



**The NTT Group’s  
Basic Approach to Environmental Protection**



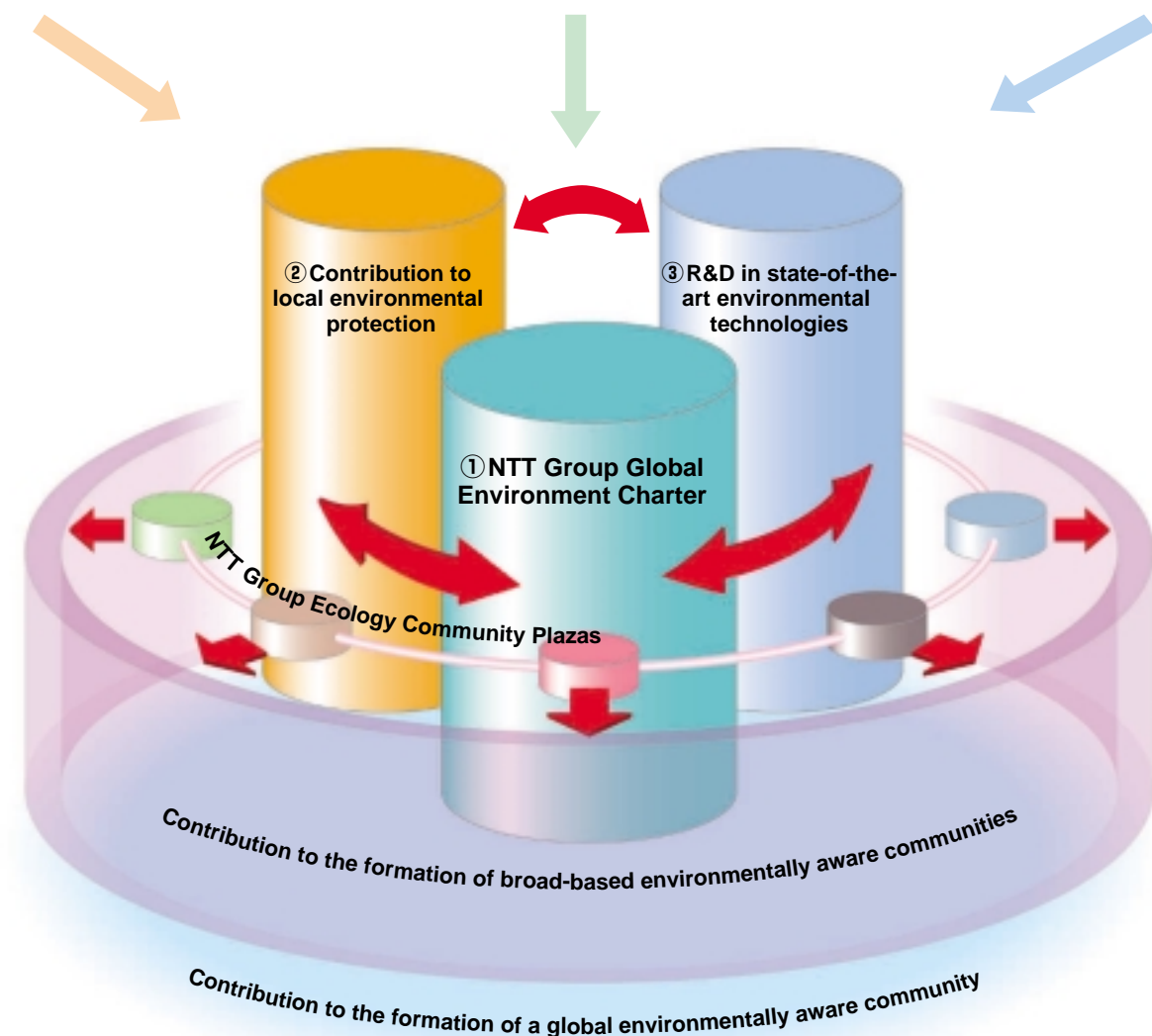
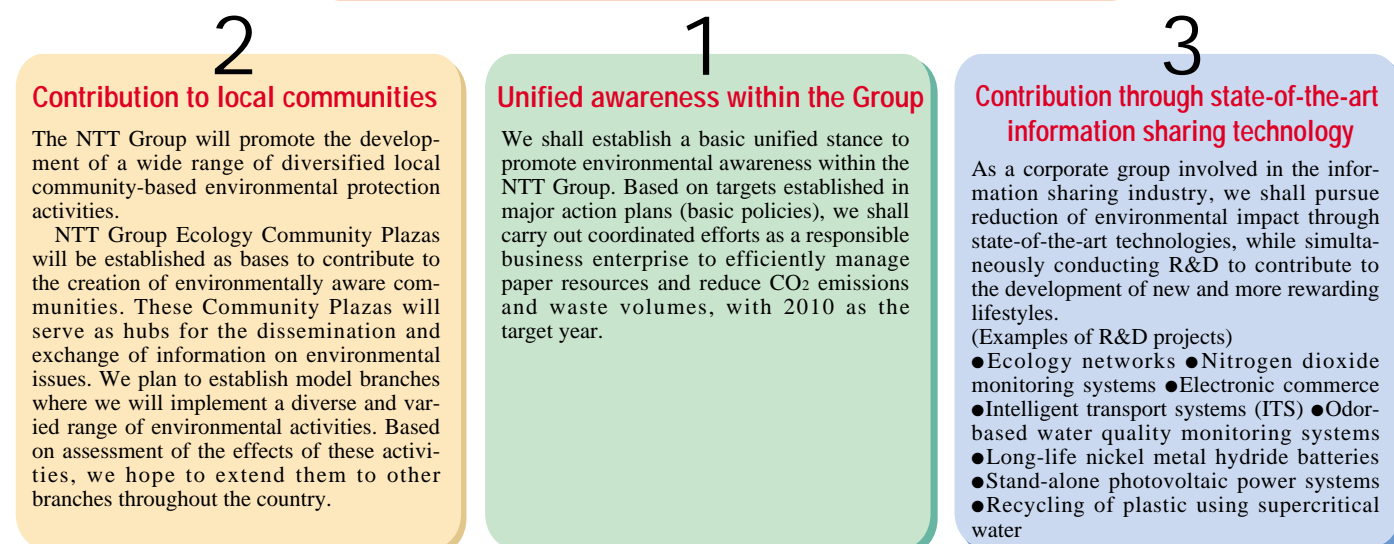
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# 1. NTT Group Ecology Program 21

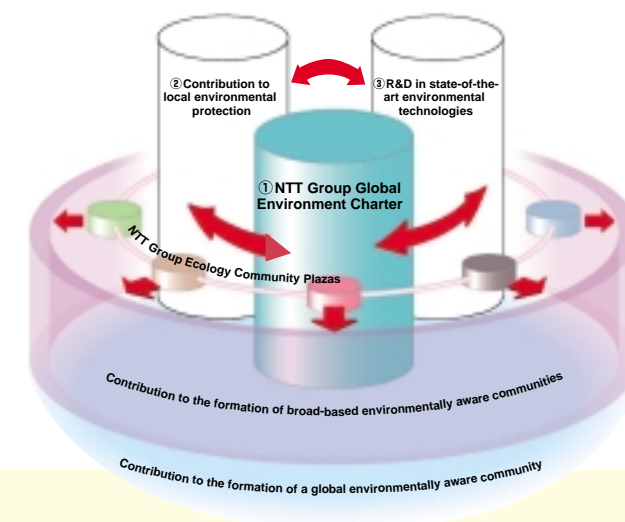
<http://www.ntt.co.jp/kankyo/e/2000report/1/111.html>

The NTT Group recognizes environmental preservation as a major issue to be tackled on a global scale. The NTT Group Ecology Program outlines our basic strategy for environmental protection activities and forms the framework for our efforts to contribute to the formation of a global ecology community.

## Three Main Components of the NTT Group Ecology Program 21



## NTT Group Global Environment Charter



### NTT Group Global Environment Charter

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 with 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 (reduction of greenhouse gas emissions), resource conservation (conservation of materials such as paper), and waste reduction, and to strive to make continuous improvements.
- 3. Establishing and maintaining environmental management systems**
  - To establish an environmental management system enabling each business unit to pursue voluntary environmental protection activities.
- 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.

NTT Group's Targets for Major Action Plans (refer to page 12)





## 1. NTT Group Ecology Program 21

### Contribution to Local Environmental Protection

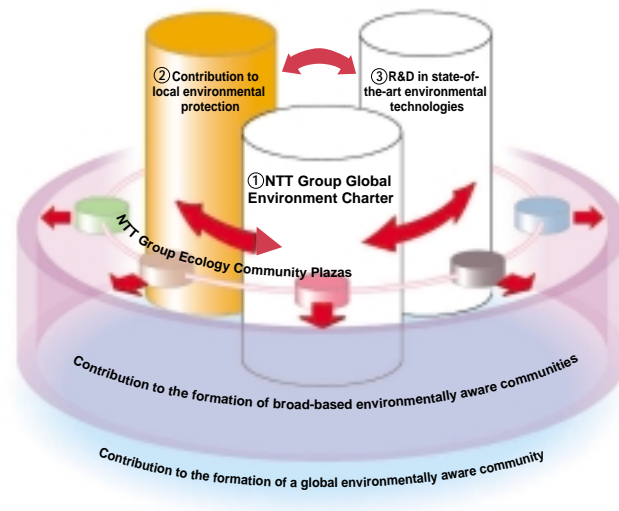
“Contribution to local environmental protection” is the second pillar of the NTT Group Ecology Program 21.

As declared in the Basic Policies of the NTT Group Global Environment Charter, our emphasis lies in activities implemented in close liaison with local residents and government agencies.

The NTT Group is in the process of establishing model branches, housing Ecology Community Plazas. Our aim for these Plazas is to provide locations for the development of networks to address global environmental issues on the local level and to provide and exchange information on the environment.

In addition, Group companies are making efforts to contribute to society by voluntarily participating in environmental protection activities and raising funds for environmental incentives.

More concrete examples of these activities are explained in detail in Chapter 6.



### R&D in State-of-the-Art Environmental Technologies

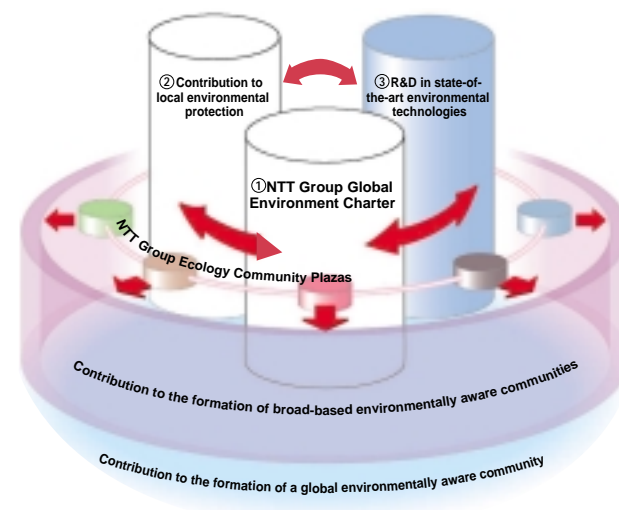
The NTT Group is making special efforts in R&D into environmental technologies.

Established in January 1999, the Lifestyle and Environmental Technology Laboratories and the Telecommunications Energy Laboratories serve as the focal point for these research efforts, with Group companies as well as each branch also pursuing their own R&D in various areas related to the environment. R&D projects are largely classified into two categories: establishing a structure for a sustainable society by maximizing the potential of information technology and specific R&D to contribute to the reduction of environmental loads.

The first area of research includes the establishment of ecological networks, development of nitrogen dioxide monitoring systems, simulations in the reduction of environmental loads via communication services such as TV conferencing, experiments on model electronic commerce, and development of intelligent transportation systems (ITS).

The latter includes development of long-life nickel metal hydride batteries and stand-alone photovoltaic power systems, study of plastic recycling technology using supercritical water, and development of fuel modification facilities.

Details of these efforts are described in Chapter 4.



## 2. Our Organization for Promoting Environmental Protection

<http://www.ntt.co.jp/kankyo/e/2000report/1/121.html>

The NTT Group has established an organization to enable each group company to recognize and confirm the concepts of NTT Group Ecology Program 21 and take appropriate action to promote environmental protection as a group. (Fig. 1.2-1)

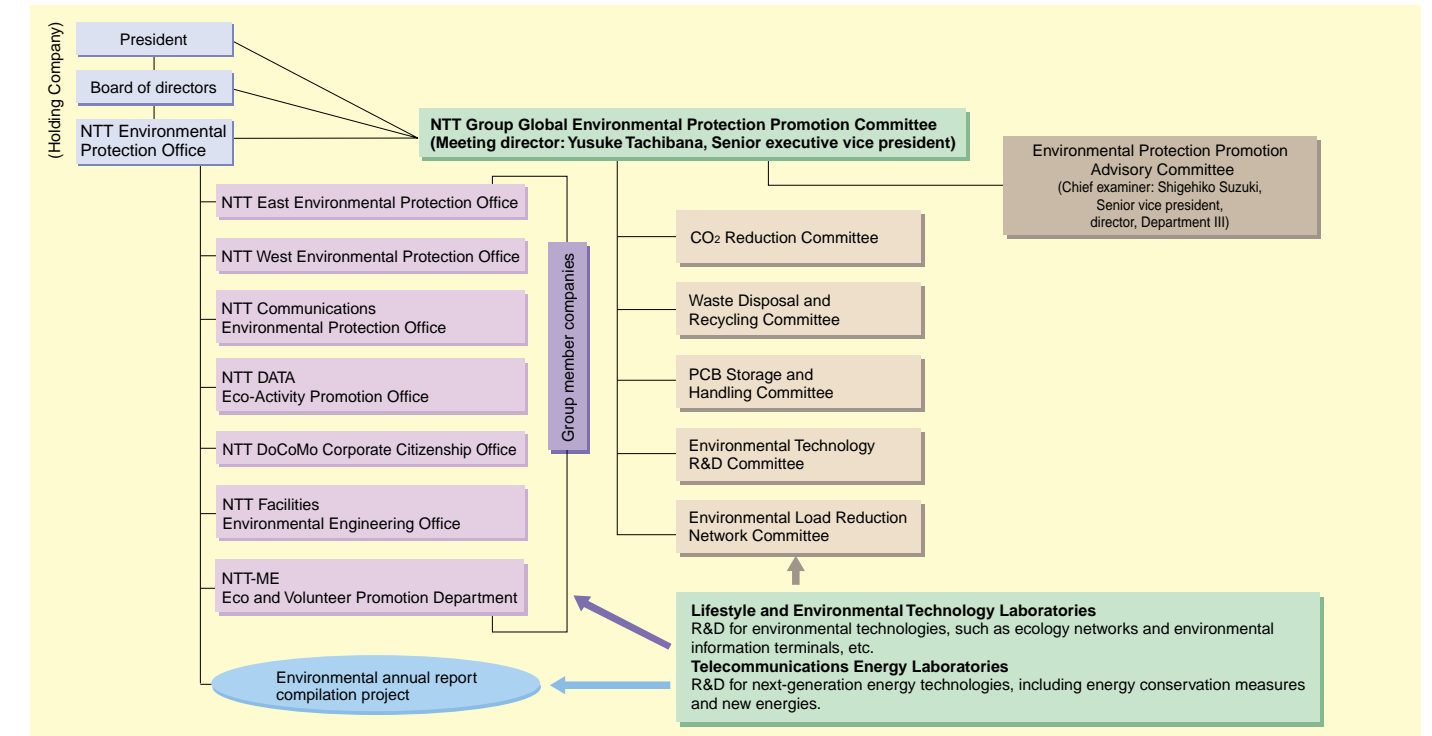


Fig. 1.2-1 NTT Group organization for promoting environmental protection

### NTT Group Global Environmental Protection Promotion Committee

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 main Group companies and division heads of NTT (the holding company). This committee prepares basic environmental policies, establishes targets for action plans, and evaluates achievements for the entire group. (meets twice)  
Meeting director: Yusuke Tachibana, Senior executive vice president of NTT (the holding company); chairperson: Shigehiko Suzuki, Senior vice president, director, Department III (R&D Strategy Department) of NTT, head of NTT Environmental Protection Office

### NTT Group Environmental Protection Advisory Committee

This committee makes inquiries on environmental policies and specific measures and provides advisory opinions to the NTT Group environmental protection promotion committee. (meets three times)  
Chief examiner: Shigehiko Suzuki, Senior vice president, director, Department III, NTT

### CO<sub>2</sub> Reduction Committee

To achieve the goals of reducing CO<sub>2</sub> emissions adopted at the Kyoto Conference on Prevention of Global Warming of December 1997 (3rd Conference of Parties of the United Nations Framework Convention on Climate Change), the committee is responsible for devising basic policies, including new measures and reduction goals, to allow the NTT Group to fulfill its corporate responsibilities. (meets three times)

### Waste Disposal and Recycling Committee

This committee draws up basic policies on waste reductions, recycling and green procurement, promoting protective measures from the time of procuring materials and components. (meets twice)

### PCB Storage and Handling Committee

As a major user of equipment which involves PCBs, the committee drafts basic policies for proper storage of wastes and chemical treatment to neutralize PCBs. (meets twice)

### NTT (the holding company) Environmental Protection Office

This office serves as the secretariat for various Group-wide committees. It also oversees various offices and divisions of the NTT Group companies responsible for environmental protection promotion. The Environmental Protection Activity Report is compiled and published by a project team drawn up by this Office.

### Environmental Technology R&D Committee

This committee is assigned the task of establishing systems capable of collecting and distributing environmental information through multimedia networks, to allow active use of telecommunications technologies for environmental protection. (meets eight times)

### Environmental Load Reduction Network Committee

The mission of this committee is to reduce negative environmental impact of overall network facilities and the way they are operated, and to study the possibility of introducing environmental accounting. (meets twice)



# 3. Targets for Major Action Plans

<http://www.ntt.co.jp/kankyo/e/2000report/1/131.html>

## 3. Targets for Major Action Plans

### Targets for Major Action Plans and Achievements for 2000

In 1991, the NTT Group set targets for major action plans including paper resource management, prevention of global warming, waste management, and protection of the ozone layer, to be met by fiscal 2000. Actual results of our efforts are disclosed below.

#### Targets for Action Plans

Items	Targets for action plans (set in 1991)	Results in 1999
<b>Paper resource management</b>	To reduce total virgin pulp consumption to 1990 levels by 2000.	Total virgin pulp consumption is reduced by approx. 28% from 1990.
<b>Prevention of global warming</b>	To reduce CO <sub>2</sub> emissions to 1990 levels by 2000.	Total volume of emissions increased by approx. 35% from 1990; however, steadily improving eco-efficiency has resulted in stabilization.
<b>Waste management</b>	To reduce the amount of waste to 1990 levels by 2000.	The amount was reduced by approx. 64% from 1990 level.
<b>Protection of ozone layer</b>	Use of CFCs to be totally banned in 1995.	Completed in 1995.

Regarding protection of the ozone layer, the use of CFCs in new equipment was completely banned in 1995. Regarding paper resource management, prevention of global warming and waste management, target figures have been reviewed and revised targets were included in the 1999 NTT Group targets for major action plans to demonstrate our continuing efforts.

#### Prevention of Global Warming

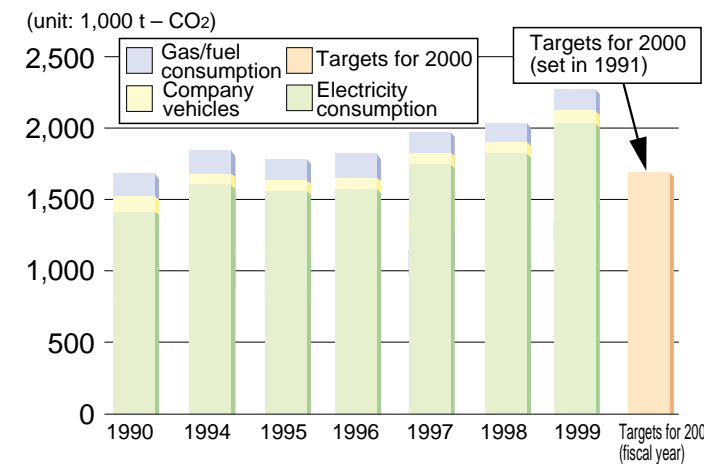


Fig. 1.3-3 Volume of CO<sub>2</sub> emissions

#### Prevention of Global Warming

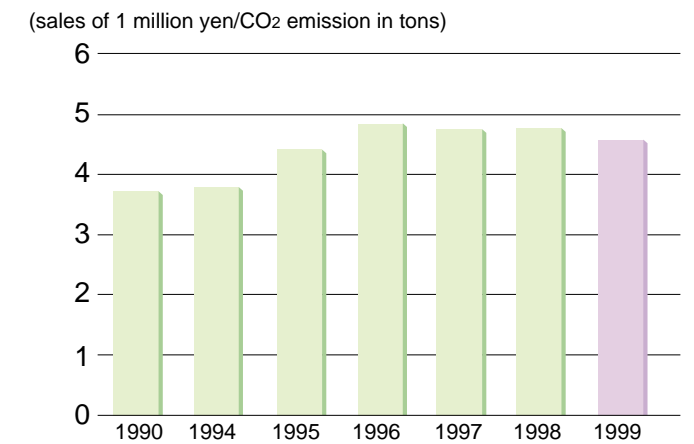


Fig. 1.3-4 Environmental efficiency (eco-efficiency)

As of fiscal 1999, the amount of CO<sub>2</sub> emissions exceeded the target set for the year 2000 (at the 1990 level). (Fig. 1.3-3) One of the factors for this is the expanded business range of the NTT Group. However, sales per unit of CO<sub>2</sub> emission, an indication of environmental efficiency (eco-efficiency) show yearly improvement and have stabilized at around ¥4.74 million/t-CO<sub>2</sub> since 1996. (Fig. 1.3-4) The NTT Group has thus been making continuous progress in reducing the volume of CO<sub>2</sub> emissions since 1991. For 1999, CO<sub>2</sub> emitted by NTT Facilities and NTT Urban Development were included in the figure, thus the increase compared to the previous year.

#### Paper Resource Management

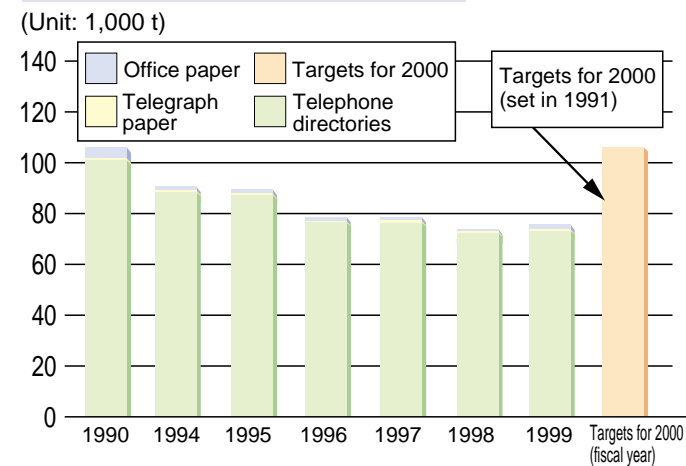


Fig. 1.3-1 Virgin pulp consumption

#### Waste Management

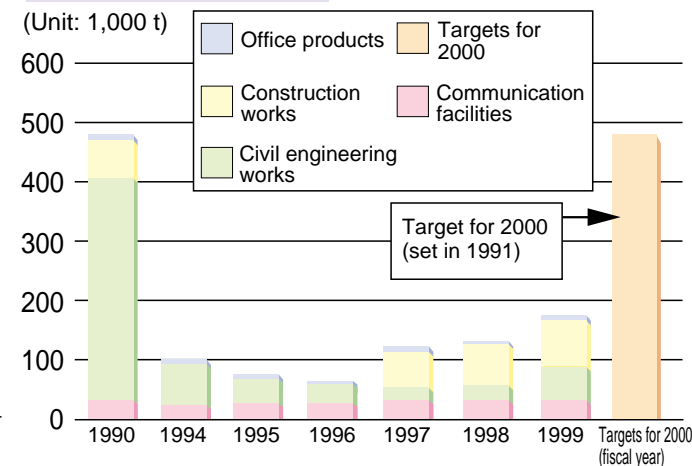


Fig. 1.3-2 Waste volume

### Setting New Targets for 2010

In March 2000, the NTT Group reviewed and revised the targets for major action plans including paper resource management, prevention of global warming and waste management.

#### Targets for Action Plans

Items	Targets for action plans (set in 1999)
<b>Paper resource management</b>	Total virgin pulp consumption to be reduced by more than 20% from 1990 levels by 2010.
<b>Prevention of global warming</b>	CO <sub>2</sub> emissions to be reduced below 1990 levels by 2010.
<b>Waste management</b>	Volume of waste to be reduced by more than 85% of 1990 levels by 2010.

## 4. PDCA for Promotion of Environmental Protection

<http://www.ntt.co.jp/kankyo/e/2000report/1/141.html>

In order to establish Group-wide management systems and to identify tangible results of our activities, the NTT Group has implemented a PDCA (Plan-Do-Check-Action) cycle for environmental protection activities.

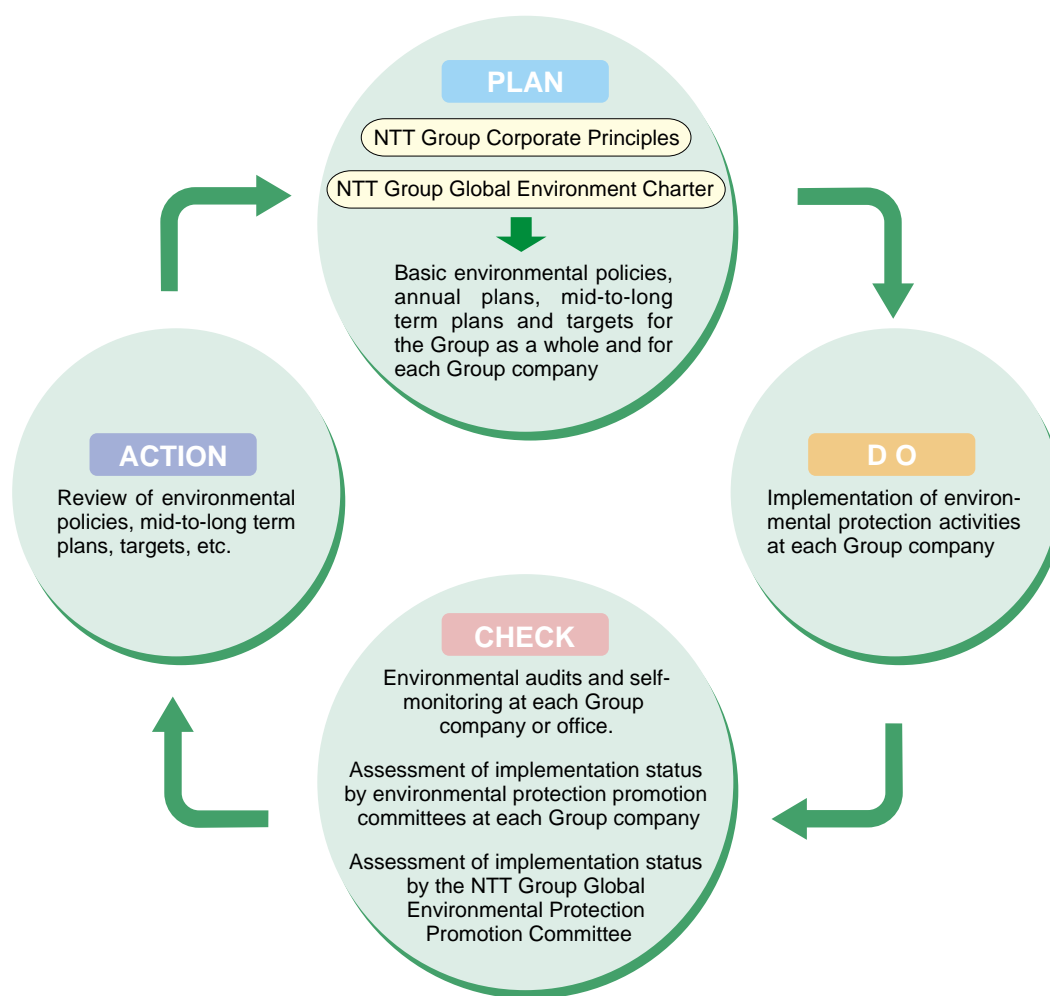


Fig. 1.4-1 PDCA for promotion of NTT Group environmental protection activities

### PLAN

In keeping with the NTT Group Corporate Principles and the NTT Global Environment Charter, the NTT Group global environmental protection promotion committee dictates the following:

- basic environmental policies
- mid-to-long term plans
- annual plans
- targets.

Based on the above, each Group company or office maps out plans for implementation with detailed programs.

### DO

Each Group company or office implements environmental protection activities based on detailed programs.

### CHECK

Each Group company or office conducts self-monitoring and environmental audits by internal environmental protection promotion organizations. Each Group company also works with the NTT Group Global Environmental Protection Promotion Committee to monitor implementation status.

### ACTION

Results are reflected in basic environmental policies, mid-to-long term plans, annual plans and targets for the coming year and for the years to follow.