemical processing methods, and examined the technical details with the group companies before implementing actual processing. *(For more information, please refer to p.23.)*

3) Waste disposal and recycling committee

This committee develops basic policies on waste reductions, recycling, and green procurement. It also undertakes studies to improve qualitative data for wastes. In accordance with green procurement guidelines, the committee classifies hazardous

materials found in products as banned, restricted, and self-controlled. The committee has requested materials suppliers to respect this classification. *(For more information, please refer to p.9.)*

4) Environmental load reduction network committee

The mission of this committee is to reduce environmental negative impacts throughout overall network facilities and to take practical actions for that purpose. These will be done from the viewpoint of environmental risk management, including the potential for soil contamination and electromagnetic effects.

The committee also carries out life-cycle assessments of telecommunication facility system services to identify total financial costs. The committee is intending to use environmental accounting as a management tool.

5) Environmental technology R&D committee

This committee is assigned the task of establishing systems capable of collecting and disseminating environmental information through multimedia networks, to allow active use of telecommunications technologies for environmental protection. It also develops green R&D guidelines on the issues such as energy conservation, resource management, disposability, and recyclability of our products. *(For more information, please refer to pp. 11 and 32.)*

Other activities include publication of environmental reports and establishment of an ISO 14001-compliant environmental management system at each Group company. We have selected model offices in order to identify appropriate environmental management systems for our operations and are currently applying the findings and achievements to some offices and divisions.

3 PDCA for NTT Group system for promoting environmental protection issues

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As indicated in *Fig. 1.3-1*, NTT Group implements the PDCA (Plan-Do-Check-Action) cycle for promoting environmental protection actions.

Based on the NTT Group's corporate mission and global environment charter, the NTT Group global environment protection promotion committee establishes the followings, on the basis of which each Group company develops action plans or detailed division-specific programs for implementing environmental protection activities.

* **Basic environmental policy**

* **Annual plans**

* **Mid-to-long term plans**

* **Action goals**

Each Group company or office performs environmental self-monitoring and undergoes environmental audits carried out by an internal environmental protection promotion organisation. Implementation status is further assessed by the global environmental protection promotion committees of each NTT company and the Group. The result of the audit is take reflected to the improvement of environmental policies, annual plans, mid-to-long term plans, and action goals.

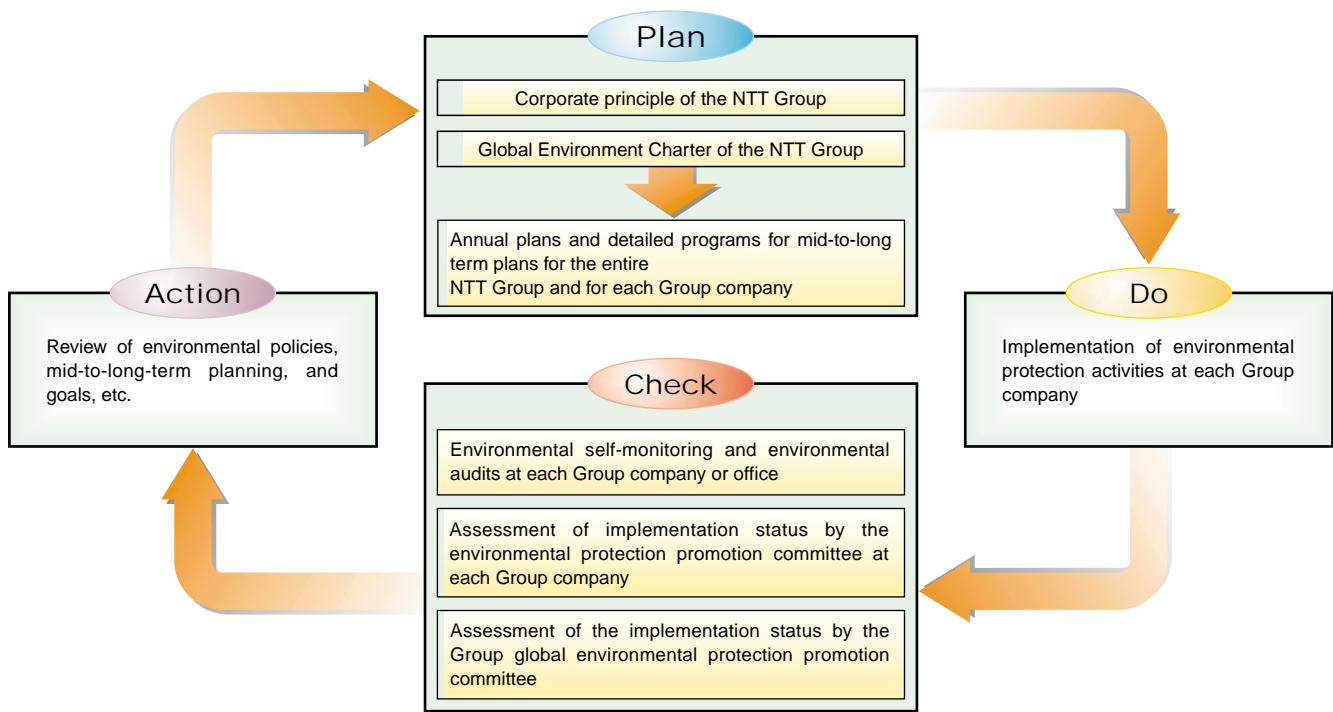


Fig.1.3-1: PDCA (Plan-Do-Check-Action) for NTT Group system for promoting environmental protection issues