

To make the environmental protection activities of the NTT Group assessable to the widest possible audience, we have created a Website that is both reader friendly and offers more detail than the written report.
A convenient "Search System" has been provided that is keyed to the written report.

NTT Environmental Protection Activity Report 2004 Top page



Search System



A search window is provided on the top page of the website. Each section of the written report is keyed with a number to the right of each heading. Enter this number in the search window, click the Search button, and you will be taken to the corresponding page on the website.



For example, if you type the number 19-2 and click the search button, you will jump to the corresponding web page.

NTT Group Environmental Protection Activity Report 2004

Editor's Postscript

This is the sixth annual edition of NTT group's environmental report. Our goal is to present a report written in plain language that is easy to understand and interesting in content. You will see that the principle underlying theme is our conviction that the continued evolution of broadband and IT will have a major beneficial impact in reducing the environmental burden affecting all society. We pared the printed version down to the most essential content to produce a compact and environmentally friendly report, so please refer to the website version of the report for additional details.

This report summarizes our environmental protection initiatives and activities for 2003, but we also regard this report as a valuable tool for communicating and sharing environmental information with as wide an audience as possible. We would be grateful if you could take the time to fill out the attached questionnaire, send an email with your frank opinions and comments, or use the questionnaire on our website. Your valuable insights will help us continue to improve our environmental protection activities and this report.

This printed material used recycled paper and was certified to bear the "eco-mark." The printed contents of this report are not related to the "eco-mark." Furthermore, this printed material is bound by the consideration that it will be recycled. Please put out for collection or recycle when no longer needed.



For more information
Environmental Protection Office
NIPPON TELEGRAPH AND TELEPHONE CORPORATION
 3-1 Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8116, Japan
 Fax: +81-3-5205-5329
 Website: <http://www.ntt.co.jp/kankyo/e/>
 Email: kankyo@ml.hco.ntt.co.jp

*No part of this report may be reproduced or transmitted in any form or by any means without permission from NIPPON TELEGRAPH AND TELEPHONE CORPORATION.
 *All rights reserved.

What IT can do for the Earth.

Let's talk about the Environment "ECOmmunication"

NTT Group
 Environmental Protection Activity Report 2004



Index

President's Message	2
01 NTT Group Initiatives to Prevent Global Warming	3-4
02 NTT Group Environmental Loads (INPUT/OUTPUT)	5-6
03 Environmental Protection Thinking and Policies	7-8
NTT Group Ecology Program 21	
NTT Group Global Environmental Charter	
Main Activities in 2003	
04 Organization and Management	9-12
NTT Group Organization for Promoting Environmental Protection	
Three Corporate Green Guidelines to Maintain the Trust of Society	
Environmental Management System (ISO 14001)	
Risk Management	
Employee Education and Employee Awareness Survey	
Environmental Accounting	
05 Prevention of Global Warming	13-14
06 Waste Management	15-16
07 Paper Resource Management	17
08 Measures Against Environmental Risks	18
09 R&D on Environmental Technologies	19-20
10 Corporate Citizenship and Communication	21-22
11 Data	23-26

■Web Search System

We have made it very easy to access information on the NTT Group environmental website. A search window is provided on the top page of the website (<http://www.ntt.co.jp/kankyo/e/2004report/>). Enter a section header number from the written report, and you will be taken to the corresponding page on the website. Note that the online version of the report provides some additional information that is not included in the written report.

Guidelines Used to Edit this Report

- We made every effort to organize the report in a simple, intuitive way so that the greatest number of readers can readily understand NTT group's thinking, policies, and activities regarding environmental protection.
- This report is compiled based on the "NTT Group Company Environmental Report Guidelines," which in turn were developed by referring to the guidelines of the Ministry of the Environment and Global Reporting Initiative (GRI).
- Following our practice started with the 2002 version of this report, only the most essential information and data are provided to conserve paper. For more detailed information, please go to our website. Instructions for accessing the website are provided at the end of the report.
- Although this report was not certified by an independent third party, we regard this report as an honest and unbiased declaration based on the "NTT Group Environment Accounting Guidelines," and an essential communication tool.

Time Frame and Scope of the Report

- The Environmental Protection Activity Report 2004 has been compiled from data collected from April 1, 2003 to March 31, 2004, and also includes activities after April 1, 2004 as well as our future projections.
- This report consolidates the 2003 date collected mainly from NTT (holding company), NTT EAST, NTT WEST, NTT Communications, NTT Data, NTT DoCoMo, and their various affiliates. Note that data prior to 1998 was collected by NTT before the company's restructuring. Refer to pages 23-26 in the data section of this report for details.
- Names of organizations are current as of March 31, 2004.
- This report was issued in September 2004. The 2005 edition of NTT Group Environmental Protection Activity Report is scheduled for release in September 2005.

Achieving a richer and more comfortable future through the creation of an environment for resonant communication, contributing to the formation of a sustainable society with less impact on the natural environment.

Norio Wada
Norio Wada
President,

NIPPON TELEGRAPH AND TELEPHONE CORPORATION



The NTT Group through its business activities has contributed greatly to the creation of a richer society, yet the scale of our operations has inevitably had a substantial impact on the environment. While continuing to promote improved lifestyle and business solutions, we must focus greater attention on providing products and services that minimize our environmental impact and contribute to the formation of a sustainable society.

In line with its "Vision for a New Optical Society," the NTT Group is committed to put in place a world of resonant communication where people and companies are connected and able to interact anytime, anywhere, and with anyone through networks. The availability of IT services supporting this kind of resonant interpersonal communication will convey such a clear sense of presence that it feels like you are face to face even though all the energy of actually traveling to meet the other person is saved. The further development of e-commerce based on IT and digitization of public services will curtail superfluous travel by people, unnecessary transport of goods, and save enormous amounts of energy by society as a whole. We believe that by promoting IT services through ubiquitous deployment of broadband networks, we can significantly reduce our impact on the environment while at the same time

contributing to a better more interesting quality of life for our customers.

Yet we must give equal attention to cutting back the additional energy and resources that are needed to deploy IT services. This means we must carefully consider the environmental implications of everything we do—from focused R&D on environmentally friendly energy-efficient technologies and energy-thrifty network equipment to the recycling of used equipment and telephone directories—and redouble our efforts to conserve and protect the environment.

To preserve this wondrous planet of ours for future generations, each and every one of our employees must do his or her part, but this is bigger than just us. The magnitude of the challenge calls for the widest possible involvement with our customers and partner companies, with all working together and talking together and pooling our collective wisdom. We publish this report to make our environmental initiatives known to the widest possible audience and to stimulate communication. We are continually striving to improve our environmental protection efforts and refine this Environmental Protection Activity Report, so we would certainly welcome your candid assessment and suggestions.

September 2004

A full-scale effort to provide customers with IT services helps reduce greenhouse gases in Japan.

Japan's Growing Greenhouse Gas Emissions

Web search 03-1

Today countries around the world are taking steps to adopt clean energy sources that do not produce greenhouse gases and to conserve energy. This is because it is now clear that increased CO₂ emissions from the consumption of energy is a contributing factor to global warming.

According to a recent survey by the Ministry of the Environment, Japan's greenhouse gas emissions increased by 11.2% from 1990 to 2002. While emissions from the manufacturing sector that produces that greatest amount of CO₂ shows a slight declining trend, greenhouse gas emissions from the transportation sector, from retail stores and commercial buildings, and from homes have shown a remarkable increase. CO₂ emissions for the transportation sector alone climbed from 217 million tons in 1990 to 261 million tons in 2002, an increase of 20.4%. Increased emissions from retail stores and buildings in the commercial sector grew at an even faster rate going from 144 million tons in 1990 to 197 million tons in 2002, a staggering increase of 36.7%.

What IT can do to Prevent Global Warming

Web search 03-2

Greater use of IT certainly has the potential to reduce the movement of people and things and thereby reduce CO₂ emissions from the transportation sector and from retail stores and buildings. Indeed, trial calculations by NTT (holding company) indicate that Japan's total energy consumption in 2010 could be reduced as much as 3.9% by promoting telework so fewer people have to commute into work, by streamlining physical distribution of goods through e-commerce, and by converting hardcopies and physical media to electronic format. This is equivalent to the amount of energy consumed over a year's time by all the households in Tokyo, Kanagawa, Chiba, and Saitama combined.

On the debit side it is of course true that more extensive use of IT would require additional network equipment that increases the consumption of energy. Additional telecom equipment and network resources to support widespread always-on broadband connections will in 2010 require about 1.5 times the energy used today, equivalent to 1.1% of Japan's total energy consumption. To offset increasing emissions from wider deployment of IT, NTT Group is taking steps to reduce the environmental load resulting from business activities. And at the same time, we are also helping reduce the environmental load of society through IT.

Energy reduction effect through use of IT (2010)

E-commerce for corporations
(Online ordering system, etc.)

Energy reduction factors
Efforts to minimize travel for business negotiations while also streamlining the distribution of goods.

Percent reduction by 2010
2.5%

Convert information to digital format
(Distribution of information over the Internet, etc.)

Energy reduction factors
By distributing books, newspapers, CDs, videos and other content over networks, the production and physical distribution of such products are made much more efficient.

Percent reduction by 2010
0.3%

Substitutes for physical movement of people
(TV conferencing systems, etc.)

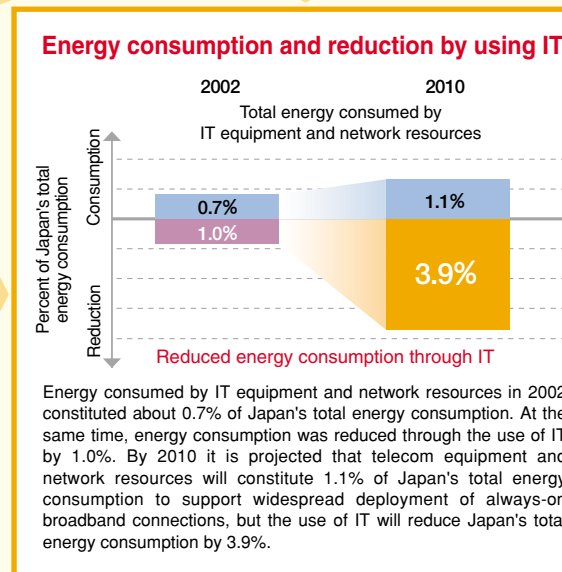
Energy reduction factors
Use of transportation facilities and offices is reduced. Managing vending machines remotely means fewer and more efficient deliveries.

Percent reduction by 2010
0.4%

E-commerce for individuals
(Online purchasing, etc.)

Energy reduction factors
CO₂ emissions reduced by curbing excess production and streamlining intermediate distribution and retail stores.

Percent reduction by 2010
0.6%



Deployment of ITS*1

Energy reduction factors
Traffic tie-ups will be alleviated through the use of VICS*2 and other traffic information systems.

Percent reduction by 2010
0.1%

*1 ITS: Intelligent Transport Systems. IT-based transportation systems for helping improve traffic congestion, accidents, and other transportation issues.
*2 VICS: Vehicle Information and Communication System. A system enabling motorists to receive continuous realtime reports about current travel times, incidents, and congested routes and display the information on a car navigation system.

Quantify the impacts our corporate activities have on the environment, and seek effective solutions to reduce those effects.

Awareness of the Environmental Effects of Our Business Activities

Web search 05

With over 200,000 employees and massive scale operations—including physical distribution of procured goods and equipment, construction, operations, and provisioning of goods and services—NTT Group will inevitably have a major impact on the environment. We recognize three areas where our corporate activities impose an especially heavy burden: greenhouse gas emissions from network equipment supporting information and communication services, accumulation of waste in the form of used and decommissioned telecom equipment, and use of paper resources such as for telephone directories. We consume 0.8% of all electricity purchased nationally, produce 0.2% of the entire country's industrial waste, and use 0.3% of all the paper consumed in Japan.

In an effort to reduce our heavy burden on the environment in these three areas, the NTT Group has set concrete, measurable Action Plan Targets* to be achieved by 2010.

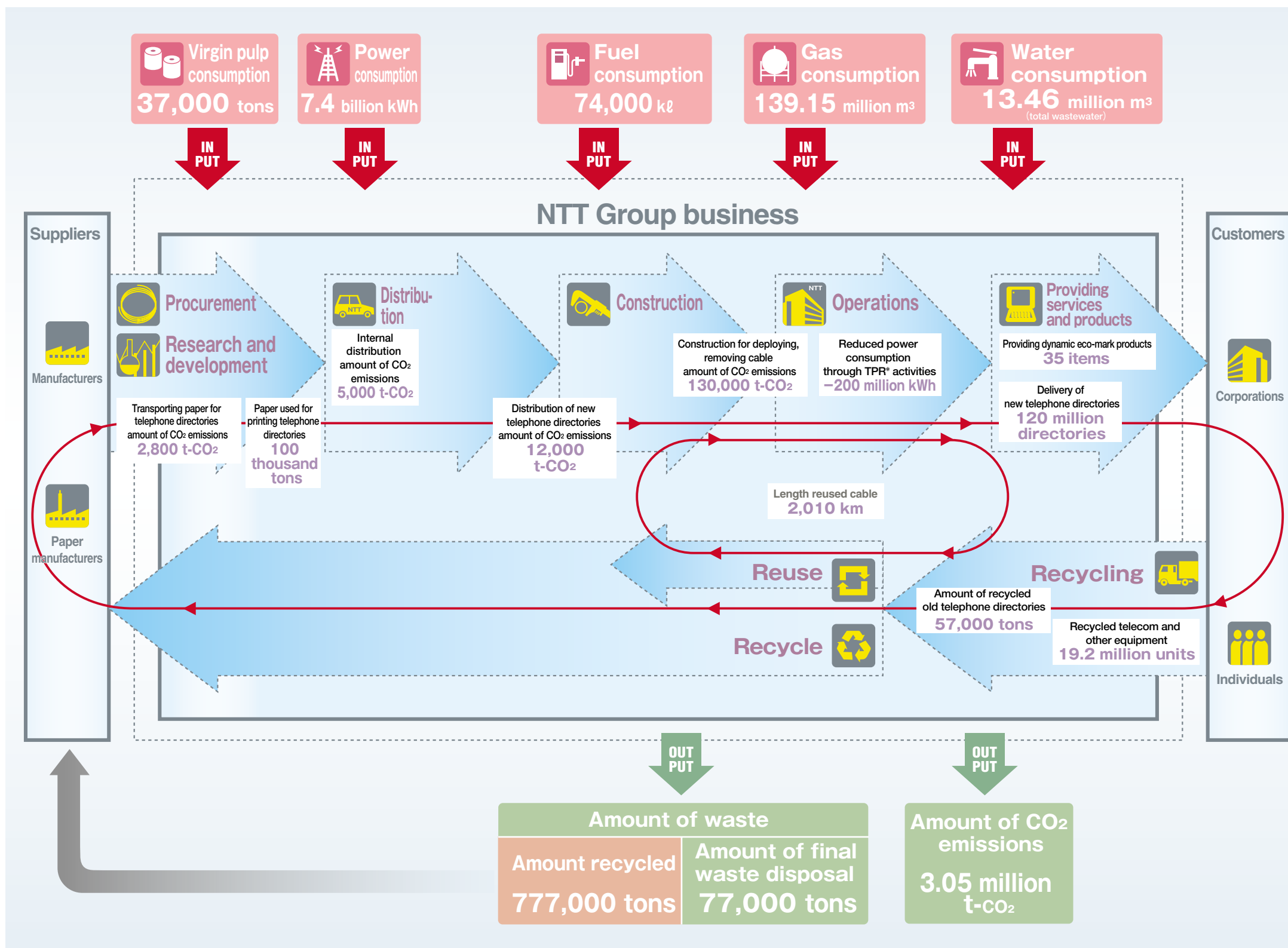
* Please see below for more information about the Action Plan Targets.

The specific targets for reducing environmental loads are defined in the "Principle Activity Targets for the NTT Group" (goals for 2010):

- Prevention of global warming: Reduce CO₂ emissions to less than the 1990 level.
- Waste management: Reduce final disposal volume to less than 15% of the 1990 level.
- Paper resource management: Reduce total consumption of virgin pulp to less than 80% of the 1990 level.

For a review of the progress made so far as of 2003 toward achieving these targets, refer to the following pages:

- Prevention of global warming: see pages 13-14
- Waste management: see pages 15-16
- Paper resource management: see page 17



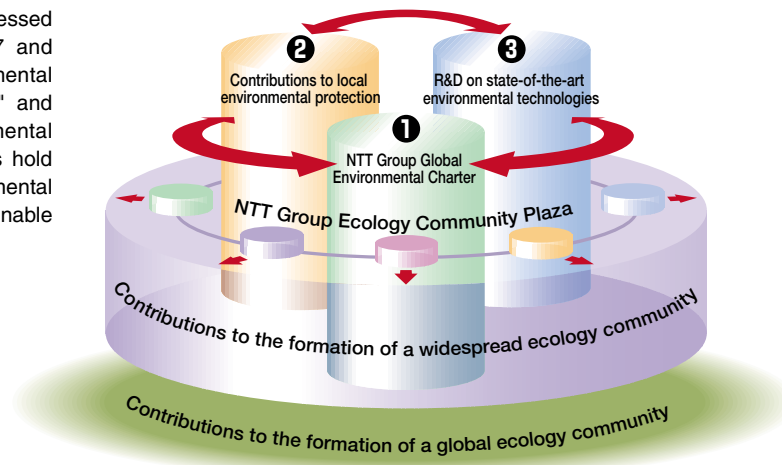
* TPR (Total Power Revolution) campaign: see page 13.

Help build a sustainable society based on NTT Group Ecology Program 21.

NTT Group Ecology Program 21

Web search 07-1

Our basic approach for achieving a sustainable society is expressed in the "NTT Group Ecology Program 21" formulated 1997 and consists of three pillars: the "NTT Group Global Environmental Charter," "Contributions to Local Environmental Protection," and "Research and Development of State-of-the-Art Environmental Technologies." We believe that these three basic documents hold the key to reconciling our corporate activities with environmental conservation, and will guide us toward achieving a truly sustainable society.



■ NTT Group Ecology Program 21 (conceptual diagram)

NTT Group Global Environmental Charter

Web search 07-2

The NTT Group Global Environmental Charter is based on concepts outlined in NTT Group Ecology Program 21, and clarifies our basic principles, policies, and targets for global environmental protection. Prevention of global warming, waste management, and paper resource management have been identified as key areas where we as a corporation impose major burdens on the environment, and we are seeking to roll back our emission levels to concrete, measurable

targets as defined in "Principle Activity Targets for the NTT Group"* by 2010.

*See page 5 for information about these Principle Activity Targets.

NTT Group Global Environmental Charter

We need to recognize the extent and gravity of current environmental issues, including global warming, ozone layer depletion, destruction of the tropical rain forest, 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 eliminate problems for future generations. Based on this fundamental recognition, we here establish the NTT Group Global Environmental Charter to clarify our basic policies and actions concerning these issues.

[Basic Principle]

To ensure the harmonious co-existence of people with nature and to achieve sustainable growth, we 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.

Main Activities in 2003

Web search 08

Committed to constant improvement and new environmental protection initiatives, here are some of the things we accomplished in 2003 based on the "NTT Group Ecology Program 21."

- Prevention and early detection of soil and water pollution
- Promoted removal and proper disposal of products including PCB
- Promoted sound management and disposal of chemical substances from our labs

- Published environmental protection activity reports
- Publicly disclosed information on our website
- Promoted environmental awareness and publicity
- Sponsored environmental events



- Prevention of global warming**
- Promoted Total Power Revolution (TPR) activities
 - Reduced CO₂ emissions through introduction of low-pollution vehicles
 - Promoted use of e-bidding system
- Waste management**
- Recycled decommissioned optical cable
 - Developed long-life eco-steel telephone poles
 - Reused of personal computers
 - Recycled used communications and other equipment
 - Recycled desktop holders for cellphones
- Paper resource management**
- Increased recycling of telephone directories with higher ratio of old paper
 - Developed and put in use online large-scale geospatial data covering all Japan

- Activities based on three guidelines (Green Procurement Guidelines, Green R&D Guidelines, and Green Design Guidelines for Buildings)
- Increased the number of sites with ISO 14001 certification
- Risk management
- Employee education and awareness surveys
- Environmental accounting

- Developed solar-powered mobile power source
- Developed environmentally friendly cable deployment method
- Developed compact, power-efficient optical modulator
- Analyzed IT service ripple effects
- R&D on IT services that reduce the environmental load

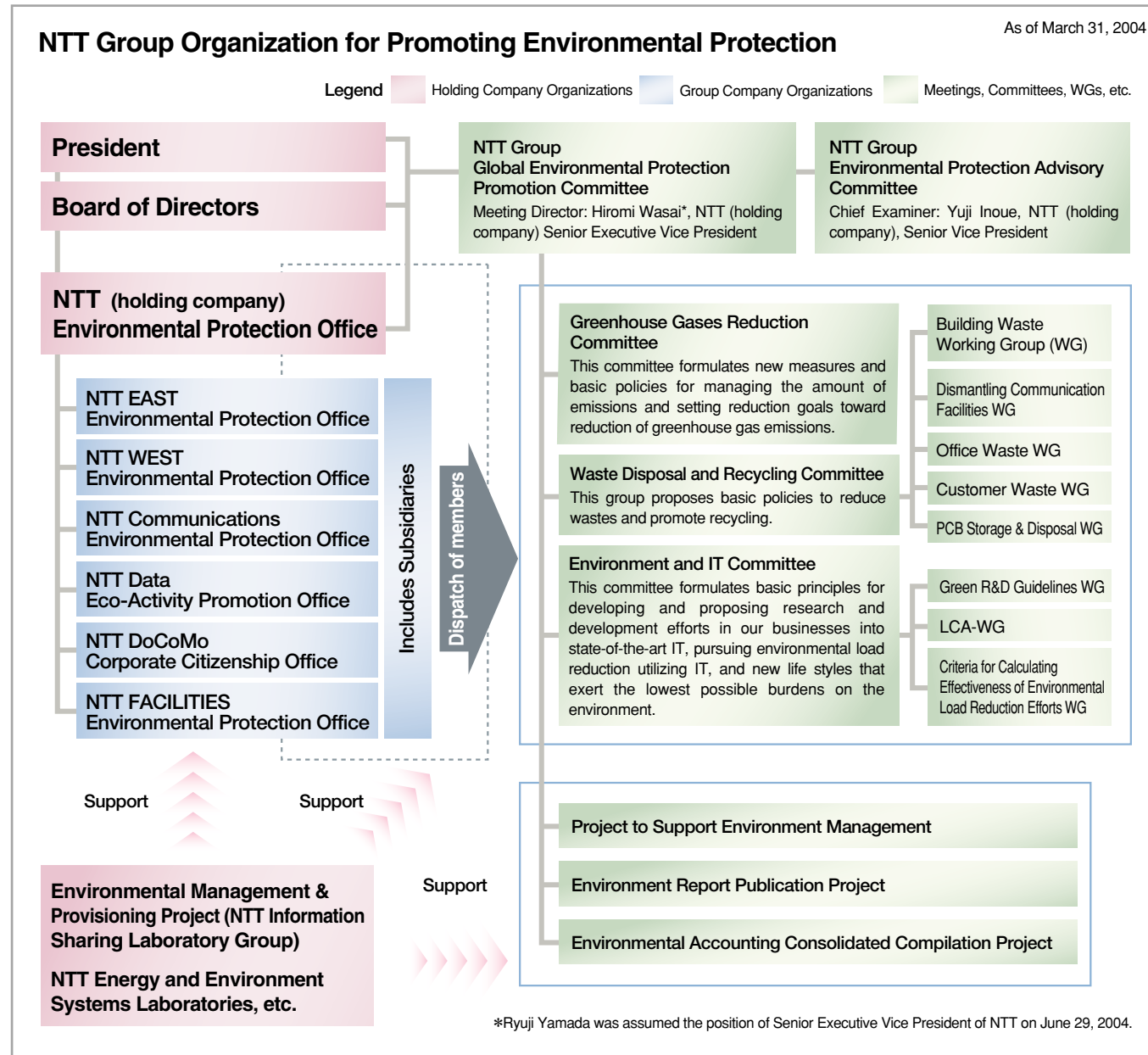
Organization to maintain the trust of society while promoting effective action to reduce environmental impacts.

NTT Group Organization for Promoting Environmental Protection

Web search 09

To ensure that all the group companies are united behind a common concern to reduce environmental impacts and reduce the environmental load of society as a whole through IT, we established the NTT Group Global Environmental Protection Promotion Committee headed by the Vice President of NTT (holding company) as a top-level decision-making body, and that presides over three

subcommittees seeking solutions to environmental issues. Primary functions of the NTT Environmental Protection Offices is to settle environmental issues among group companies, to maintain ties with organizations in charge of environmental affairs in each company, and to promote continual enhancement and refinement of environmental protection activities of the NTT Group as a whole.



Three Corporate Green Guidelines to Maintain the Trust of Society

Web search 10-1

The NTT Group has established the following three corporate guidelines to ensure that we fully consider impacts on the global environment in all aspects of our business, including commodity purchase, research and development of products and systems, and operation of company-owned facilities.

Green Procurement Guidelines

NTT buys over 100,000 products every year, and developed the "Green Procurement Guidelines" in 1997 with substantial revisions in 1999 an effort to reduce the environmental impact of these products over their entire life cycle. We established this guideline to promote procurement of environmentally friendly products, and we assess suppliers on the basis of their corporate policies as well as their products.

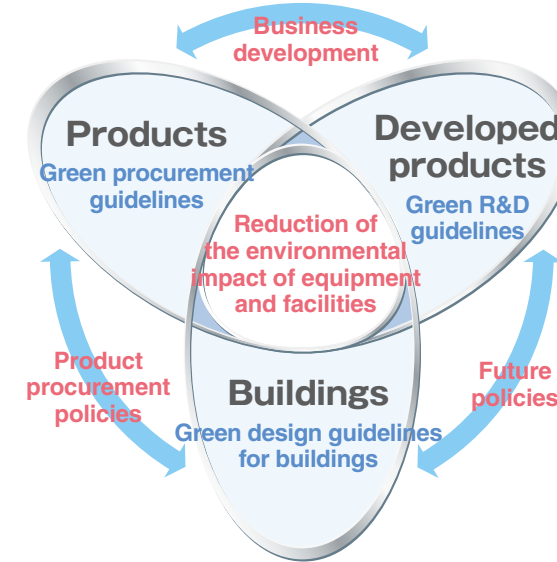
Green R&D Guidelines

The "Green R&D Guidelines" were established in March 2000 to encourage sound R&D methods and procedures which minimize impacts on the environment and also promote R&D on technologies that contribute directly to reduce environmental loads. During 2003, we put in place a new mechanism enabling researchers themselves to assess how effectively the guidelines contribute to reduce potential environmental effects of R&D results.

Green Design Guidelines for Buildings

With responsibility for about 30,000 buildings, the "Green Design Guidelines for Buildings" were originally drafted in 1997 and revised in 2000 to promote building designs that support coexistence with the environment. The guidelines address seven criteria including extending building life, restrictions on the use of CFCs and other harmful substances, conservation of resources and energy, and integration with the local environments.

● NTT Group Green Guidelines



Environmental Management System (ISO 14001)

Web search 10-2

The NTT Group seeking to construct an environmental management system in compliance with ISO 14001 as a concrete implementation of the "NTT Group Global Environmental Charter." Our group companies and offices adhere to the corporate mission

and have developed operation-specific programs for environmental management, and 13 additional sites acquired ISO 14001 certification in 2003. Currently as of March 2004, 118 sites in 146 group companies have obtained ISO 14001 certification.

Risk Management

Web search 10-3

Considering the immense scale of NTT Group operations, we recognize that continuous actions and initiatives to reduce the environmental impact of our corporate activities represents the ultimate environmental risk management. Seeking to prevent

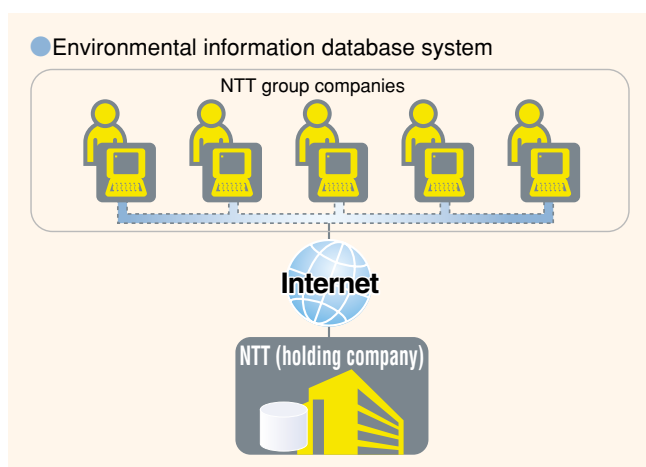
accidents before they happen, we have prepared guidelines and checklists dealing with a range of issues including soil and water-quality surveys, PCB management, and dealing with electromagnetic waves.

Monitor and disclose results of environmental protection activities, and constantly strive to improve these activities.

Environmental Information Database System

Web search 11-1

NTT Group built and is now running an Environmental Information Database System in order to share environmental data and to aggregate environmental performance data. Using this system, one can contact the manager in environmental concerns at each NTT Group company, access information relating to environmental laws and regulations, and obtain the latest information about the environment over the Internet. The database also has the capability to automatically tabulate and total greenhouse gas emissions, quantities of waste material, and other data for each NTT Group company. In fact, all of the environmental performance figures shown in this report were calculated using this system.



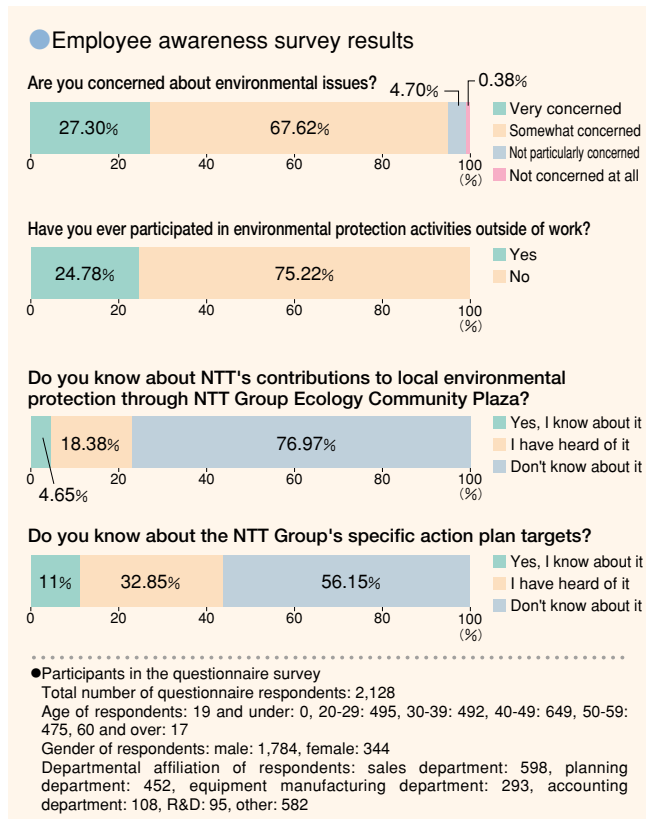
Employee Education and Employee Awareness Survey

Web search 11-2

The progress we have achieved in pursuing environmental protection activities can largely be attributed to our individual employees. NTT takes employee training very seriously and invests considerable effort in educating and enlightening its employees through new employee orientation programs, seminars aimed at employees, and by producing environmental pamphlets, environmental training videos (The Forest and Youth), and other materials. In 2003, we conducted a series of workshops for environmental managers held in four different locations throughout the country, and 308 employees representing 129 companies took part in the workshops.

On our website we also added a feature called NTT Group Employees Speak Out About the Environment that provides a place where employees can share their thoughts and experiences relating to the environment. Eleven employees in particular put up very moving material about the environment during 2003.

In addition, we continued to conduct questionnaire-based surveys of employee attitudes toward the environment and awareness of the NTT group's environmental policies. About 2,000 workers filled out the questionnaires in 2003. The survey results revealed that our employees have a good awareness of the environment but relatively little knowledge of the NTT group's environmental policies and initiatives. This information will be very useful for promoting NTT Group environmental policies in the years ahead.



Environmental Accounting

Web search 12

In 2000 the NTT Group put in place an environmental accounting system for quantifying and analyzing the environmental conservation costs of our business activities and the protective effects achieved from those expenditures (in terms of economic and physical benefits), information needed to track and disclose our efforts to the public. Until 2002 the accounting was done on a cash flow basis, but beginning in 2003 we incorporated the notion of depreciation regarding environmental costs and benefits for 2003 to better reflect investments made in 2003 relating to the environment in subsequent years.

Environmental accounting in 2003 revealed costs of 60.85 billion yen including 9.07 billion yen for environmental investment and 51.78 billion yen environmental expenses. On the benefits side of the ledger, an environmental benefit of 75,000 tons reduction of CO₂ emissions and an economic benefit of 33.71 billion yen were achieved. The economic benefits were mainly achieved by promoting greater reuse which simultaneously reduced new purchases and costs for waste disposal. Although environmental conservation costs were reduced by 1.66 billion yen compared to 2002 and the cash flow accounting basis that was used then, this could largely be attributed to a reduction in R&D expenses for the NTT Group as a whole and the completion of part of the R&D to reduce power consumption of third-generation mobile phone equipment. On the other hand, economic benefits increased by 6.49 billion yen compared to 2002, and this should have a beneficial effect on environmental expenses.

1. Scope of inclusion

The companies subject to consolidated environment accounting are NTT (holding company), NTT EAST, NTT WEST, NTT Communications, NTT Data, NTT DoCoMo, and their group companies (149 companies in total).

2. Accounting time frame

Data for 2003 report is from April 1, 2003 to March 31, 2004
 Data for 2002 report is from April 1, 2002 to March 31, 2003

3. Method of calculation

- Accounting is based on the "NTT Group Environmental Accounting Guideline." Our guideline is in full compliance with the "Environmental Accounting Guidelines" (2003 Version) issued by the Ministry of the Environment.
- Conservation costs are expressed in currency units, while conservation benefits are classified into those that can be expressed in monetary units and those expressed in physical quantity. Starting in 2003 depreciation has been incorporated in environmental expenses. Note that environmental expenses also includes labor costs.
- Conservation costs were tabulated separately as environmental investments (capital investments) and environmental expenses (cash flow). Moreover, in 2003 depreciation expenses are included in both environmental conservation costs and environmental conservation benefits, so costs are more detailed. Personnel costs are also included in environmental expenses.

4. Deemed effects

Deemed effects (intangible benefits) derived by NTT customers and the NTT Group through the use of IT and physical benefits as a result of research and development are not included in the environmental accounting described at the right, but are reported elsewhere in the report as follows:

- Indirect benefits to customers from reduced environmental impact: p.3-4
- Indirect physical benefits from R&D: p.19-20

Environmental conservation costs

(¥100 million)

Ministry of the environment guidelines classification	Environmental investment		Environmental expenses (cash flow)		Environmental expenses (capital investment)
	2002	2003	2002	2003	2003
1. Business area cost	55.6	59.5	169.9	175.7	281.7
■ Pollution prevention cost	1.2	1.0	3.4	6.5	7.1
■ Global environmental conservation cost	50.4	56.0	25.1	29.3	133.2
■ Resource circulation cost	4.0	2.5	141.4	139.9	141.4
2. Upstream/Downstream cost	2.4	0.9	32.1	38.9	41.7
3. Administration cost	3.3	1.1	59.4	61.3	62.5
4. R&D cost	40.9	29.2	118.4	98.1	129.9
5. Social activity cost	0.0	0.0	1.3	2.0	2.0
6. Environmental remediation cost	0.0	0.0	0.0	0.0	0.0
Total	102.2	90.7	381.1	376.0	517.8

Environmental conservation benefits

(¥100 million)

Benefits expressed in monetary units	Cash flow		Including depreciation
	2002	2003	2003
Reduced expenses from decreased energy consumption	14.9	30.4	35.4
Amount gained from recycling	18.2	22.1	22.1
Reduction of waste disposal expenses with recycling	0.6	0.5	0.5
The amount of reduced expenses of new purchases through reuse	223.7	252.0	252.0
■ Dismantled telecommunications facilities	223.3	251.8	251.8
■ Wastes at offices	0.4	0.2	0.2
■ The amount of reduced mail expenses through digitization*	—	12.3	12.3
Other economic benefits	9.8	14.8	14.8
Total	267.2	332.1	337.1

*The amount of reduced mail expenses through digitization was included from 2003.

(10,000 tons)

Benefits expressed in physical quantity units	2002	2003
Amount of CO ₂ emission reduced		
■ Benefit of power saving measures (TPR campaign)	4.5	7.5
■ Benefit of introduction and use of low pollution vehicles	0.3	0.0
■ Other benefits	0.1	0.0
Total quantity recycled	93.0	77.7

2003 Investment amount and R&D costs*

(¥100 million)

Total amount of investment for the period under review	20,136
Total cost of research and development for the period under review	3,548.6

*The total amount of investments and research and development costs for the period under review is the sum total of NTT Group companies.

To prevent global warming we are moving to deploy energy-saving and clean energy technologies while expanding the use of IT systems.

Promote Energy-Saving Technologies and More Efficient Use of Energy in the Corporation's Operations

Web search 13

More than 90% of the NTT group's CO₂ emissions are produced by the use of electricity. A series of initiatives have been carried out called the Total Power Revolution (TPR) campaign in an effort to reduce these emissions. As a result of these TPR initiatives, in 2003 we successfully reduced power usage by 200 million kWh. Yet at the same time, we have also deployed telecom equipment to support expanded broadband services such as ADSL*1 and FTTH*2 and deployed new base stations to support 3rd-generation mobile phone networks, and this has significantly increased our power consumption. Consequently, CO₂ emissions increased to 2.92 million tons in 2003, a 40 thousand tons increase over 2002.

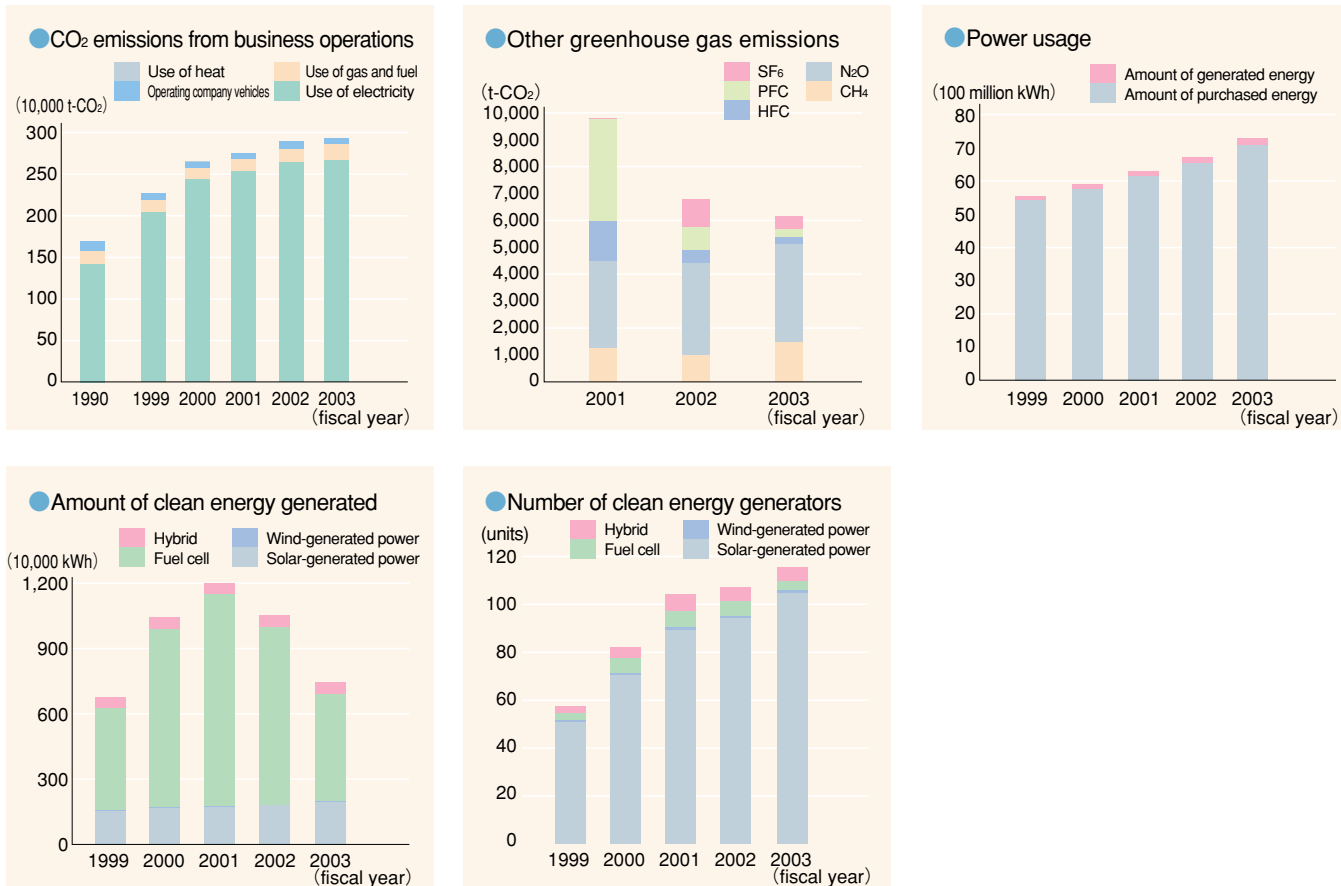
Looking at trends over the past five years, we have pushed CO₂ emissions down by some 450 thousand tons in line with our target goals, but increasing emissions linked to the spread of IT services and rapid spread of cell phones has more than offset the reductions. Considering the enormous changes that have affected the state of the information and communications sectors since 1999 when this target was set, we are now in the process of reassessing our target CO₂ emission targets.

Total Power Revolution (TPR) campaign initiatives

- Promote better energy management in 4,000 NTT buildings nationwide
- Deploy and upgrade energy-efficient power equipment and air conditioners
- Deploy telecom equipment and build networks that consume less power (convert servers, routers, and other broadband-related equipment to dc power supplies that consume less power)
- Improve power self-sufficiency through development of solar, wind, and other clean power generation technologies

*1 ADSL (Asymmetrical Digital Subscriber Line): A technology for sending high-speed data over existing metallic telephone lines.

*2 FTTH (Fiber-to-the-home): A service for delivering data all the way to the home over optical fiber.



Prevent Global Warming Through Use of Clean Energy

Web search 14-1

As a strategy to reduce CO₂ emissions, NTT began an aggressive effort to deploy solar-powered generators, a clean energy source that does not give off greenhouse gas emissions, back in 1996. During 2003, ten new systems with a generating capacity of 120.7 kW were deployed and put into service in NTT DoCoMo's new buildings and NTT WEST outdoor telecom installations. In combination with the preexisting base of 106 systems, this brings the annual power output from solar-powered generators to 7.417 million kWh, for a reduction of 963 tons of CO₂ emissions.



Solar power generation system

Reduced CO₂ Emissions Through Introduction of Low-Pollution Vehicles

Web search 14-2

The NTT Group is moving to reduce CO₂ emissions from the company's vehicles by employing more hybrid, natural gas, and other low-pollution vehicles. The number of low-pollution vehicles in the company's fleet increased by 61 vehicles over 2002, for a total of 566 low-pollution vehicles in NTT group's fleet. We will be making an aggressive effort to convert an increasing percentage of the company's fleet to low-pollution vehicles in the years ahead.



Appearance of a natural gas-powered vehicle

Promote Spread of Electronic Bidding to Prevent Global Warming

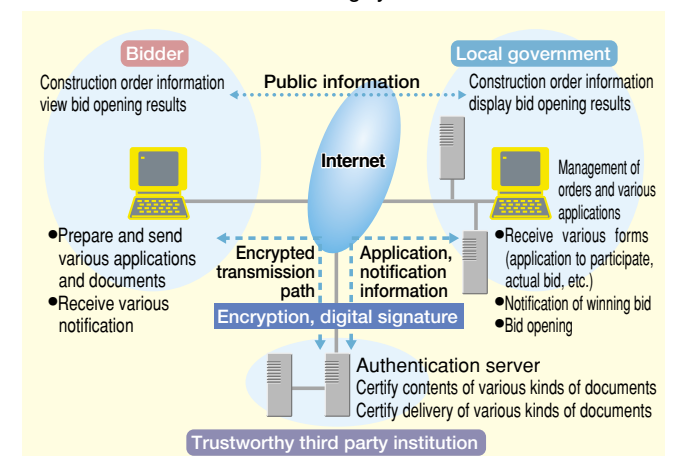
Web search 14-3

In support of the government's e-Japan strategic initiative, the NTT Service Integration Laboratories developed an electronic bidding system that enables local government to conduct bidding and tendering operations online using the Internet and personal computers, and is aggressively promoting the system to local governments nationwide.

Yokosuka in Kanagawa Prefecture was the first municipality to adopt the system in September 2001. The system proved an immediate success and was rapidly adopted by other cities including Shimonoseki and Tsukuba, on the prefectural level by Saitama Prefecture, and many other local governments. As of the end of 2003, the e-bidding system has been adopted by 30 local governments.

By digitizing the process of submitting bids and tenders, all the paper forms and the energy that would ordinarily be expended in traveling to the bidding site are saved, so assuming that the e-bidding system was adopted by all prefectural governments, it is estimated that 2,302 tons of CO₂ emissions could be reduced annually.*

Overview of the electronic bidding system



* Based on realistic assumptions that 20 companies participate in each tender bid offering, and 18,000 contracts are put up for bid every year.

We contribute to the formation of a recycling-oriented society by curbing the discharge of waste products while increasing the recycling rate.

Curbing Discharge of Waste Products and Increasing the Recycling Rate

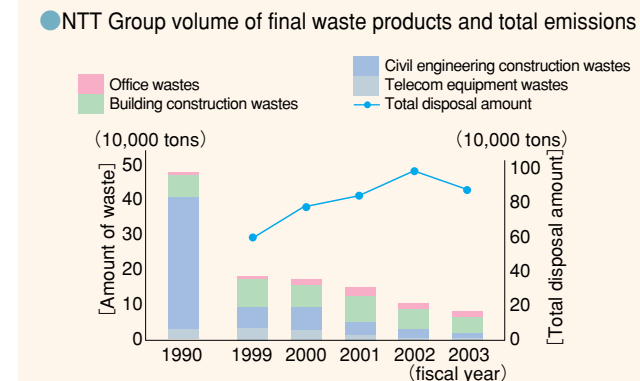
Web search 15-1

Development of a resource recycling-oriented business model requires efficient use of less resources, efforts to reduce the discharge of waste products, while at the same time increasing the recycling rate.

Committed to reduce the final disposal volume of waste products to less than 15% of the 1990 level by the year 2010 as one of its principal activity targets, the NTT Group is making good headway toward this goal by reusing and recycling decommissioned telecom equipment, recycling building and public works related waste products, and recycling office waste products. As a result of these efforts, the volume of final waste products (final disposal amount) reached 77 thousand tons in 2003, the lowest level since 1999. This can largely be attributed to a 110 thousand tons drop in waste disposal amount since last year, but was also helped by an increased rate of recycling.

Our efforts will continue to focus on further increasing the recycling

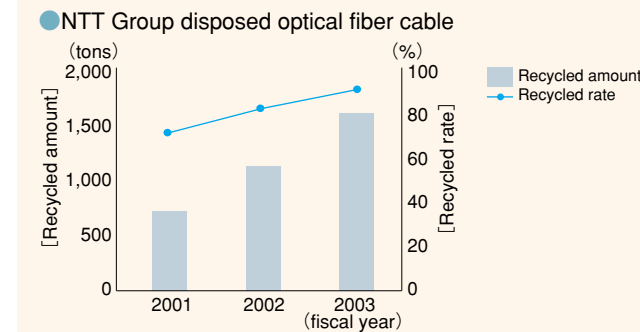
rate of waste products to reach our ambitious 2010 target for reducing our environmental impact.



Recycle of More Than 92% of Decommissioned Optical Cable

Web search 15-2

Increasing amounts of optical cable are being deployed every year as broadband network continues to evolve, and the recycling of disposed optical fiber cable has emerged as a major issue. Until recently, disposed optical fiber cable was simply disposed of by burning, but in 2001 the NTT Group developed a practical disposed optical fiber cable recycling system that permits the cable sheathing as well as the core to be disassembled and sorted into separate materials. In 2003, 1,760 tons of disposed optical fiber cable were collected and 1,628 tons were recycled. This represents a recycle rate of 92.5%, an improvement over 2002 of 8.7%.



Development of the Long-Life Eco Steel Telephone Pole to Reduce Environmental Loads

Web search 15-3

Along with concrete telephone poles, steel telephone poles are a critically important infrastructure for supporting telephone and broadband services, and both NTT EAST and NTT WEST own a huge number of steel poles all across the country. Both companies have jointly developed a long-life eco steel telephone pole. The bottom part of this pole is protected from corrosive underground environments with PET*1 powder coating. This coating significantly increases the life time of steel telephone poles, resulting in an equivalent reduction in natural resources and energy required for the production of poles. The high mechanical durability of the coating makes used poles reusable. The steel is recycled in economical systems already established in the society. All these combined give the pole "3R" credit.*2 This coating eliminated all

the toxic contents existent in the previous coating, and no organic solvent that is a cause of photochemical smog is used in the coating process.

*1 The same plastic material used in PET plastic bottles. PET is an abbreviation for poly(ethylene terephthalate).

*2 Eco steel telephone poles epitomize the triple R's of environmental concern: reduce, reuse, and recycle.



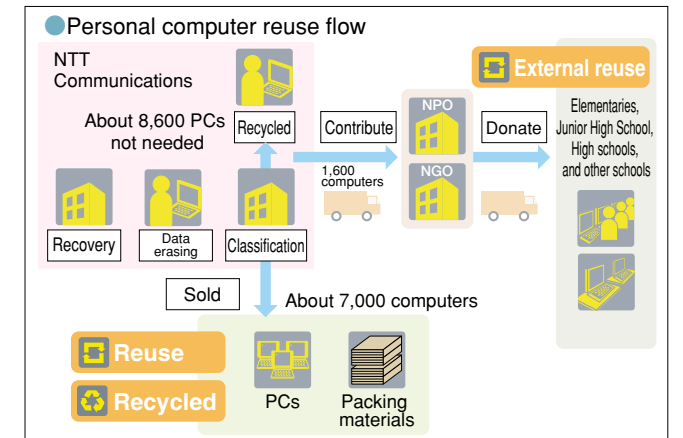
1,600 Personal Computers are Donated to Elementary Schools, Junior High Schools, High Schools, and Other Schools Over the Country

Web search 16-1

As computers renewal of the whole company, NTT Communications adopted the environmental policy "to reuse the personal computer which became unnecessary in the company as much as possible." From October 2003 to the end of the year, 600 computers were donated via the environmental NGO and another 1,000 computers were also presented to elementary schools, junior high schools, and high schools spread all across the whole country through the NPO.

The entire staff made the effort to find the way of reusing and recycling all old computers that were not donated and even the packing material that came with the computers. As a result of that, they could realize, "zero-waste" renewal of all computers in the company.

To ensure the confidential information leak prevention, the hard disks of the all donated personal computers crased completely under the strict security policy.

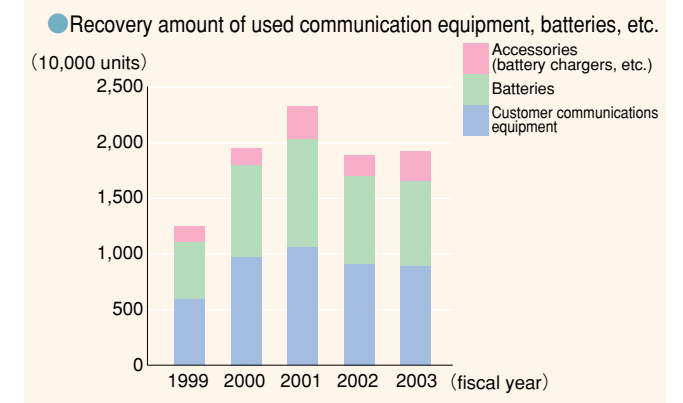


Recovery of Used Communications Equipment

Web search 16-2

A serious concern of the NTT Group in its environmental protection efforts is how to recover used and no longer needed communication equipment and attachments. NTT EAST and NTT WEST are now mounting a proactive effort to recover small rechargeable batteries (nickel cadmium batteries, lithium-ion batteries, etc.) used in business, residential, and cordless phones as well as toner cartridges from ordinary paper fax machines. At the same time, NTT DoCoMo is making efforts to collect the full range of used mobile phone equipment including cell phones, car phones, PHS phones, batteries, and battery chargers.

In 2003, working in cooperation of its customers, NTT EAST and NTT WEST recovered 320 thousand rechargeable batteries, while the NTT DoCoMo Group successfully recovered 8.84 million phones, 7.36 million batteries, and 2.68 million chargers and other equipment.



Mobile Phone Service Provider Uses Desk Holder Recycled Plastic for the First Time

Web search 16-3

In May 2003, NTT DoCoMo became the first mobile phone service provider to use recycled plastic (ABS) from used cell phone desktop recharging units as a material in new models. While recovered plastic components have been used in the past for auto parts and in other industries, in this case greater efficiencies are realized as the material is reused within the same industry, thus streamlining the distribution channel.



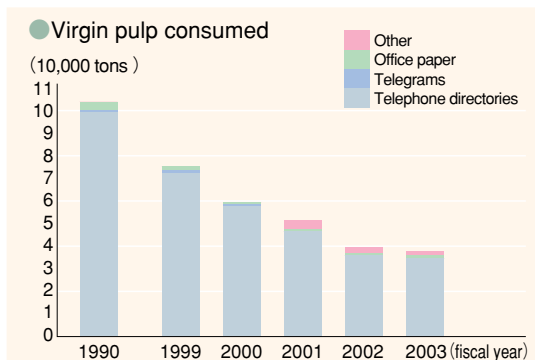
Desktop recharging unit using recycled plastic

Efforts to reduce use of paper resources by recovering and recycling.

Efforts to Reduce Use of Virgin Pulp

Web search 17-1

To conserve world forests that help reduce atmospheric pollution as well as global warming, the NTT Group is taking steps to curtail its use of paper, especially the use of virgin pulp. We drastically reduced our consumption of virgin pulp from 105,000 tons in 1990 to 37,000 tons in 2003 by recycling telephone directories, using recycled paper in offices, and adopting online bill-paying and other paperless systems. This reduction to 37,000 tons greatly exceeds the target we initially set in "Principal Activity Targets for the NTT Group" of 84,000 tons, so we are now considering what our new goal should be.

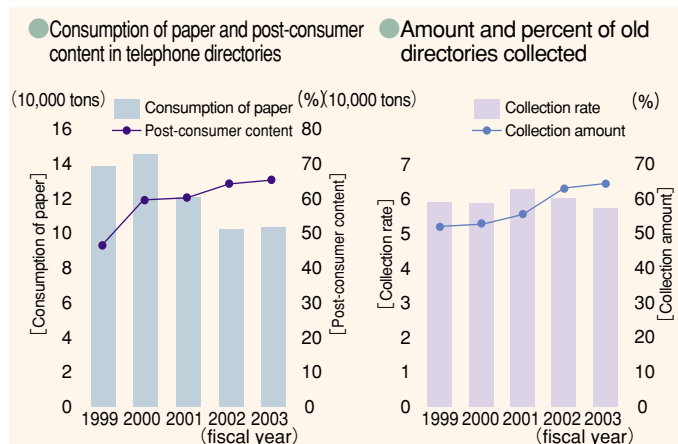


Recycling Telephone Directories and Increasing the Proportion of Post-Consumer Content

Web search 17-2

To lessen the impact of producing telephone directories, the NTT Directory Services developed a closed-loop directory recycling system that collects outdated telephone directories and recycles them to make new directories. We have been producing directories made by this process since edition released in September 2001. Thanks to an aggressive old directory collection effort, our recovery rate in 2003 was up to 65%, which is equivalent to 57,000 tons of material. We also pushed up the proportion of old directory material, and we are now producing directory grade paper with about 66% post-consumer content.

We have also looked for ways to cut down on the volume of paper needed to produce directories by reevaluating the way we publish Hello Page directories and by checking with people to make sure that they really need a directory when they install a phone or move into a house.



Reduction of Paper Use with Digital Maps

Web search 17-3

One effective way to reduce the amount of paper we use is to change information into electronic data. From October 2000, NTT-ME Group, consisting of NTT-ME Corporation, NTT-Neomeit Corporation, and a number of other companies, began offering large-scale digital maps produced by NTT-ME Group. Covering all of Japan, the maps include geographical features that are constantly modified by NTT-ME Group. The maps have been used not only by the NTT Group but by government offices and public-service corporations as well. To satisfy the demand for increasingly diverse and higher level geographic information systems, NTT-ME group's mapping technology was upgraded in September 2003 to accommodate longitude and latitude projections, Geodetic Coordinates 2000, and several other file formats such as ESRI Shape.



Sample image of the detailed country-wide digital map. Color of features and size of character fonts can be easily varied by setting appropriate parameters in the application.

Efforts to catch environmental pollution problems before they occur.

Promotion of Group-Wide Initiatives to Address Potential Environmental Risks

Web search 18-1

Beginning with the company's discovery of soil contamination through voluntary soil surveys, NTT Group has developed various guidelines and checklists to catch potential problems early on or even before they occur, including procedures to ensure sewage treatment parameters do not exceed acceptable

standard levels, to monitor storage of PCBs, and to deal with electromagnetic emissions. No incidents involving soil pollution or water pollution occurred in 2003.

Progress in the Removal and Proper Storage of Articles Containing PCB

Web search 18-2

The NTT Group is making good headway in the removal and proper storage of articles containing PCB in compliance with the PCB Special Measures Law, and also provides the government with detailed reports regarding the PCB Special Measures Law and the Telecommunication Business Law. The PCB removal process continued through 2003, and an inventory revealed that 2 transformers, 95 condensers, and 9,518 stabilizers containing PCB still remain in the field. The table at the right shows the number of PCB-containing items now in storage, and we will continue our removal and storage efforts in the coming years.

Quantities of articles containing PCB in storage

	2003 (fiscal year)
Transformers (units)	161
Phase advance condensers (units)	2,683
Embedded condensers (units)	3.5
Stabilizers (10,000 units)	51
Non-carbon paper (tons)	15.6
Waste oil (liters)	2,179

Every Single Person at the Center Actively Committed to Environmental Conservation and Improvement

Web search 18-3

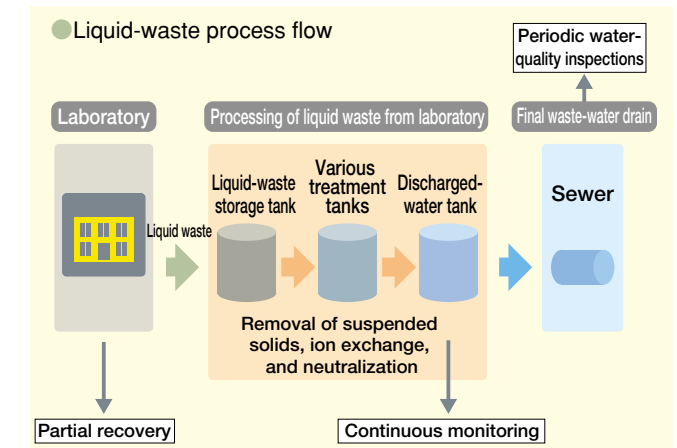
As a priority policy for environmental conservation, NTT Science and Core Technology Laboratory Group (Atsugi R&D Center) is taking active measures to address the proper management of chemical substances.

In developing cutting-edge nanotechnology-based devices, the Center employs a wide variety of chemical substances. Therefore, three fundamental principles have been established for the handling of these substances: "Use chemicals that have the least adverse impact on the environment;" "Use only those substances that are absolutely necessary;" and "Never use more of a particular substance than is required." Every effort is made to minimize the environmental burden.

The use of chemical substances may generate waste matter (solids and liquids) that may include environmental pollutants. Waste solids are collected and their disposal is commissioned to reliable specialist companies. Waste liquid is processed in a dedicated facility within the Center, and released to public sewers only after water quality tests verify that pollutant values do not exceed official drainage standards. Furthermore, the Center conducts regular inspections of the atmosphere, sewage, groundwater, soil, etc., to watch for any environmental contamination.

Systematic upgrading and improvement are required to assure the efficient performance of environmental equipment. In fiscal 2003, we upgraded and improved some of our equipment, including scrubbers (exhaust processing facilities), and the facility that furnishes chemicals for waste liquid processing.

While it is true that measures involving facilities and equipment such as those described above are necessary for the proper management of chemical substances, the most important requirement is that the people who handle chemical substances strive to reduce of the impact of such substances on the environment. The Center acquired ISO 14001 certification in December 1999, and every single person working at the Center is actively involved in tackling issues relating to conservation and improvement of the environment.



Pursuing research and development on advanced technologies contributing to reduce the environmental load.

Promoting R&D on Advanced Environmental Technologies

Web search 19-1

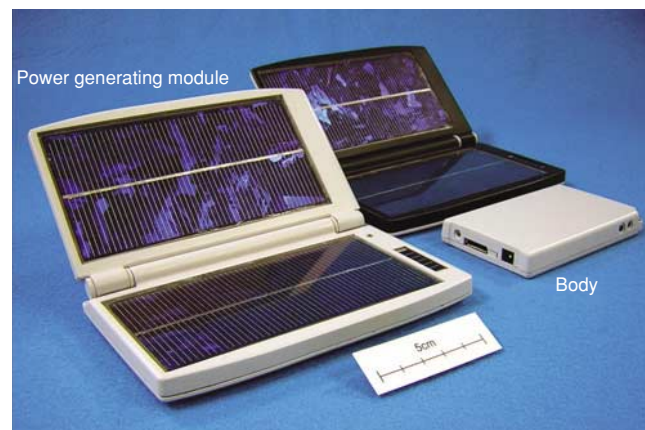
The NTT Group has been making solid progress toward reducing the environmental impact of its own corporate activities and reducing the environmental load of society through IT services based on "NTT Group Ecology Program 21." The company carries out extensive R&D on advanced environmental technologies. Here

we will highlight some of the R&D achievements from 2003 including a solar-powered mobile power source, a compact power-efficient optical modulator, and a method for analyzing the ripple effects of IT services.

Development of a Clean Energy Solar-Powered Mobile Power Source

Web search 19-2

NTT Energy and Environment Systems Laboratories developed Solar Card Power, a compact yet powerful solar-cell-based mobile power source that can supply power to a range of mobile devices. This device for the first time overcomes the inherent drawbacks of solar cells—relatively low output power and poor stability—by incorporating a low-voltage input booster circuit. Solar Card Power stores the power it generates, and is capable of stably supplying about double the power of the batteries in a cell phone. To realize the potential of this technology, consider that if all 80 million cell phone AC adapters were converted to Solar Card Power, CO₂ emissions could be reduced by 85 thousand tons a year. This would be equivalent to the CO₂ absorption of an immense forested area twice the size of the land enclosed by Yamanote Loop Line in central Tokyo.



Solar-powered mobile power source (prototype)

Development of an Environmentally Friendly Optical Cable Deployment Method

Web search 19-3

Determined to develop an environmentally friendly method of deploying underground optical cable, NTT Access Network Service Systems Laboratories came up with the "pipe insertion method" the permits cable to be deployed without opening up a trench.

This method can be used when new cable is installed in existing conduits that have enough room to accommodate the new cable. Essentially the way it works is that a deflated flattened length of pipe is inserted all the way into the conduit, then expanded using air pressure to create a nice smooth cylindrical space into which the new optical cable can be easily inserted. This new method gives us access to space in conduits that was practically impossible to use before, and thus avoids costly and disruptive open-trench conduit extension construction. The environmental impact of this new approach has been dramatic. Using the method to deploy optical

cable in 500 conduit section, it is estimated that the environmental impact of the construction was reduced by 98% compared to if conventional open trench pipe extension construction was used.

CO₂ emissions for open trench construction versus the pipe insertion method

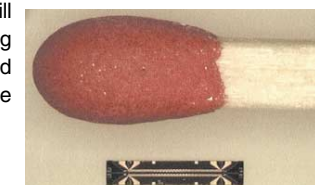
Construction method	Amount CO ₂	Number assumed construction sites
Cable deployed by open trench construction	318.0 tons	500 sites
Cable deployed by pipe insertion method	7.6 tons	500 sites

Development of a Compact Power-Efficient Optical Modulator

Web search 20-1

Optical modulators modulate intensity of the light emitted from semiconductor lasers and generate high speed digital optical signals. They are a key component for optical fiber transmission systems. Now NTT Photonics Laboratories has developed an optical modulator that is only 1/20 the size of conventional devices and only consumes 1/3 the power of conventional devices. The performance of the device is equally remarkable: it is capable of sending signals twice the distance at 40 gigabits per second, approximately four times the speed of

conventional devices. This part will likely play a key role in supporting environmentally friendly broadband communications that enhance the quality of peoples' lives.



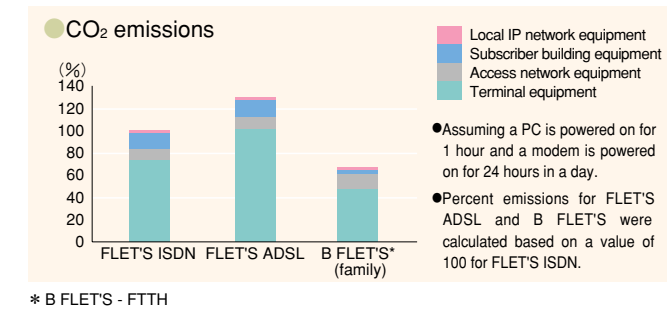
Optical modulator that consumes 1/3 the power and is 1/20 the size of conventional devices

LCA of IP Connection Services

Web search 20-2

In order to assess the environmental burden of information and communication services, NTT Information Sharing Laboratory Group is pursuing research and development on Life Cycle Assessment (LCA). Going beyond the LCA studies that have been done on local and domestic long-distance telephone services, LCA comparisons are now being conducted to evaluate their environmental impact of IP connection services in cooperation with NTT EAST. Based on this comparison, we determined that the order of diminished impact on the environment is FTTH, ISDN, ADSL. We also found that the environmental burden of power consumed by individual subscribers to run personal computers, modems, and other terminal equipment is substantially greater than the burden imposed by network-side equipment. This underscores the

importance of turning personal computers and modems and other equipment off when the equipment is not being used.



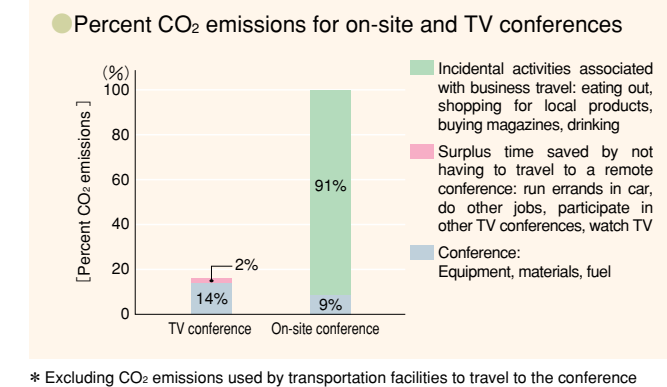
Analysis of the Environmental Ripple Effects of IT Services

Web search 20-3

TV conferences is expected to save the time and energy that would be consumed for traveling to a venue conventionally. Meanwhile there are ripple effects, such as the additional energy consumption for substitute activities during the additional free time due to a lack of business trip. The ripple effects should be taken into consideration for more realistic analysis. NTT Energy and Environment Systems Laboratories has analyzed the factors contributing to such IT service ripple effects and proposed a method to quantify environmental impacts that includes the ripple effects. Based on questionnaire results (goo Research, 1,100 valid responses), the researchers analyzed CO₂ emissions for a TV conferences and a face-to-face meeting, and reached a number of interesting findings:

- More CO₂ were emitted due to videoconferencing itself than a face-to-face meeting.
- The amount of CO₂ emissions from incidental activities for a face-to-face meeting was greater than the CO₂ emissions from the substitute activities for business trip in the videoconference case.
- The CO₂ emission from transportation for a face-to-face meeting was about 20 times that of a videoconference.

Totaling these various factors, it was found that the CO₂ emission from a face-to-face meeting was about 100 times that from a TV conferences.



As a good global citizen and IT service provider, we are fully committed to activities contributing to environmental protection.

Involvement in Environment Activities at the Local Level

Web search 21-1

Think globally while acting locally is a fundamental key to protecting the global environment. Initiatives that are closely connected to local communities include "Operation Clean Environment" and the ongoing "DoCoMo Woods" program to groom forests and maintain

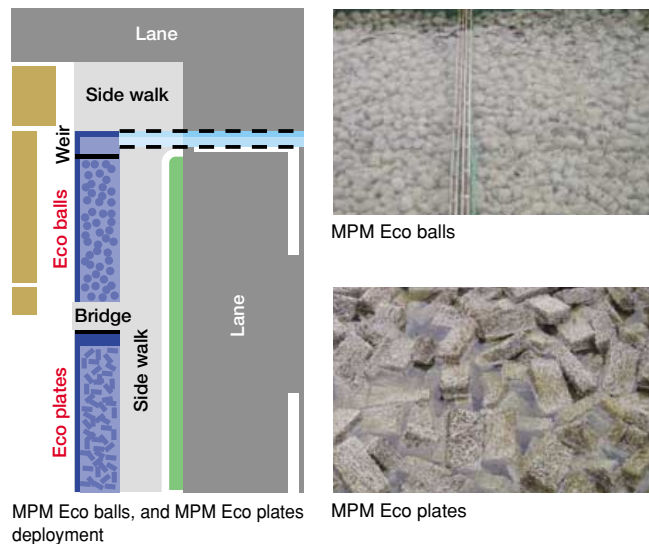
trails. Other environmental supports activities in 2003 include the development of a novel environmental purification and cleanup agent using sludge produced as a byproduct when recycling used paper, and an IT-based monitoring system to thwart illegal dumping.

Involvement in a Project to Clean Up the Cooperative Project to Clean Up Yoda River near Kakogawa City

Web search 21-2

NTT Access Network Service Systems Laboratories has been working on a new material called Micro Porous Material (MPM) made of incinerated ash of sludge produced as a byproduct when recycling paper that is very effective for purifying water and noxious gases. In a cooperative project with the Hyogo Branch Office of NTT WEST, the MPM has proved effective at cleaning up a stretch along the Cooperative Project to Clean Up Yoda River near Kakogawa City. Ultimate proof of the success of this project is that the fireflies have returned to the river's banks after a long absence due to pollution.

The MPM exhibits high cation exchange and remarkable absorption properties. It was found that by lining the river with MPM balls or plate shaped pieces of MPM, the Biochemical Oxygen Demand (BOD), an index of organic pollutants, fell by 80% and there was a 40% drop in nitrogen and phosphorus in the water. The MPM used for water cleanup was found to be saturated with nitrogen, phosphorus, and other nutrients used in fertilizers. Since the MPM is mainly composed of soil, the additional nutrients picked up from the water can later be returned to the soil to complete the natural cycle.



MPM Eco balls, and MPM Eco plates deployment

MPM Eco plates

Monitoring and Protection of Mount Fuji Using Camera-Mounted Cell Phones and GPS

Web search 21-3

Areas around the base of Mount Fuji are strewn with abandoned cars, broken furniture, waste wood materials, tires, and all sorts of industrial garbage that have been illegally dumped there. DoCoMo Systems stepped in to help the Mount Fuji Club, a non-profit organization dedicated to preserving and protecting the mountain's beauty, by developing a system based on camera-mounted cell phones and the satellite-based global positioning system (GPS) to take pictures and map the illegal dumping sites. Armed with this data collected by the system, the Mount Fuji Club sends updates and notifications to the government, compiled a "Mount Fuji Garbage Map," and put up a website to draw people's attention to the issue.



When pictures are taken of dumped garbage by a camera-mounted cell phone, the exact position is registered over the network by GPS.

DoCoMo Woods Promotes Forest Conservation Together with Local Communities

Web search 22-1

DoCoMo Woods is a forest maintenance initiative started by the NTT DoCoMo Group as a part of our natural environmental protection activities. We have been implementing the project since 1999, making use of the "Corporate Forests" system of the Japan Forestry Agency. The objective of this reforestation effort is to deepen information exchanges between DoCoMo employees, along with their families, and local residents, while preserving rich ecosystems and beautiful landscapes through such forestry activities as planting trees, clearing brush, and maintaining hiking trails.

As of March 2004, DoCoMo Woods had been established in 22 locations and some 4,400 employees and their families have taken part in the activities. Next year, we plan to establish DoCoMo Woods in Kyushu, so there will be a program set up in every region where the DoCoMo Group is represented. We plan to continue expanding the program until DoCoMo Woods is established in every prefecture throughout the country.



Employees participated in tree planting, tree thinning, the maintenance of trails, and bench making in the DoCoMo Yamato Matsukura Woods, Miyagi Prefecture, October 2003.

Initiatives to Promote Environmental Communication

Web search 22-2

The NTT Group is committed to providing full public disclosure of its ongoing environmental protection activities through its website and pamphlets such as this report. We also endeavor to inform as many people as possible both inside and outside the company about NTT's environmental activities and positions through aggressive communication efforts including newspaper and magazine ads, environmental events, and other ways.

In a series of ads running in newspapers and magazines in 2003 we highlighted the beneficial effects of IT services for reducing the environmental load and the potential of IT for helping the global environment with the catch phrase "IT—the right solution for our future vision and the globe."

Disclosure of information and communication about the

environment is further supported by websites and reports supported by NTT EAST, NTT WEST, and other group companies.

Websites introducing environmental protection activities of main NTT Group companies



NTT EAST



NTT WEST



NTT Communications



NTT Data



NTT DoCoMo



NTT Group



Newspaper ads caught peoples' attention with the catch phrase "IT — the right solution for our future vision and the globe".

2003 Activities, Facts and Figures

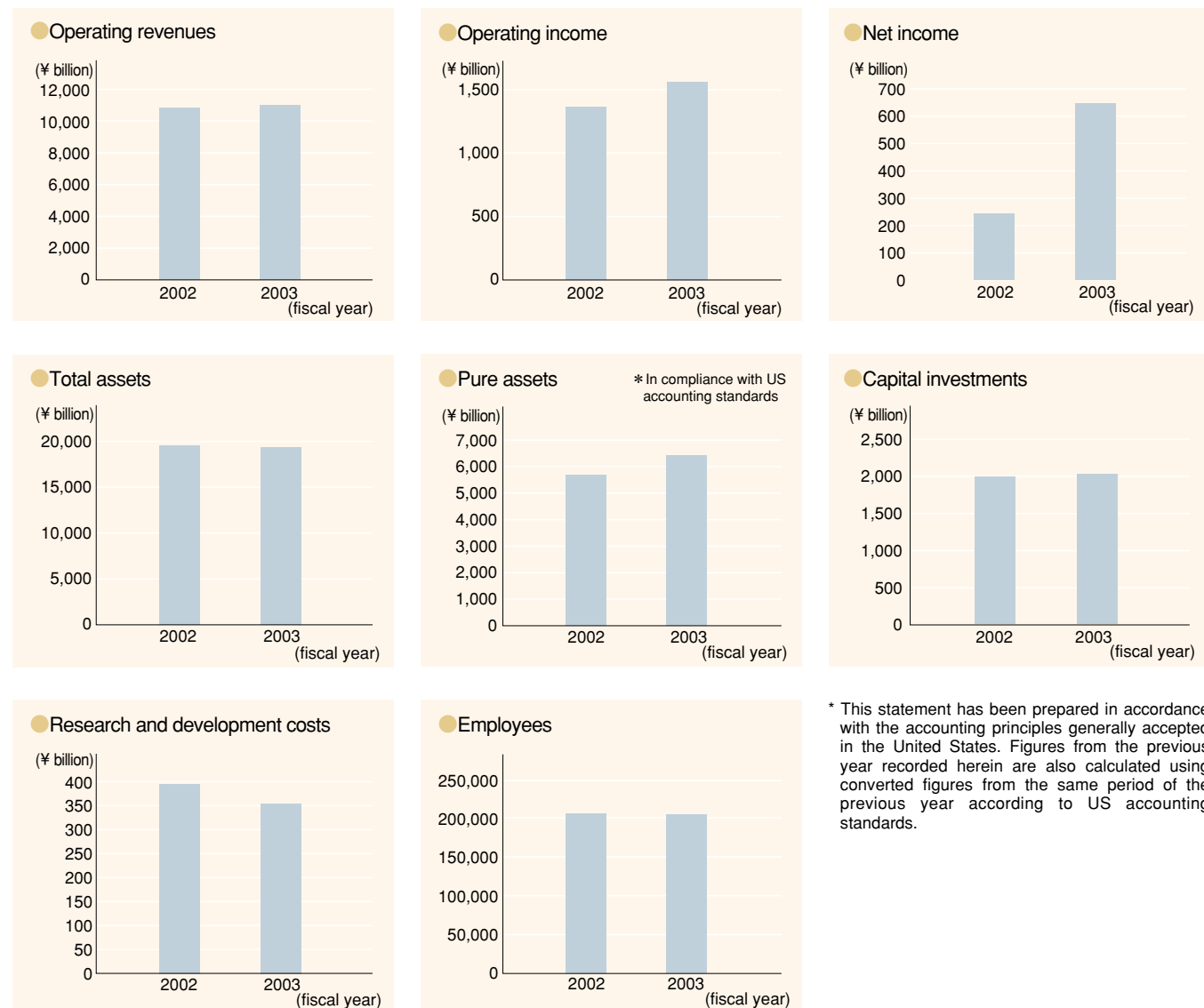
Web search 23

Profile of NIPPON TELEGRAPH AND TELEPHONE CORPORATION

(as of March 31, 2004)	Company name	NIPPON TELEGRAPH AND TELEPHONE CORPORATION (NTT)
	Address	3-1 Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8116, Japan
	Established	April 1, 1985
	Capital	937.95 billion yen
	Number of employees	3,056
	Website	http://www.ntt.co.jp/index_e.html

Consolidated profile (as of March 31, 2004)	Number of employees	205,288
	Number of companies	347

Economic Performance



* This statement has been prepared in accordance with the accounting principles generally accepted in the United States. Figures from the previous year recorded herein are also calculated using converted figures from the same period of the previous year according to US accounting standards.

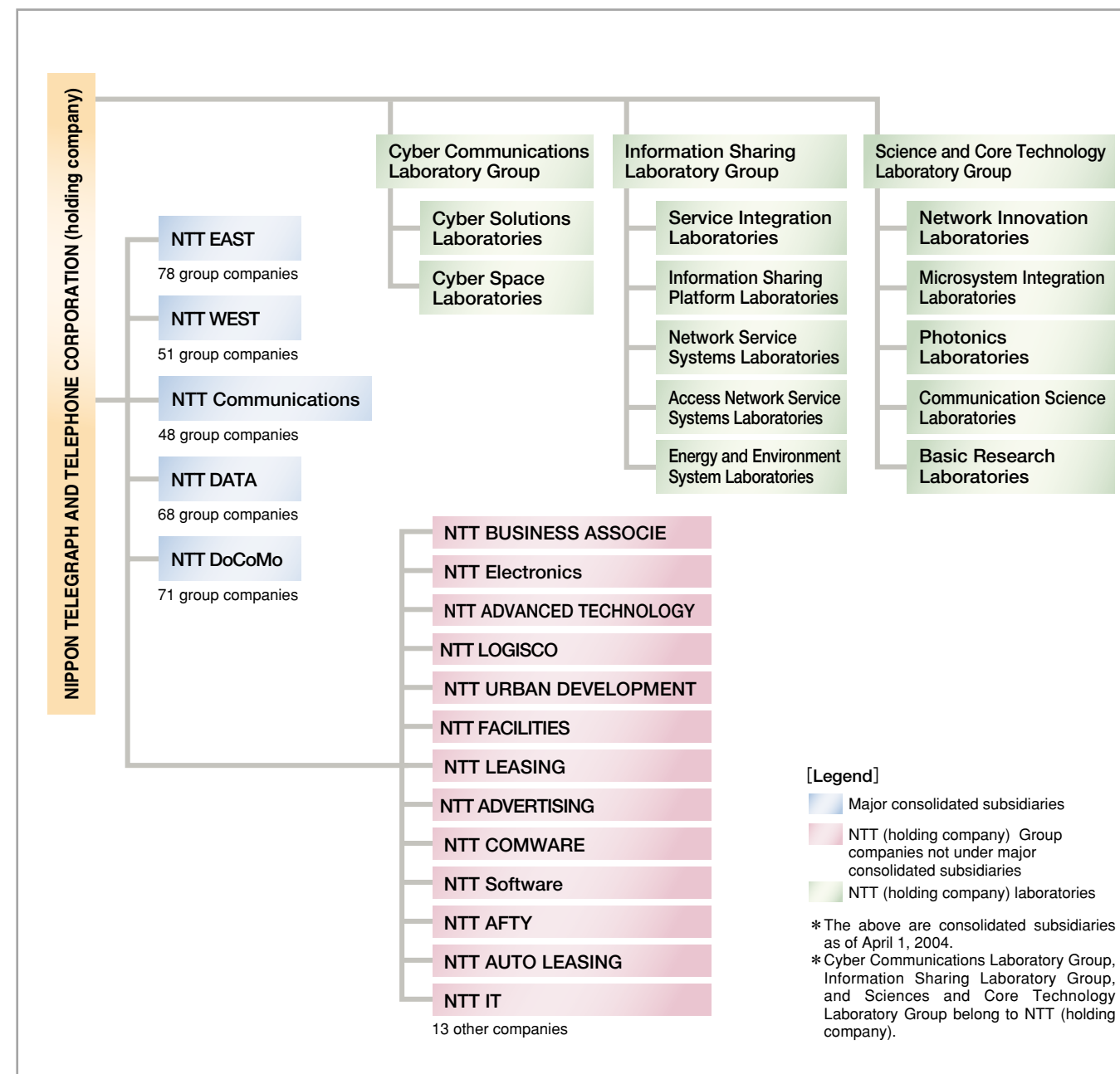
As of March 31, 2004

Web search 24

The NTT Group, with the holding company NTT at its core, offers a wide range of customer services through its wholly-owned subsidiaries NTT EAST, NTT Communications, NTT DATA, and NTT DoCoMo. Group companies such as NTT FACILITIES and NTT COMWARE maintain resources for the entire group, including software, communications facilities, power facilities, and buildings. Each subsidiary explores new business possibilities and endeavors in order to expand its business domains.

While each group company strives to expand and open up new business opportunities, research and development are the driving the unifying forces supporting these efforts. NTT Group has a highly unusual R&D arrangement in which basic R&D is centralized at NTT Laboratories while specific application R&D is supported by the various group companies.

NTT Group Companies



[Legend]
■ Major consolidated subsidiaries
■ NTT (holding company) Group companies not under major consolidated subsidiaries
■ NTT (holding company) laboratories

* The above are consolidated subsidiaries as of April 1, 2004.
 * Cyber Communications Laboratory Group, Information Sharing Laboratory Group, and Sciences and Core Technology Laboratory Group belong to NTT (holding company).

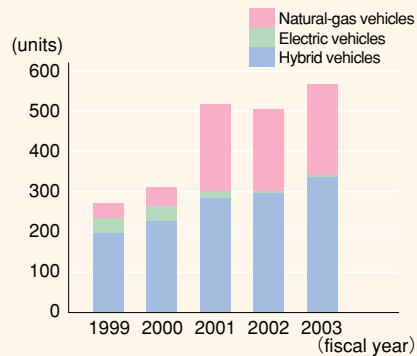
The NTT group's environmental protection activities are implemented in 430 companies including the consolidated companies above.

1. The unit "t" (tons) represents the amount of materials used.
2. For the amount of greenhouse gases, the unit "t-CO₂" is used. To convert the amount of CO₂ emitted with the use of electricity, calculate by the average electricity discharged coefficient 0.377 kg-CO₂/kWh.

Prevention of Global Warming

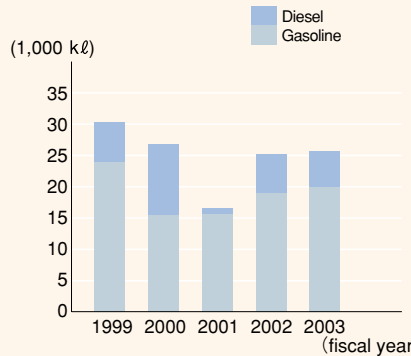
Web search 25-1

Number of low pollution vehicles



The numbers of low-pollution vehicles held by the company in 2003 were 336 hybrid vehicles, 4 electric vehicles, and 226 natural-gas vehicles.

Fuel consumption of company vehicles



Company vehicles in 2003 consumed 20,240ℓ of gasoline and 5,710ℓ of diesel fuel. This represents a 4.7% increase in use of gasoline and a 8.3% decrease in use of diesel fuel compared to 2002.

- CO₂ emissions from business operationsSee page 13
- Other greenhouse gas emissionsSee page 13
- Power usageSee page 13
- Amount of clean energy generatedSee page 13
- Number of clean energy generatorsSee page 13

Paper Resource Management

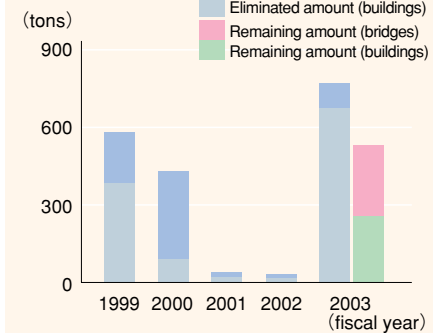
Web search 26-1

- Virgin pulp consumedSee page 17
- Consumption of paper and post-consumer content in telephone directoriesSee page 17
- Amount and percent of old directories collectedSee page 17

Environmental Risk and Measures Against Ozone Depletion

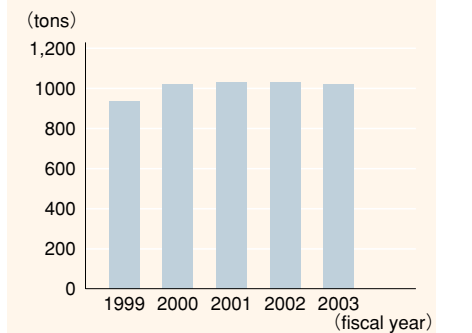
Web search 26-2

Asbestos emissions and remaining asbestos



A detailed survey of asbestos was carried out in 2003, and new comparison test equipment confirmed there are 259 tons of remaining asbestos in buildings and 275 tons of remaining asbestos in bridges in 2003.

Use of specified halon for fire extinguishing equipment

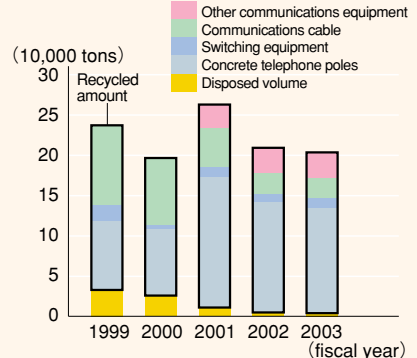


The amount of specified halons used for fire extinguishing equipment held by the company declined by 0.2% or 1,034 tons in 2003 compared to 2002.

Waste Management * Recycled amount is estimated based on part of a sample survey.

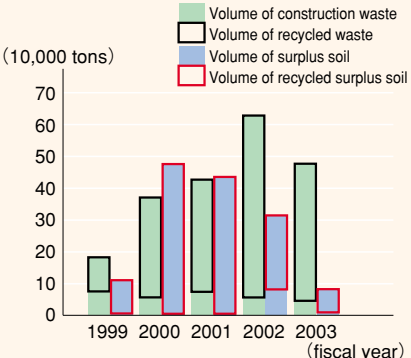
Web search 25-2

Volume of dismantled communications equipment



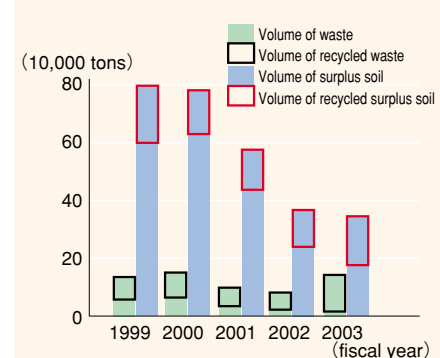
The total volume of dismantled communications equipment in 2003 fell by 204 thousand tons, or a decrease of 2.9% compared to 2002. The volume of dismantled communications equipment waste fell by 4,000 tons (20%) in 2003.

Waste and surplus soil from construction sites



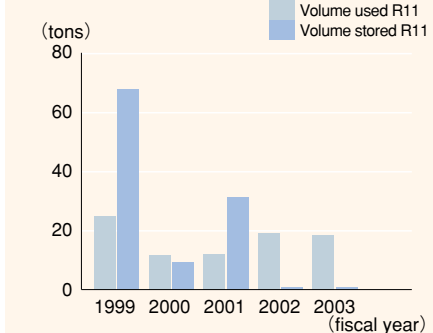
The total amount of discarded wastes from construction sites decreased by 24.1% or 478 thousand tons in 2003 compared to 2002, and the recycled amount was 433 thousand tons.

Waste and surplus soil from civil engineering sites



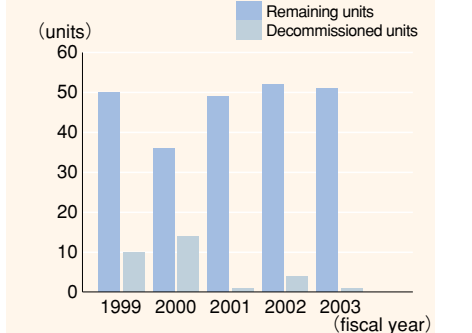
The total amount of discarded wastes from civil engineering sites increased by 52.2% or 140 thousand tons in 2003 compared to 2002, and the recycled amount was 126 thousand tons.

Amount of specified CFCs for air conditioners



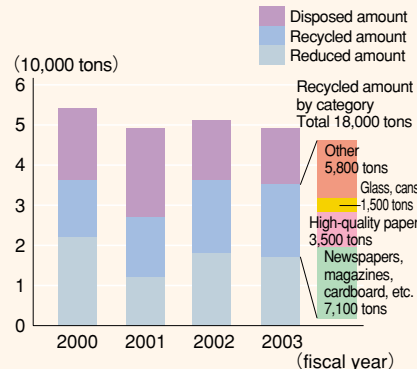
The amount of specified CFCs for air conditioners (R11) was reduced by 6.5% from 2002 to 18.6 tons. The amount of specified CFC for air conditioners (R11) held in storage was 0.6 tons, the same level as in 2002.

Number of dismantled and remaining turbo freezer units with specified CFCs



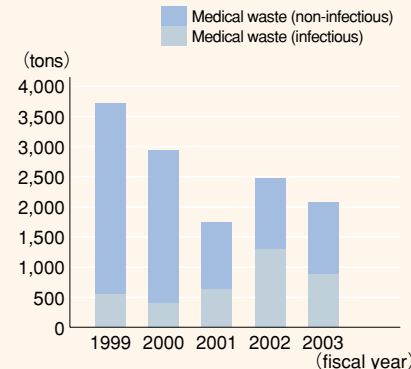
In 2003 one turbo freezer that uses specified CFC was dismantled, and 51 such freezers are still in service.

Volume of office waste



The total amount of discarded office waste decreased by 3.9% or 49 thousand tons compared to 2002. The breakdown shows a reduction of 17 thousand tons, a recycled amount of 18 thousand tons, and a final disposal amount of 14 thousand tons.

Volume of medical waste



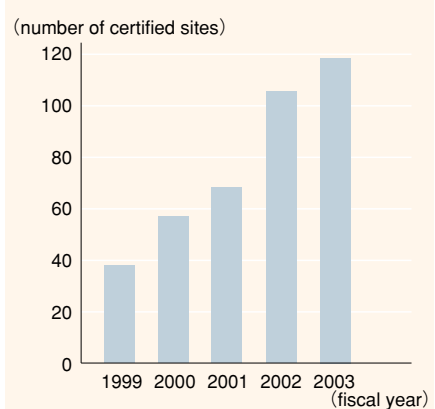
The total amount of discarded infectious medical wastes declined by 32.8% or 880 tons compared to 2002, while the amount of discarded non-infectious medical wastes increased by 3.5% or 1,214 tons.

- NTT Group volume of final waste products and total emissionsSee page 15
- NTT Group disposed optical fiber cableSee page 15

Environmental Management System

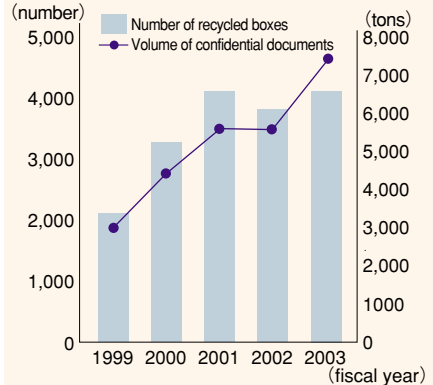
Web検索 26-3

ISO 14001 certification for NTT Group



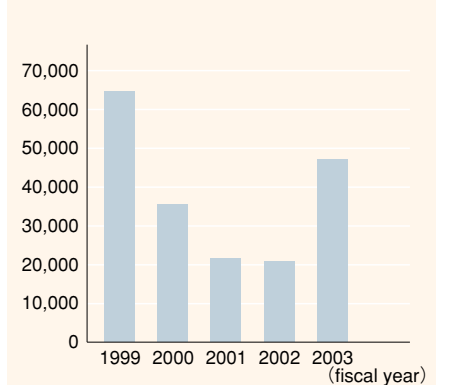
The number of sites with ISO 14001 certification increased by 13 sites in 2003 for a total of 118 sites.

Recycled boxes installed and volume of confidential documents



In 2003 the number of installed recycled boxes increased by 7.8% over 2002 to 4,107, while the volume of recycled confidential documents increased by 31.9% to 7,432 tons compared to 2002.

Number of participants in "Operation Clean Environment"



In 2003 some 26,407 additional employees took part in Operation Clean Environment over the year before, for a total of 46,630 participants.