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NTT WEST GROUP
Environmental Report
2011

NTTWEST

Review 11-2068-2

CONTENTS

We will utilize "ICT solutions" for reducing environmental load to contribute to the protection of global environment.

大竹 伸一
Shinichi Otake
President
Nippon Telegraph and Telephone West Corporation

NTT Group has, based on the "NTT Group Charter for Global Environment," engaged in activities to protect the global environment by setting targets to achieve by FY 2010 as voluntary action plan targets. Taking into consideration reasons such as prospect that all the targets will be achieved in FY 2010, as well as the growing importance of "conservation of biodiversity" in our society following the convention of the "tenth meeting of the Conference of the Parties (COP 10) to the Convention on Biological Diversity" last October, provisions related to the conservation of biodiversity has been added to the NTT Group Charter for Global Environment last November. At the same time, an NTT Group Environmental Vision, named "THE GREEN VISION 2020," has also been established to set forth policies on the efforts up to FY 2020.

The vision focuses on activities based on three ongoing environmental themes, namely "creating a low carbon society," "implementing closed loop recycling," and "conserving biodiversity." As a member of NTT Group, NTT West Group is also engaging in global environment protection activities based on this vision. For example, to realize the "implementation of closed loop recycling," we have been working to reduce paper resources and wastes, such as by promoting paperless meetings as well as encouraging reuse and recycle. To achieve "conservation of biodiversity," we have been implementing activities such as tree planting. In particular, to enable "creation of a low carbon society," we believe it is necessary to put in effort to achieve further "reduction in power use," taking into consideration the fact that we are consuming a large amount of power in the communications services we provide to our customers.

Following the Great East Japan Earthquake in March 2011, NTT West Group has established a new set of policies on electricity saving, and each office is working to cut power use by 20% compared to the previous year. However, electricity saving is merely one of the many ways to reduce power use. NTT West Group has, for a long time, been promoting efforts to cut down on power use, such as through the Total Power Revolution (TPR) Campaign and other endeavors based on the "Guidelines for Green Procurement," such as purchasing eco-friendly products that consume a smaller amount of electricity. Besides continuing to promote such efforts within the Group, we also plan to continue proposing ideas to reduce power use to our customers.

Last year, NTT West Group expanded the scope of its eco office activities from the existing energy and resource saving measures in the offices to include ICT solutions for resolving various issues in the office environment, such as "enhancing work efficiency," "enhancing security" and "BCP countermeasure," as well as the establishment of three model offices in Osaka, Nagoya, and Fukuoka, which adopt an office design that enables employees to communicate with each other in diverse ways. Customers are able to "see, touch, and feel" the actual office environment at these model offices. As an ICT company, we promise to make contributions toward protecting the global environment together with you by continuing to utilize various ICT solutions useful for reducing the environmental load to propose new working styles and lifestyles.

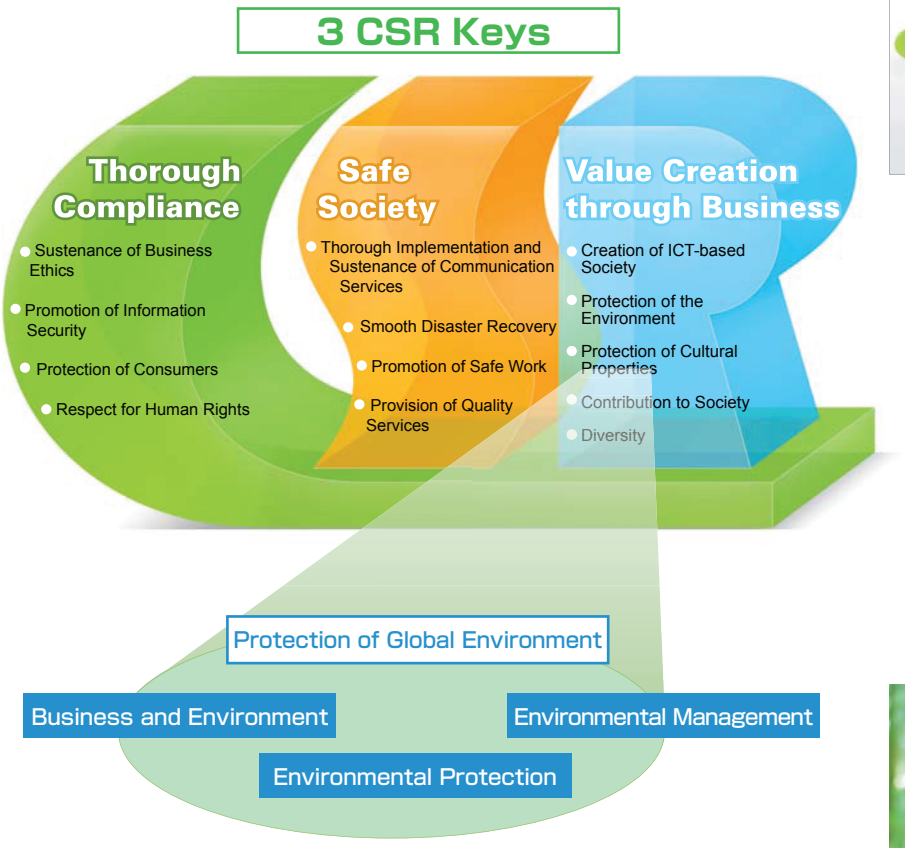
NTT West Group Environmental Report 2011

Believing that it is a corporate social responsibility (CSR) to realize a sustainable society by paying attention to the environment, NTT West Group has been engaging in environmental conservation activities, and reporting details of these activities in the Environmental Report since FY 2000.

Also, our CSR activities have been released through the CSR report since FY 2005.

We sincerely hope that you can read through these reports and send us your valuable comments to the following e-mail address.

To view our 2011 CSR Report, please visit http://www.ntt-west.co.jp/csr/2011/



To view our 2011 Environmental Report, please visit http://www.ntt-west.co.jp/kankyo/report/2011/

Reference:

■ “Environmental Report Guidelines 2007,” Ministry of the Environment

Applicable to:

■ 43 NTT West group companies and NTT Business Associe West Co., Ltd.

*Organization Charts　Branches　http://www.ntt-west.co.jp/corporate/branch/

Group Companies　http://www.ntt-west.co.jp/corporate/group/

Applicable period:

■ Based on records from April 2010 to March 2011

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Feature 1 | NTT Group Environment Vision "THE GREEN VISION 2020"

With the aim to realize the development of a sustainable society with human and the Earth coexisting in harmony, NTT Group has, in November 2010, established the NTT Group Vision for Environmental Contributions, named "THE GREEN VISION 2020," which sets forth policies on new efforts up to FY 2020 (Figure 1).

"THE GREEN VISION 2020" positions three ongoing environmental themes to be tackled in the future. They are "creating a low carbon society," "implementing closed loop recycling," and "conserving biodiversity."

3 Environmental Themes

1. Creating a low carbon society

To prevent global warming, we aim to realize a low carbon society by cutting down on CO_2 emission from our business activities, while at the same time spread the use of ICT services to contribute to CO_2 reduction in the entire society.

2. Implementing closed loop recycling

To make effective use of limited resources, we aim to realize the formation of a resource-circulating society by reducing all wastes generated from our business activities as well as cutting down on paper use.

3. Conserving biodiversity

To contribute to the conservation of biodiversity, we aim to improve and further develop our existing efforts based on the concept of the two newly-formulated approaches.

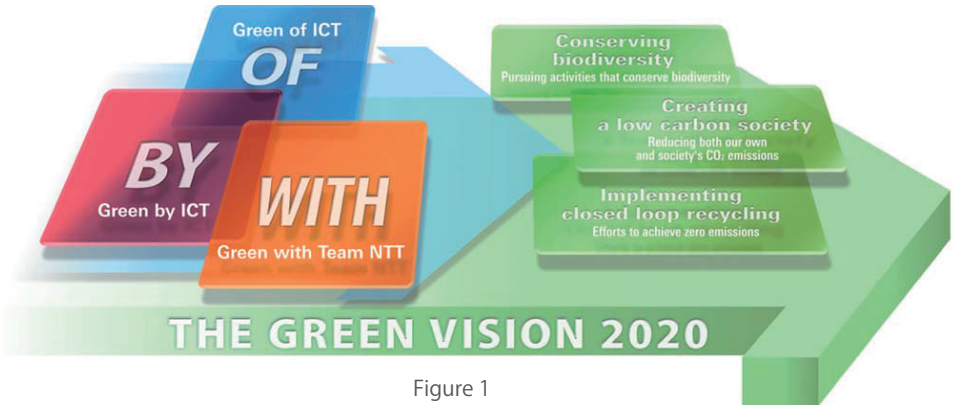


Figure 1

NTT West is also working to achieve the targets for the three environmental themes based on the three actions of "Green of ICT," "Green by ICT," and "Green with Team NTT."

"Environmental Grand Design" (New Voluntary Action Plan Targets)

NTT West Group has established the "Environmental Grand Design," which sets forth, in particular, targets for power usage reduction, paper usage reduction, and final waste disposal rate, in order to realize a low carbon society and form a recycling-oriented society.

With the voluntary action plan targets coming to an end in FY 2010, NTT West Group has positioned this Environmental Grand Design as the new voluntary action plan targets, and is reinforcing efforts to achieve them.

Our performance in FY 2010 with regard to the existing voluntary action plan targets is summarized below.

Existing Voluntary Action Plan Targets

Item	Action Plan Target* (for 2010)	Action	Performance
Global Warming Prevention	Total CO_2 emission To reduce, from 2010, at least 15% of the base unit contract quantity based on the amount in FY 2000	・Reduce CO_2 emission from power use ・Reduce CO_2 emission from company vehicles ・Reduce CO_2 emission from gas & oil fuel consumption	Achieved target with a base unit contract quantity of 18.9%
Waste Reduction	Final total disposal amount of industrial wastes 50% of the amount in 1998 or below (31,000 t or lower)	・Promote reduction and recycling of wastes generated from dismantled communication facilities ・Promote reduction and recycling of wastes generated from civil engineering works ・Promote reduction and recycling of wastes generated from construction works ・Promote reduction and recycling of wastes generated in offices	Achieved target with a final total disposal amount of 6,000 t

* The above targets will be reviewed in accordance with technological improvements for environment protection, laws and regulations, and international treaties, etc.

The targets to achieve by FY 2020, which are set forth in the Environmental Grand Design, the new voluntary action plan targets, are as follows.

Environmental Grand Design (New Voluntary Action Plan Targets)

Global Warming Countermeasures

To reduce total CO_2 emission by FY 2020 by 40%*1 compared to FY 2008.

(Reference)

CO_2 emission in FY 2008 was 910,000 t. *2

Reduction of Paper Resources

To reduce total paper usage by 2020 by at least 40% compared to FY 2008.

(Reference)

Total paper usage in FY 2008 was 39,900 t.

To reduce office paper usage per head by FY 2015 by at least 50% compared to FY 2008.

(Reference)

Office paper usage per head in FY 2008 was 9,900 sheets.

Reduction of Wastes

To achieve a total final disposal rate of 1.0% for all wastes by FY 2020 (zero emission*3).

(Reference)

Final disposal rate in FY 2008 was 2.1%.

To maintain the final disposal rate for wastes from dismantled communications facilities at 0.1%.

*1 Calculation is based on the target emission coefficient of 0.33 kg/kWh to achieve by FY 2020, which was announced by the Federation of Electric Power Companies of Japan prior to the Great East Japan Earthquake.
The target value may be subject to change following any changes in the emission coefficient due to impact of the said earthquake.

*2 Performance in FY 2008 is calculated based on the emission coefficient of 0.44 kg/kWh announced by the Federation of Electric Power Companies of Japan.

*3 Proposed by the United Nations University, this is a concept that aims at production that does not generate wastes on the whole by utilizing all wastes and by-products generated by an industry as resources for another industry. NTT West Group defines zero emission as a final disposal rate of 1.0% or lower.

We have implemented a wide variety of endeavors to help achieve the targets set forth in the Environmental Grand Design.

Reduction of Power Use

NTT West Group is aiming to reduce power use, which has an effect on the amount of greenhouse gas emission, by promoting the five pillars of efforts as shown below.

Streamlining of legacy equipment, etc.

To promote energy saving during renewal of old telephone switch models into new ones, and to optimize the air-conditioning system in the telecommunication equipment rooms.

Development of energy-saving IP devices

To develop energy-saving type IP devices, and promote their introduction.

Renewal of air-conditioning and enhancement of efficiency

To renew old air-conditioners that are still running, and to ensure efficient operation of air-conditioners through thorough temperature control.

Promotion of eco office

To promote efforts to save electricity within the offices, such as ensuring proper air-conditioner temperature setting and proper brightness of lights, and cutting down on unnecessary use of lights.

Employment of new technologies

To utilize new technologies, such as recyclable energy including solar cells and fuel cells.

Reduction of Paper Use

The types of paper used by NTT West Group include office paper, bills, telegrams, and phone directories.
Phone directories, in particular, consume a relatively large amount of paper. Thus, we are making efforts to cut down on paper use by ensuring thorough collection of old directories and increasing the ratio of used paper in them (p.39 to p.42).

Reduction of Wastes

Industrial wastes generated by NTT West Group can be divided into office wastes, such as unwanted computers, furniture and fixtures, construction wastes following dismantlement of facilities such as telecommunications buildings and offices, wastes from civil engineering works following duct line and telephone tunnel works, as well as wastes from telecommunications facilities as a result of dismantling transmission cables and telephone switches. We are working to improve the final disposal rate*4 (p.26 to p.38).

*4 Final disposal rate: the final landfill ratio that is calculated based on (final disposal amount / total amount generated).

Feature 2 Efforts on Conservation of Biodiversity

NTT West Group has established policies on efforts to address environmental issues in the “NTT West Group Charter for Global Environment,” and policies for promoting concrete actions to tackle environmental issues in the “NTT West Group Environmental Policies.” Our Group’ s employees and their family members, as well as retired employees have played a central role to engage in a wide array of activities that help to make contributions, such as through social support. At the tenth meeting of the Conference of the Parties (COP 10) for the Biodiversity Treaty held in Nagoya City of Aichi Prefecture in FY 2010, there was active discussion on the need to protect life on Earth and the blessings of nature in order for us to prosper into the future.

In view of this need, NTT West Group has launched the “NTT West Group Tree-planting Project” and “NTT West Group Afuhi Project,” with the hope to contribute to the conservation of biodiversity, while at the same time further enhance our activities on natural conservation.

NTT West Group Tree-planting Project

This project is an activity to plant 10 trees at the landfill for industrial wastes located in Sakai City of Osaka for every 10,000 conversion of paper bills by our users to “My Billing” (online bills). The first tree-planting event was held on January 30, 2010, with 59 volunteers planting 330 young trees (Japanese privet and others). More publicity will be carried out on these efforts to gain support from customers who are concerned about environmental issues, thereby achieving lower CO_2 emission through further reduction in paper usage and tree planting activities.

Additionally, as an industrial waste discharging company generating a large amount of industrial wastes such as transmission cables, we will make continuous contributions to the environmental conservation of landfills for industrial wastes.

NTT West Group Afuhi Project

Wild hollyhocks used to grow in the precincts of the Kamigamo Shrine (Kyoto City), but are now nowhere to be found due to reasons such as overpicking. In response to this, the project was launched for employees of NTT West Group and their families to adopt a young hollyhock (1,000 participants as of March 2011), grow them at the workplace or at home, and plant them in the precincts of the Kamigamo Shrine after the hollyhock has grown up. Hollyhocks that are adopted are divided around April every year and planted in the precincts of the said Shrine. On April 17, 2011, the first planting event was held at Kamigamo Shrine, with 20 NTT West Group employees and their family members taking part in the planting of 330 young plants. Since FY 2011 was the first year of this activity and the hollyhocks have not grown yet, separate hollyhock plants were prepared for planting in the Shrine.

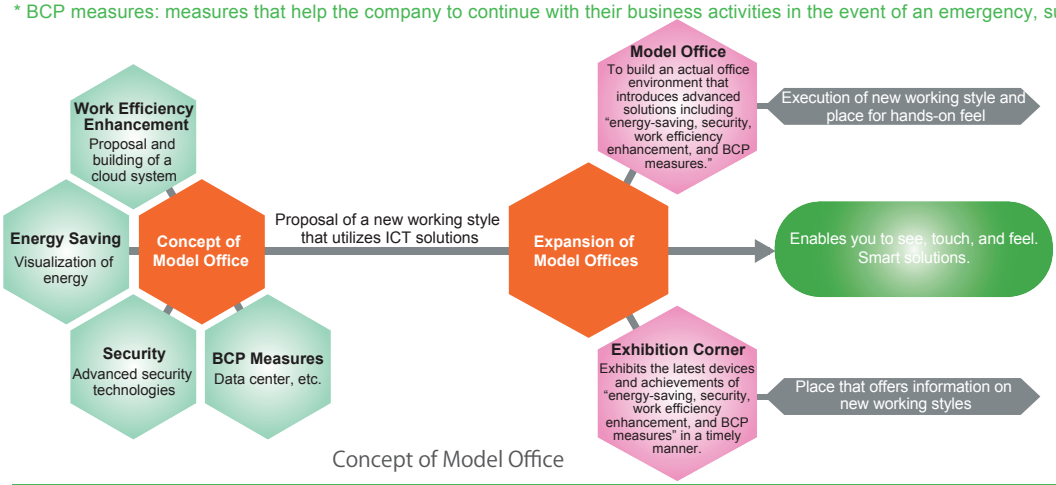
Feature 3 Establishment of Model Offices

NTT West Group expanded the scope of its eco office activities from the existing energy and resource saving measures in the offices to include ICT solutions for resolving various issues in the office environment, such as “enhancing work efficiency,” “enhancing security,” and “BCP measures*,” as well as the establishment of three model offices in Osaka, Nagoya, and Fukuoka, which adopt an office design that enables employees to communicate with each other in diverse ways.

As a place for proposing new working styles befitting the ICT era, the latest ICT solutions and information terminals are introduced to the actual office environment at the three NTT West model offices in Osaka, Nagoya, and Fukuoka. At the same time, each office is constructed by adopting a design that helps to facilitate communication among the employees, while taking into consideration the business characteristics of each workplace as well as their size.

Customers are also able to “see, touch, and feel” the actual office environment at these model offices.

* BCP measures: measures that help the company to continue with their business activities in the event of an emergency, such as earthquake.



Concept of Model Office

The model office is made up of the “model office” itself and an “exhibition corner.”

You can find more details on the “model office” and “exhibition corner” below.

Model Office

The “model office” is constructed according to factors such as the business characteristics of the office and its size.

1. Office space that utilizes ICT equipment

Realizes a free-address working space that utilizes thin client *1 and FMC *2.

2. Satellite for employees on business trips, concentration work space

Spot office for those visiting from a distant office location, and a work space away from one’ s own seat for better concentration.

3. Common space offering working style support

Multi-function machines, lockers, books, and other items are gathered here, which is located at the center of the office floor to promote more spontaneous communication among employees.

4. Community meeting space that is modifiable according to the work scene

By combining ICT with furniture and fixtures, a flexible work space is realized without being subject to restrictions such as the number of people or presentation scene. Also, the walls can be used as whiteboards to achieve efficient utilization of space.

5. Presentation room that supports advanced videoconferencing

This space can be utilized for a wide variety of purposes, such as by employees only or for meetings with customers.

*1 Thin client: a general term for referring to a system that manages applications and files at the server, so that employees only require minimal features on their terminals.

*2 FMC: Abbreviation of Fixed-Mobile Convergence. A name that refers to the integration of fixed-line and mobile phone functions.

Exhibition Corner

While enabling our customers to “see, touch, and feel” the actual office environment, we have also displayed ICT solutions and information equipment useful for enhancing work productivity and creativity.

1. Solutions useful for saving energy

Enhancement of awareness toward saving electricity by making power usage visible, paperless meetings, prevention of misprints through ID authentication, etc.

- Solutions for visualization of energy
- Multi-function machine (printer, fax), etc.

2. Solutions useful for promoting communication and information sharing through videos for enhancing work efficiency, etc.

- Multipoint videoconferencing
- Business phone with advanced features
- e-learning system, etc.

3. Solutions useful for enhancing security

Utilization of a thin client system that is useful for preventing information leakage with the use of a virtual desktop.

- Thin client system
- Multi-function machine using IC card authentication, etc.

4. Solutions useful for BCP measures

Utilization of data center and cloud services offered by NTT West.

- Data center
- Remote access solution
- Cloud services
- Employee safety confirmation system etc.

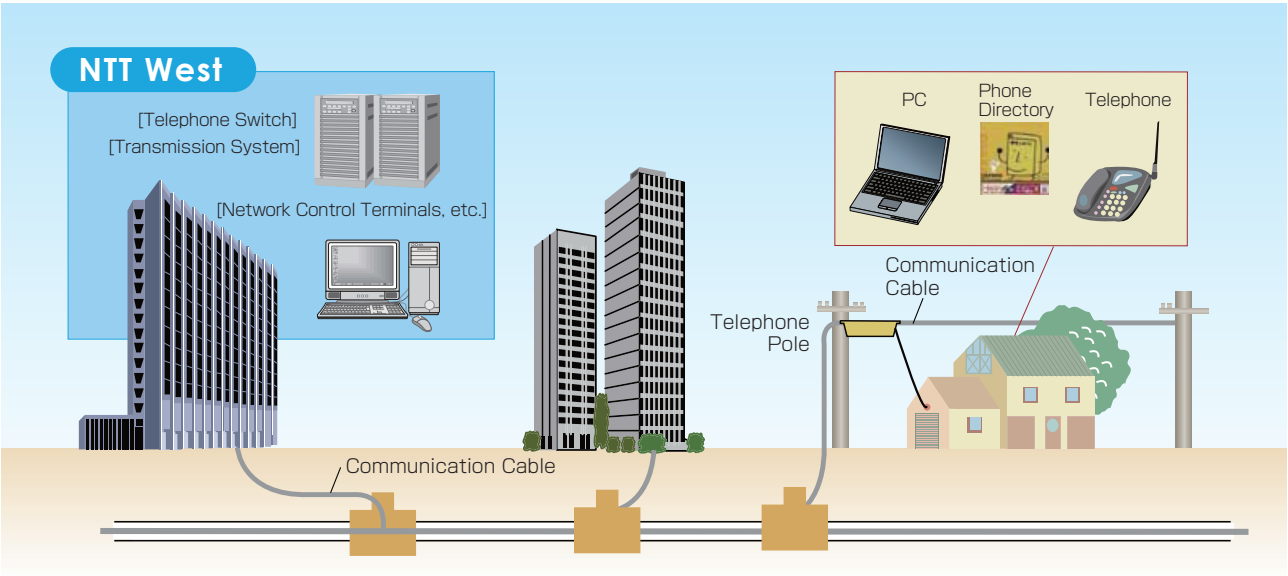
Overview of Our Business and the Environment

Overview of Our Business and the Environment

The business of NTT West Group covers the entire region of western Japan. The scale of our operations is in proportion to the extent of their influence on the environment. In order to allow our customers to make and receive calls, for example, phones and networks consisting of communication cables and telephone switches embracing the western part of the country are required (Figure 1). In addition, all related business operations such as logistics, construction works, management, servicing, and provision of products also affect the environment in a significant way.

The material flow in the next page describes the specific elements that constitute the major burden on the environment.

Figure 1: NTT West Network for Telephony and Communications



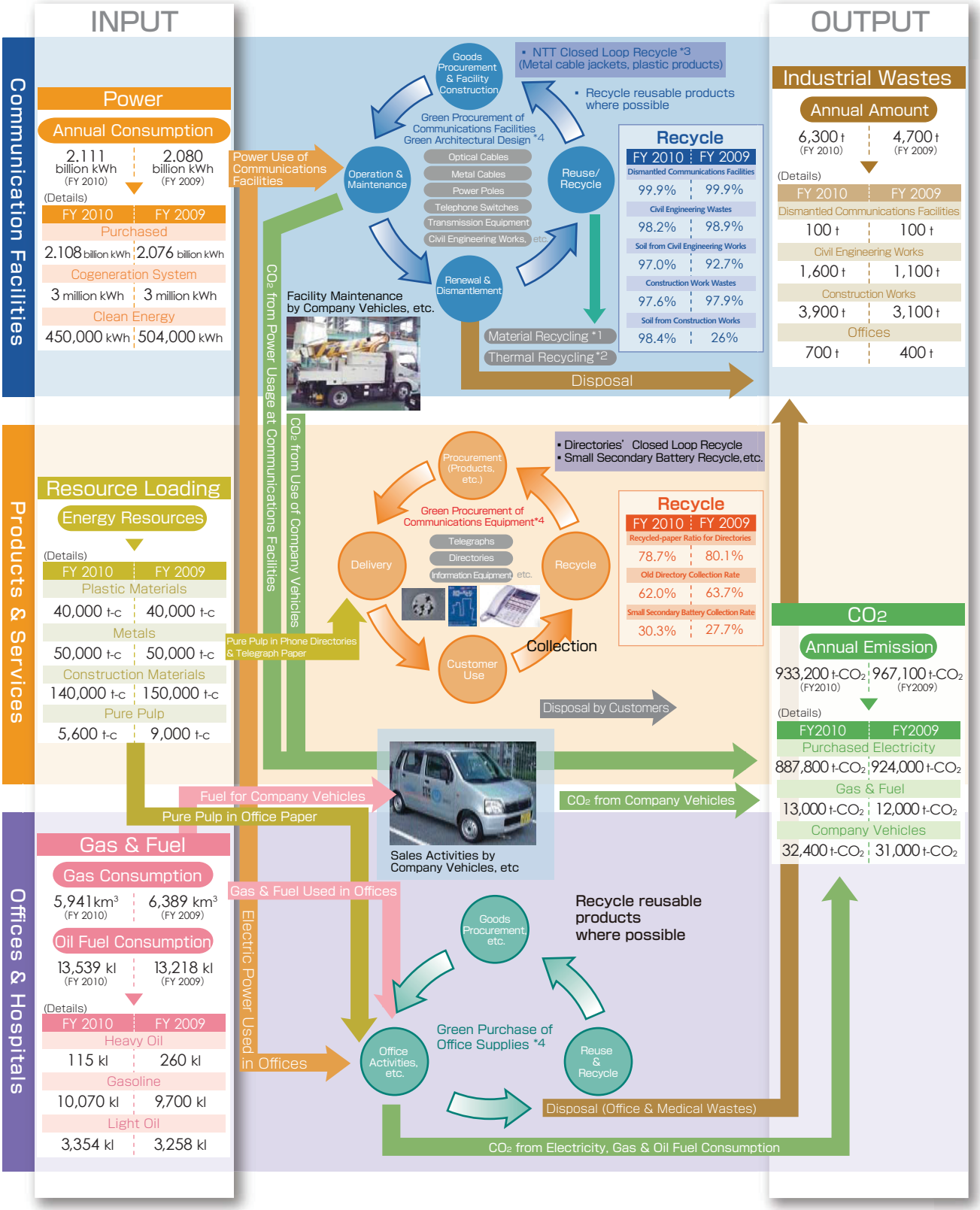
Harmony with the Environment

Placing the global environment issue as one of the important corporate responsibilities when carrying out our business operations, we have implemented measures toward harmonious coexistence with the environment.

Specifically, these measures include reduction of power use at our communications facilities (global warming prevention measure), cutting down of the amount of industrial wastes generated from dismantling of communications facilities, civil engineering and construction works, and our offices, and also improvement of recycling rate (industrial waste reduction measure and recycling measure). Other actions include saving paper used for phone directories (paper resource saving measure) and promoting the recycling of communications equipment and PCs (recycling measure).

Our Group grasps the material flow (see next page) quantitatively and periodically, and conducts reviews so as to continuously reduce the load on the environment.

Material Flow in FY 2010



*1 Material recycling: reusing collected wastes as raw materials of products.

*2 Thermal recycling: wastes collected are burned and reused as thermal energy.

*3 NTT closed loop recycle: a form of material recycling. The name comes from the process of recycling wastes generated in our operations as NTT products. For example, old phone directories are used to produce new directories.

*4 Green Procurement/Design/Purchase: refers to eco-minded procurement, design and purchase operations ranging from the construction of telecommunications facilities to office supplies and products offered to our customers.

NTT West Group Charter for Global Environment

Based on the belief that corporations, which are inseparable from the society, are responsible for promoting activities to protect the environment, we established the “NTT West Charter for Global Environment.” Based on the provisions of the charter, our Group set forth targets and execution management items for promoting environmental conservation activities.

NTT West Group Charter for Global Environment

Basic Philosophy

In order for us to harmonize with the nature and to realize sustainable development for years to come, NTT West Group shall, in compliance with the charter, make the best effort in all its business activities together with its group companies toward protecting the global environment.

Main Principles

1. Legal Compliance & Social Responsibility

We shall comply with the relevant laws and regulations on environmental protection, and fulfill our corporate responsibilities from a global perspective.

2. Reduction of Environmental Load

We shall set action goals for reducing greenhouse gas emission, saving energy, saving materials such as the amount of paper used, and cutting down wastes, and we shall strive to make continuous improvements.

3. Establishment & Maintenance of Environmental Management System

By establishing an environmental management system, each office shall take actions voluntarily to protect the environment in order to prevent pollution and reduce environmental risks.

4. Dissemination of Eco-technology

We shall contribute to reducing the environmental load through actively disseminating the achievements of research and development efforts such as through multimedia services.

5. Contributions via Social Support

Cooperating with local residents and the government offices, we shall strive to support grass-roots activities for environmental protection.

6. Disclosure of Environment-related Information

We shall engage in active communication within and outside the Group by disclosing information related to the environment.

7. Preservation of Biodiversity

We shall grasp the relationship of biodiversity with business, and promote efforts for it to be inherited by future generations.

NTT West Group Charter and Implementation Management Programs

NTT West Group manages the implementation of environmental protection measures based on the NTT West Group Charter for Global Environment by organizing them into implementation management programs. Among the programs, those deemed more important in terms of the influence on the environment are managed by establishing action plan targets, while indicators such as that for environmental contribution to the whole society through the ICT services we offer are managed by establishing them as part of NTT Group' s vision for environmental contributions.

Correlations of Charter and Implementation Management Programs

NTT West Group Charter for Global Environment	Implementation Management Programs
<Fundamental Principles>	Establishment of specific eco-protection measure programs based on the fundamental principles of the Charter
1. Legal Compliance & Fulfillment of Social Responsibility	
2. Reduction of Environmental Load	Global-warming prevention (power use, etc.) Industrial waste reduction (wastes from dismantling of communication facilities, etc.) Paper resource saving (quantity of pure pulp for directories, etc.) Recycling (quantity of plastic materials, etc.) Proper processing & management of industrial wastes (batteries, etc.) Ozone-layer protection (discontinuing the use of halon in fire control equipment, etc.) Green R&D and procurement Use of clean energy → Action Plan Targets
3. Establishment & Maintenance of Environmental Management System (EMS)	Support for EMS establishment at branch offices, etc.
4. Dissemination of Eco Technologies	Contribution to whole society through offering ICT services Development & provision of eco-friendly products (communication equipment, etc.) → NTT Group Vision for Environmental Contributions
5. Contributions via Social Support	Clean environment mission (cleaning activities for regional environment)
6. Disclosure of Environment-related Information	Issuance of environmental reports and release of other environment-related information
7. Preservation of Biodiversity	NTT West Group Tree-planting Project, NTT West Group Afuhi Project, etc.

Details of Implementation Management Programs

The above programs are managed regularly based on the following criteria and values.

Implementation Management Programs for Protection of Global Environment

■ Items on Numerical Value Management

Measure	Implementation Management Item
Global Warming Prevention	CO_2 emission from use of electricity
	CO_2 emission from company vehicles
	CO_2 emission from gas & oil fuel consumption
Industrial Waste Reduction	Amount of waste disposal from civil engineering works
	Amount of waste disposal from construction works
	Amount of waste disposal from dismantled communication facilities
	Amount of waste disposal from offices
Paper Resource Saving	Amount of pure pulp used for directories
	Amount of pure pulp used for telegraph paper
	Amount of pure pulp used for office paper

■ Items on Recycling Quantity Management

Measure	Implementation Management Item
Recycling	Quantity of displaced soil from civil engineering works
	Quantity of displaced soil from construction works
	Recycle quantity of plastic from dismantled communication facilities
	Recycle quantity of small secondary batteries for communication equipment
	Quantity of polystyrene foam used for packagingss

■ Items on Proper Processing Management

Measure	Implementation Management Item
Proper Processing & Management of Wastes	Control of products with PCB content
	Remaining amount of asbestos in bridge support
	Proper processing of disposed communication equipment
	Proper processing of disposed batteries
	Proper processing of medical wastes
Ozone Layer Protection	Discontinued use of halon for fire control equipment

■ Items on Progress Management

Implementation Management Item
Green R&D and procurement
Use of clean energy
Development & provision of eco-friendly products (communication equipment, etc.)
Clean environment mission (cleaning activities for regional environment)
Promotion of social contributions
Support for establishment of EMS at branch offices, etc.
Coordination with group companies
Issuance of environmental reports and release of other environment-related information

NTT Group Vision for Environmental Contributions

NTT Group instituted the “NTT Group Vision for Environmental Contributions” (henceforth “Vision for Environmental Contributions”) as our guideline for actions to help ease the environmental load of the entire society through provision of ICT services.

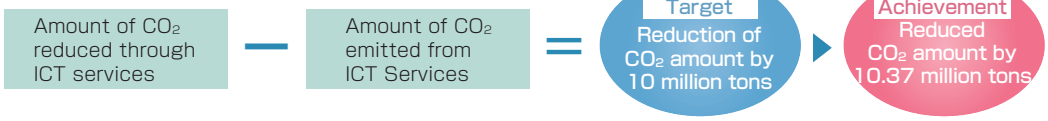
The Vision for Environmental Contributions sets forth our basic stance to reduce the environmental load of our customers and the whole society by providing ICT services, and also lays out the reduction target for CO_2 emission for 2010 as well as actions to realize the cut.

In FY2010, NTT Group reduced CO_2 amount by 10.37 million tons and achieved its target.

NTT Group Vision for Environmental Contributions

By developing and popularizing ICT services centering on ubiquitous broadband services, NTT Group aims to promote changes in lifestyles and business models, and contribute to the reduction environmental load of our customers and the society.

Guideline for 2010



Actions up to 2010

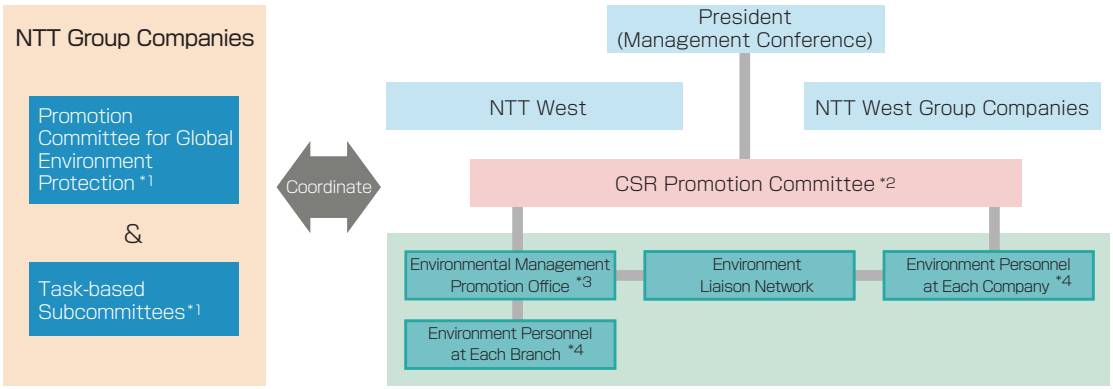
(1) Increasing the number of optical access users to realize a lifestyle business model that can help reduce the environmental load
(2) Expanding ubiquitous broadband services
(3) Reducing environmental load as a result of business activities
(4) Reducing power consumption of communication equipment among subscribers

Environmental Protection Promotion System

The CSR Promotion Committee was established under NTT West's management conference for conducting deliberations on the formulation of environmental policies and environmental protection measures for the entire NTT West Group. Decisions by the committee are conveyed to the whole NTT West group through NTT West Environmental Management Promotion Office and the personnel-in-charge for environmental issues at each group company.

Coordinating with NTT Group (holding company) and group companies like NTT East, NTT Communications, NTT Data, NTT Docomo, and NTT Facilities, we have built a system for promoting environmental protection as a group by sharing the latest trends, examining measures jointly, and reviewing progress toward achieving the target with regard to each task.

Environmental Protection Promotion System



*1 Decide, manage and review NTT Group's environmental policies and measures for each task.

*2 Establishes basic principles in NTT West Group's promotion of CSR, and strive to ensure a consistent stance at the management level.

*3 Coordinates with the Promotion Committee for Global Environment Protection of NTT Group (holding company) to study the environmental policies and measures of NTT West Group, and to apply them to NTT West group companies as well as manage the application.

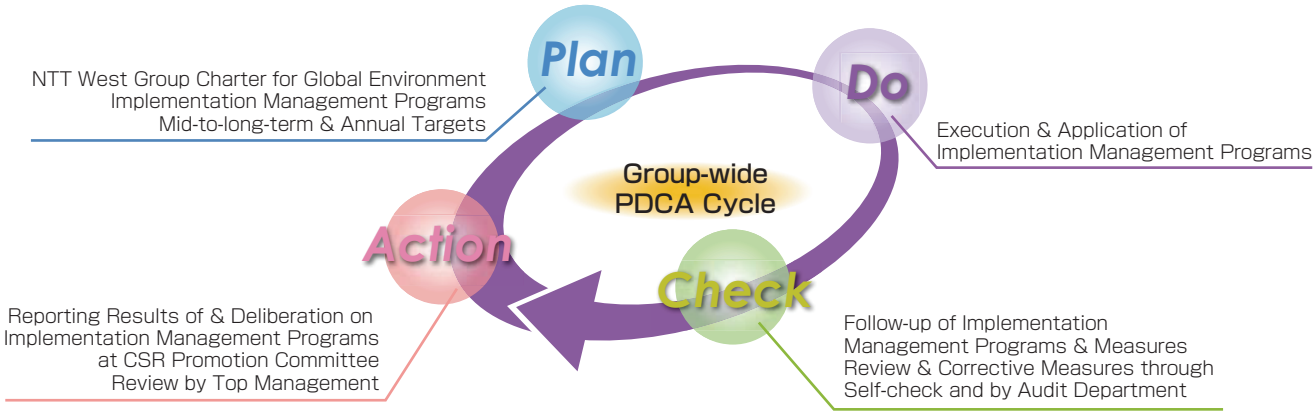
*4 Promote the implementation of environmental measures at each of the branches and NTT West Group companies.

System of Implementation Management and Acquisition of ISO 14001

During implementation of the management programs related to the entire NTT West Group, NTT Business Associe West is also included to make our Plan-Do-Check-Act (PDCA) cycle a truly group-wide effort (Figure 1).

As of FY 2010, a total of 30 sections (branches, regional companies, etc.), including two sections at the head office, have obtained the ISO 14001 certification. We will continue to improve our environmental management system in future.

Figure 1: Group-wide PDCA Cycle



Environmental Management

Advancing Environmental Management: “Save Resource Program”

In its effort to achieve the efficient use of resources and prevent global warming, NTT West Group proposed the “Save Resource Program” since 2007, which focuses on four main themes, to aim at further contribution toward protection of the global environment (Figure 2).

The themes consist of “promoting reuse and recycle of customers’ information equipment,” “enhancing power saving and efficiency of network equipment,” “promoting eco-office activities,” and “promoting sales of eco solutions.” Also, information related to the four main themes is established as visualization indicators* to manage the progress of our effort periodically (Figure 3).

* See “2011 CSR Report”
Website: http://www.ntt-west.co.jp/csr/2011contents.html

Figure 2: “ Save Resource Program ”

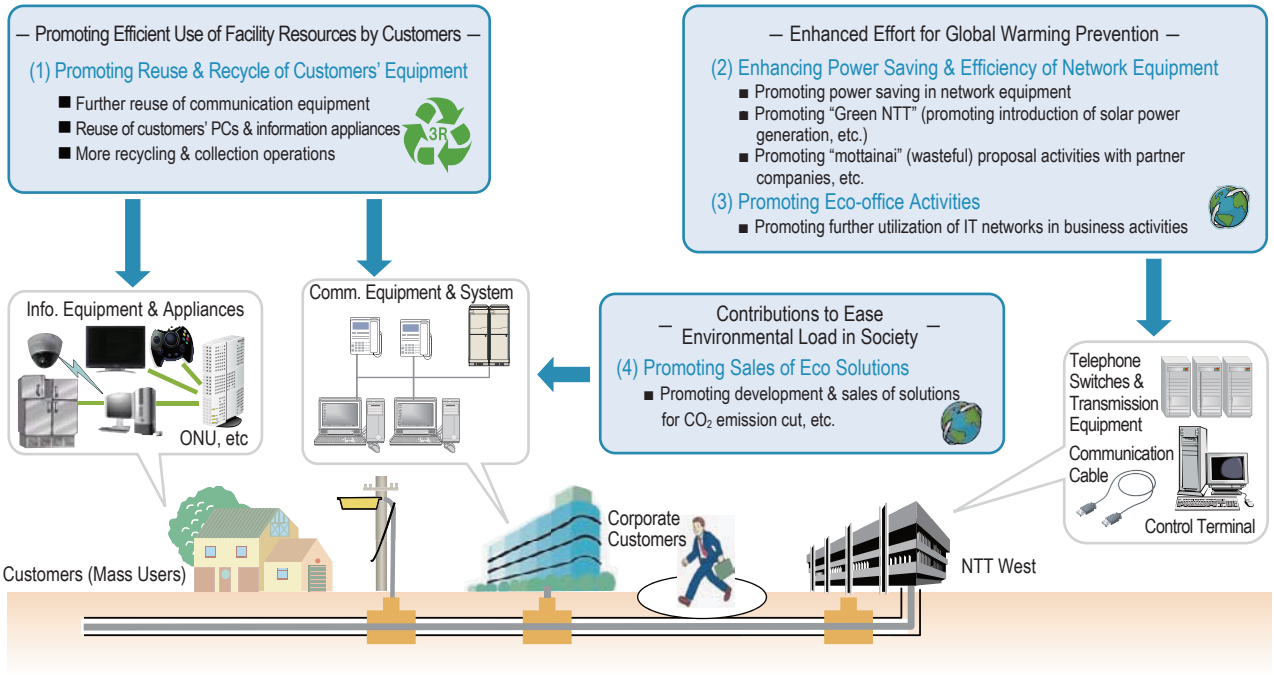


Figure 3: Visualization Indicators

Classification	Indicator	Yearly Target
Promotion of Environmental Management	Reuse/recycle of communications equipment	Reuse/recycle rate for customers’ information equipment: 88%
		Reuse/recycle of computers: 100%
	Suppression of power use	Keep power use to 2.11 billion kWh or lower
	Suppression of CO_2 emission through providing eco solutions	Sales of eco solutions: 5% higher than previous FY
	CO_2 reduction through reduction in the amount of paper use*	CO_2: -850t
	Execution of environmental protection activities	Implementation of Eco Drive, etc.

* Indicates how much of CO_2 emitted during paper creation has been reduced by cutting down paper use.

Four Themes of "Save Resource Program"

1. Promoting Reuse & Recycle of Customers' Information Equipment

Along with the widespread use of broadband services, the use of information equipment (optical network units (ONU), customer network terminating units (CTU)*1, and VoIP adapters*2) at the premises of customers has also grown significantly. Due to the diverse usage patterns among our customers, however, the product cycle has been shortening. We are, therefore, now promoting the reuse and recycle of customers' information equipment as part of our effort to make efficient use of the resources.

In 2010, we reused 1.656 million information equipment installed at our customers' premises, thereby promoting the effective utilization of resources (Page 32).

*1 ONU and CTU
Equipment installed at customer premises with optical networks

*2 VoIP adapters
Adapters that support IP telephony

2. Enhancing Power Saving & Efficiency of Network Equipment

With the development of an information sharing society, the amount of electricity required has been increasing year by year, as represented by the operation of network communication facilities and air-conditioning systems for telecommunication. In particular, the proportion occupied by CO_2 emission caused by power use is large, making its reduction an important task. In its effort to reduce the amount of power use, NTT West set out the "TPR Activities" (Page 20) for enhancing the level of power saving of our new facilities and increasing the efficiency of the existing ones. As a result, we achieved a reduction of 0.3 million kWh (CO_2 emission of 36,000 t-CO_2) compared with a year earlier.

At the same time, we have also introduced systems for generating clean energy (solar power generation systems and wind power generation systems) without emitting CO_2. In 2010, we adopted solar power energy systems at 62 facilities with a total power of 760 MWh (Page 22).

3. Promoting Eco-office Activities

Transportation by means of planes, trains or cars result in the emission of a large amount of CO_2. To counter this, we promoted the active use of eco conferences (videoconference, internal SNS, etc.) and eco trainings (distant learning, e-learning, etc.) in our routine office operations through the utilization of ICT, thus eliminating the need to make use of physical transportation (Page 45).

4. Promoting Sales of Eco Solutions

With the amended "Energy Saving Act" and the amended "Global Warming Act" taking effect from April 2006, companies using a large amount of energy are obliged to report to the government on the amount of energy used as well as the level of greenhouse gas emission. We provide the environmental solutions that we offer to assist our customers in different ways to deal with the environmental issues (Page 46).

NTT West Group's Business Activities and Environmental Laws

The following list shows the major laws and regulations for which the business activities of NTT West Group are subject to.

Environmental Laws and Regulations Related to Business Activities

	Major Laws & Regulations	Wastes Generated from NTT West Group's Business Activities
Wastes/ Recycling	Wastes Disposal and Public Cleansing Law	・Wastes from dismantled communication facilities ・Wastes generated from construction works ・Wastes generated from civil engineering works ・Wastes generated from office activities ・Medical wastes generated from hospitals ・Asbestos used in fire-resistant materials of bridge pipes & cables, etc.
	Law for Promotion of Effective Utilization of Resources	・Small secondary batteries used for information terminals, etc.
	Construction Materials Recycling Law (Law Concerning Recycling of Materials from Construction Work)	・Wastes generated from construction works ・Wastes generated from civil engineering works, etc.
	Containers and Packaging Recycling Law (Law for Promotion of Sorted Collection and Recycling of Containers and Packaging)	Polystyrene foam, plastic bags, wrapping paper for packaging information terminals
	Act on Promoting Green Purchasing (Law Concerning the Promotion of Procurement of Eco-friendly Goods and Services by the State, etc.)	Procurement of office supplies, etc
Energy & Global Environment	Energy Saving Act (Law Regarding the Rationalization of Energy Use)	・Electricity & gas consumed at communication facilities & offices ・Goods & facilities transported in business activities
	Ozone Layer Protection Act (Act for Protection of the Ozone Layer through the Control of Specified Substances, etc.)	・Halon used for fire control equipment at buildings ・Old-type air-conditioners used in company vehicles, etc
	Fluorocarbons Recovery and Destruction Law (Law Concerning the Recovery and Destruction of Fluorocarbons)	Old-type air-conditioners used in company vehicles, etc.
Chemical Substances	Act on Special Measures Concerning the Proper Treatment of Polychlorinated Biphenyl Waste	Electrical equipment (fluorescent ballasts, transformers, capacitors, etc.)
Air Pollution	Automobile NOx PM Control Law (Law Concerning Special Measures for Total Emission Reduction of Nitrogen Oxides and Particulate Matters)	Exhaust gas from use of company vehicles
	Air Pollution Control Law	Exhaust gas from boilers installed in buildings, etc.

Environmental Audit

Self-check

Each relevant section conducts an annual self-check on compliance with the environmental laws, progress of the implementation management programs, and the degree of establishment of environmental protection activities.

The items for this self-check, which are classified into three levels as follows, are subject to an annual review by the responsible sections according to amendments of the relevant laws and internal regulations.

- A. Matters related to laws and administrative directives
- B. Matters related to internal regulations
- C. Other matters to be implemented

Environmental Audit by Audit Department

With the environmental laws and regulations becoming stricter each year, our Audit Department performs an environmental audit on environment-related operations that particularly require legal compliance. Unlike the self-check, this audit is objectively conducted by auditors from specialized organizations, and plays the additional role of verifying the effectiveness of the self-check.

Environmental Audit Results

During the audit conducted in FY 2010, five minor cases were brought to attention, all of which were subsequently corrected. No administrative penalty or fine was imposed for violation of the environmental laws.

Progress of Company-wide Environmental Management in FY 2010

As shown below, in FY 2010, a CSR Committee meeting was held to make a report on the major actions for environmental protection for FY 2010, and also to discuss measures for improving our effort. The conclusions arrived at the meeting were conveyed to the entire NTT West Group through NTT West's Environmental Management Promotion Office and the personnel-in-charge of each group company.

Points Discussed at CSR Committee Meeting

1. Establishment of "New Pillars of CSR Activities" for NTT West Group [Deliberation]
2. NTT West Group' s Environmental Management Efforts for FY 2010 [Deliberation]
3. Introduction of Cultural Assets Owned by Branches & Group Companies [Deliberation]
4. Promotion of "Green with Team NTT (GTN)" [Report]

Achievement of Action Plan Targets in FY 2010

Achievement of the action plan targets in FY 2010 is as follows:

Global Warming Prevention

The target for FY 2010 was to reduce CO_2 emission by 15% or more in units of CO_2 emission/contract based on the amount in FY 2000. In FY 2010, we fulfilled the target by achieving a 18.9% reduction.

Reduction of Wastes

Our target for FY 2010 was to reduce the final total waste disposal amount to 50% or lower compared to the level of FY 1998 (30,000 t or below). In FY 2010, the target was met with an amount of 6,300 t.

Action Plan Targets & Performance in FY 2010

Category	Action Plan Target (for FY 2010)	Item	Unit	Target Value for FY 2010	Actual Value for FY 1998 (Estimate)	Actual Value for FY 2000	Actual Value for FY 2009	Actual Value for FY 2010	Evaluation
Global Warming Prevention	15% reduction or more in units of CO_2 emission / contract based on the amount in FY 2000	CO_2 emission from use of electricity *2	10,000 t-CO_2	——	54.6	57.2	92.4	88.8	
		CO_2 emission from company vehicles	10,000 t-CO_2	——	1.39	1.32	3.1	3.2	
		CO_2 emission from gas & oil fuel consumption	10,000 t-CO_2	——	2.86	2.34	1.2	1.3	
		Total	10,000 t-CO_2	71.0	58.9	60.9	96.7	93.3	
		CO_2 emission reduction rate in Base Unit *1	%	15%		0% (Base)	22.9%	18.9%	ϒϒϒ
Waste Reduction	Reduction of the final total amount to 50% or below compared to the level of FY 1998	Wastes from dismantled communication facilities	10,000 t	0.5	1.3	1.1	0.01	0.01	
		Waste from civil engineering works	10,000 t	0.35	1.2	2.5	0.01	0.16	
		Wastes from construction works/recycling rate *3	10,000 t %	1.5/80.0%	3.5/61.0%	1.9/88.0%	0.31/98%	0.39/97.6%	
		Wastes at offices	10,000 t	0.28	0.26	0.44	0.04	0.07	
		Total (10,000 t)	10,000 t	2.6	6.3	5.94	0.47	0.63	ϒϒ

Low ϒ← self evaluation (achievement) →ϒϒϒ High

*1 The base unit for CO_2 emission is the value obtained by dividing the amount of emission by the number of subscribers.

*2 Different coefficients are used in different fiscal years for CO_2 emission from use of electricity. For FY 1998 and FY 2000, the official coefficient of the Federation of Electric Power Companies of Japan was used. From FY 2006 onward, coefficients set for each power company based on the "Law Enforcement Ordinance on Promotion of Countermeasure against Global Warming" are used.

*3 The target value is represented by the recycling rate.

Environmental Education

NTT West Group currently conducts training sessions to increase the eco awareness among our employees.

1. Environmental Self-check Seminars

NTT West Group holds environmental self-check seminars for the personnel who are in charge of conducting self-checks (Page 17) at each section.

Being a part of the overall environmental education, the seminars are designed not only to enable participants to learn the skills for performing self-check, but also to familiarize them with the relevant environmental laws and related social trends as well as enhance their awareness toward activities for protecting the environment. In 2010, 193 employees participated in the seminars. Since FY 2006, the seminars have been held in the form of distant training to help ease the burden on the environment.

Environmental Self-check Seminar

2. Training Sessions for Environmental Protection

In order to develop awareness in each employee of NTT West Group toward activities for environmental protection, we conducted web-based training sessions on environmental protection to about 90,000 employees.

In addition to conveying the importance of environmental measures, the sessions have designed action plans for each employee through acquiring knowledge such as that on NTT West Group' s approach toward environmental management.

Environmental Protection Training Material

3. Learning through Experiences in Nature

In response to an increase of nature protection activities (cleaning, forestry preservation, biodiversity, etc.), we conducted hands-on environmental education sessions for our environmental personnel. In FY 2010, this was held at the "Aichi Prefectural Youth House."

Scenes of Hands-on Environmental Education Sessions




Our environmental education aims at developing core personnel who are able to take actions in relation to nature protection, and we strived to launch nature protection activities at each company and branch through them.

Overview

While offering telecommunications services, a large amount of energy is consumed not only in the electricity for communication facilities, but also in the air-conditioning systems of equipment rooms.

NTT West Group, in its medium-to-long term action plans, has been aiming to "reduce, by FY 2010, at least 15% of CO_2 emission in the base unit of CO_2 emission/contract* based on the amount in FY 2000."

* The base unit for CO_2 emission is the value obtained by dividing the total amount of CO_2 emission by the number of subscribers.

Performance in FY 2010

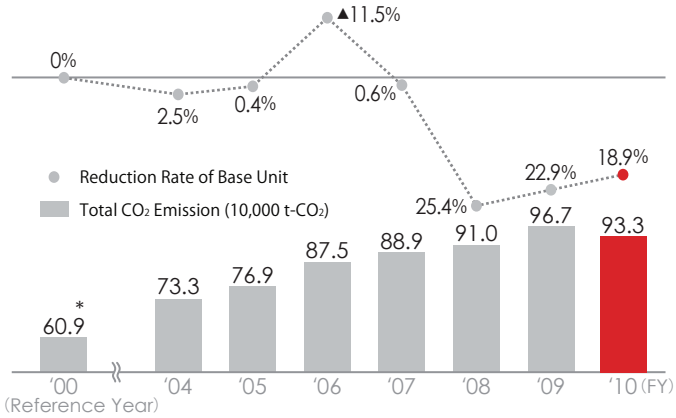
In FY 2010, we achieved a 18.9% reduction by implementing efforts such as promoting energy saving through the TPR Campaign (Figure 1).

CO_2 emission by NTT West Group is mainly due to consumption of electricity as well as use of company vehicles and fuel (gas and oil).

The following sections describe our performance and actions we are taking.

* CO_2 Emission Coefficients
  - Until FY 2004, the official coefficient of the Federation of Electric Power Companies of Japan was used.
  - For FY 2005, the coefficient of FY 2004 was used. (0.378 kg-CO_2)
  - From FY 2006 onward, coefficients set for each power company based on the "Law Enforcement Ordinance on Promotion of Countermeasure against Global Warming" are used.

Figure 1: Change in Total CO_2 Emission and Its Base Unit



Energy Saving through TPR Campaign

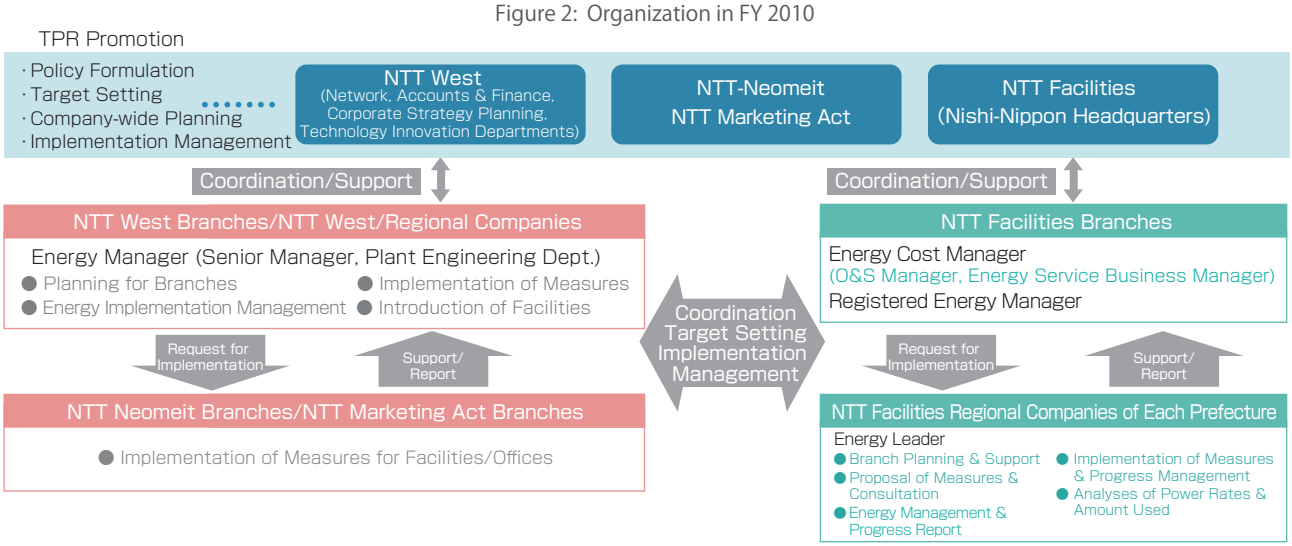
TPR Campaign

As part of our effort to reduce the consumption of electricity, NTT West Group launched the Total Power Revolution (TPR) Campaign about 10 years ago. Back then, one of the issues was how to slow down the accelerating pace of energy consumption as a result of prolonged and high-volume network connections following the expansion of multimedia services. To resolve the issue, we expanded our scope of effort, which ranged from the establishment of facilities to their operation, to include the R&D phase. The TPR Campaign was therefore introduced to achieve collective reduction (Figure 2).

With the subsequent development of an information sharing society, there is a continuous increase in the development of high-speed and large-capacity facilities as well as the amount of energy consumed, making the importance of the TPR Campaign even greater.

The TPR Campaign is promoted with the concerted effort of all relevant departments based on the system shown below.

Figure 2: Organization in FY 2010

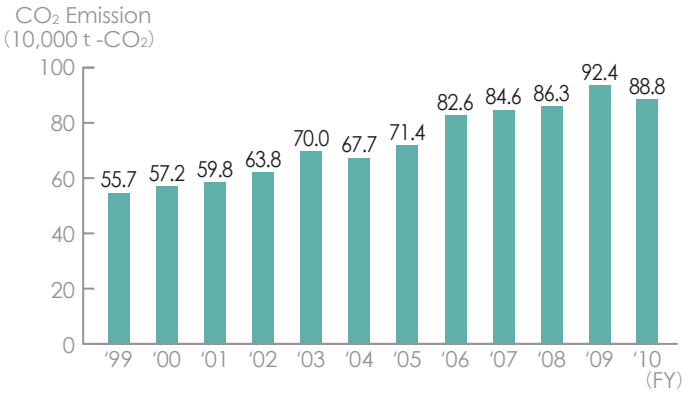


Performance in FY 2010

Amid an increase in optical fiber and IP services in FY 2010, we managed to suppress the increase in power use to 30 million kWh through the TPR Campaign. Also, with an improvement in the CO_2 emission coefficient, the amount of CO_2 emission was reduced by 36,000 t-CO_2. (Figure 3)

We will continue to promote the TPR Campaign and efficient migrations (transition to next generation) so as to lower the amount of emission.

Figure 3: CO_2 Emission by Power Use



Power Saving for New Facilities

DC Power Supply

Efficient power supply to ICT equipment is able to attain equally effective energy-saving results as reducing the power consumption needed for ICT equipment, such as routers and servers, or enhancing the efficiency of the air-conditioning system. Being a power-saving system with fewer conversions than an AC supply, a DC power supply can help reduce power consumption by about 15% (including that for air-conditioning). It has been adopted in existing communication systems, and 96% of the NGN facilities also support DC supply.

As there are very few servers and storage systems that support DC power supply, we are now encouraging our vendors to expand the lineup of compatible products.

Introduction of High-efficiency Facilities

In addition to upgrading the facilities for our new services, we are also implementing a systematic conversion of digital telephone switches to power-saving models.

In FY 2010, we upgraded 124 telephone switch units.

Improving Efficiency of Existing Facilities

Increasing the efficiency of existing facilities is fundamental in advancing energy conservation. We are making everyday efforts to improve the utilization rate of facilities and enhance the efficiency of air-conditioning systems by consolidating the communication facilities and power supply systems, as well as rationalizing the number of the units and packages.

Improving Air-conditioning Efficiency

For proper application of communication facilities, the telecommunication equipment rooms are air-conditioned all year round.

We are keeping a close watch particularly on the maintenance and improvement of air-conditioning efficiency, as a vast amount of electricity is required to power the air-conditioning system.

Firstly, we are making company-wide efforts to optimize the thermal environment in the equipment rooms, such as by controlling the air flow to improve the efficiency of cool-air supply to areas that emit a large amount of heat, as well as to enhance the recovery efficiency of heat generated from the communication facilities. These efforts make it possible for us to further reduce electricity consumption by the air-conditioning system, while maintaining the stability of the communication services. As a result, we were able to achieve a reduction in power use by 3.4 million kWh in FY 2010.

Secondly, to minimize a drop in the cooling efficiency of equipment, the outdoor units and filters of the air-conditioning system are regularly cleaned. The outdoor units are cleaned once or twice a year. We estimate its effect in FY 2010 to be equivalent to a reduction in power use by about 33.5 million kWh.

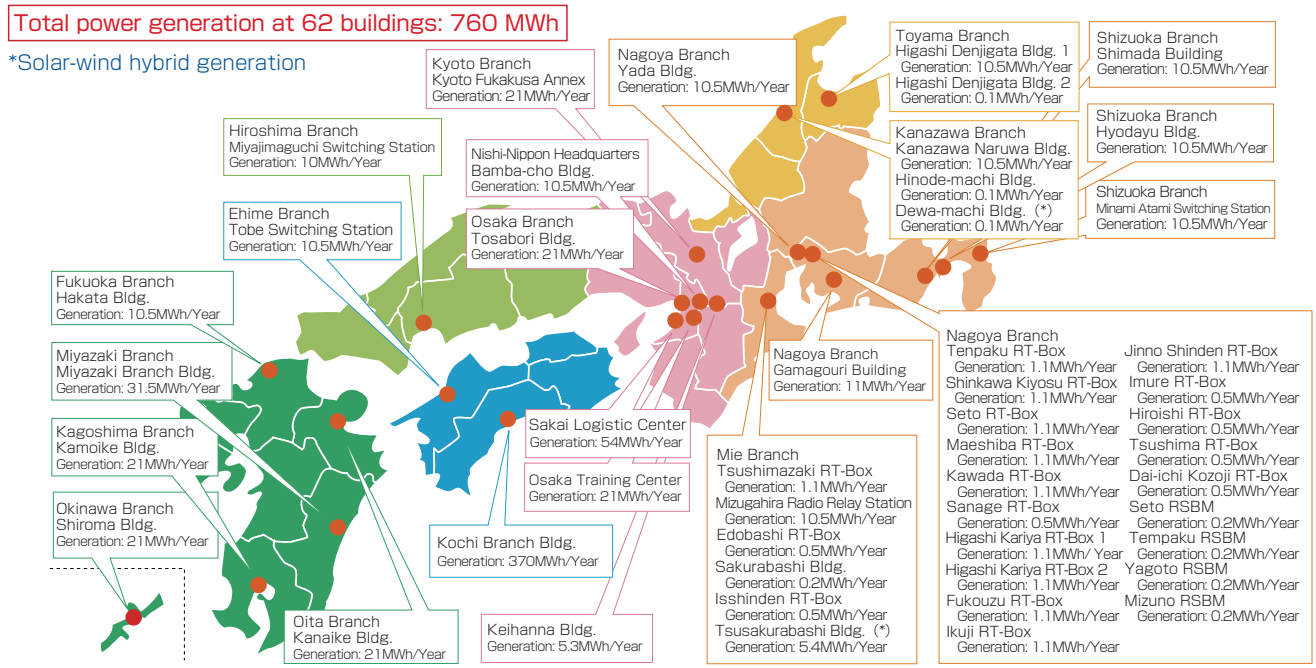
Introduction of Clean Energy Systems

As part of our efforts to prevent global warming, NTT West is currently promoting the introduction of generator systems that utilize natural energy. With the commencement of the company-wide “Green NTT” campaign in FY 2008, we began the operation of a solar power generation system at our Kochi branch from FY2009, as our first step of “Green NTT.”

In 2010, we established a solar power generation system with a generation capacity of 160 kW at Sakai Logistics Center.

Now, there are 62 facilities that have been introduced with a solar power generation system, and the amount of electricity generated yearly in FY 2010 was about 760 MWh. (Figure 4)

Figure 4: Solar Power Generation (as of 31 March 2011)



Solar Power Generation Systems

Sakai Logistic Center

Kochi Branch Building

Fukakusa Annex, Kyoto Branch

Bamba-cho Building, Nishi-Nippon Headquarters

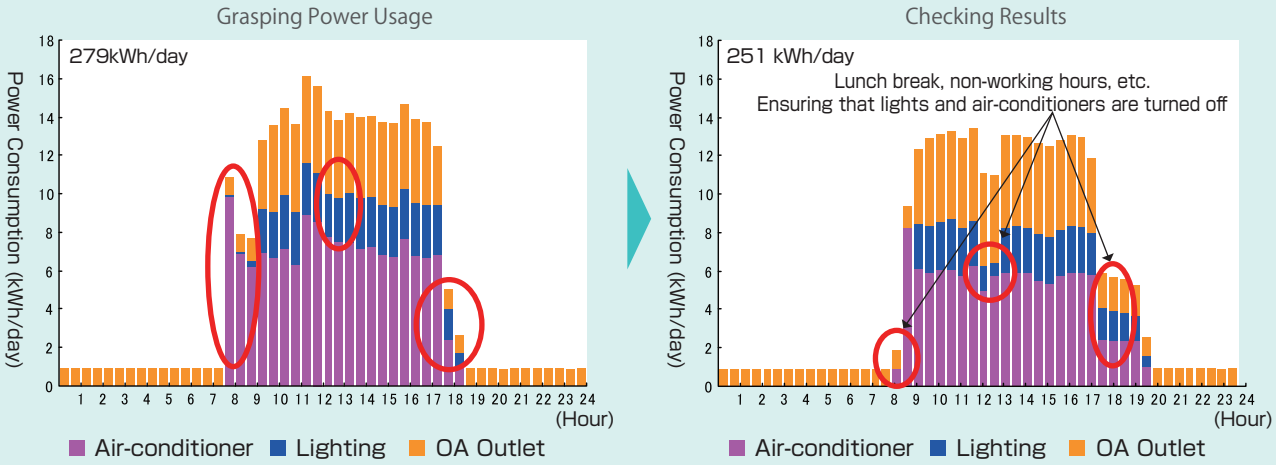
Mie RT-Box

Mizugahira Radio Relay Station, Mie Branch

TOPIC: Further Reduction of Power Use in Offices through Operation Improvement

Reduction of power use in the offices can be largely divided into “reduction through equipment renewal” and “reduction through operation improvement.” With the aim to further cut down on power use, operation improvements have been made on the power use in the offices. The steps for implementing operation improvement are as follows: (1) grasp power usage using measurement tools, (2) extract points for analysis and formulation of countermeasures, (3) draft and execute concrete countermeasures, (4) check effect of countermeasures. Upon implementing, we succeeded in reducing power use in the offices by about 4%. Also, the results of implementing different procedures are stored as know-how and rolled out in a manual to other offices throughout the country.

Grasping Power Usage of Office Building and Checking Results (Example)



Energy-saving Implementation Map Based on Operation Improvement

OA Equipment	Ensure PC monitor’s energy-saving settings	Ensure Settings to switch PC to standby mode	New Change brightness of PC monitor
	Ensure Unplug PC cables from outlet before going home	Review Clearly define rules for energy-saving modes of photocopier/ printer	New Consolidate printers (limit the number of printers according to the number of users)
	Ensure Turn off main power of photocopier/ printer before going home	Ensure Limit the number of sheets to print/copy	New Limit the number of OA equipment based on the primary unit
Lighting Equipment	Ensure Turn off lights during lunch break	Ensure Turn off unnecessary lights	Review Clearly define rules for turning on lights before working hours
			Review Limit the number of elevator lobby lights to be turned on in the day
Air-conditioning Equipment	Review Turn off air-conditioner during lunch break	New Turn off unnecessary ventilation fans (night, non-working days, etc.)	
Others	Ensure Limit use of elevators	New Turn off toilet seat heater during warm seasons	Review Cut unnecessary power at dining hall during non-peak hours
	Ensure Cut standby power of pots	New Review operation schedule of ice thermal storage unit	

Ensure Ensure that existing measures are rolled out Review Reinforce or review the rules for applying existing measures New New measures, etc.

Since FY 2005, the entire NTT West Group has come together to implement power-saving measures to help prevent global warming. These include thorough efforts to maintain the air-conditioning temperature at 28˚C in summer and 20˚C in winter.

Main Approaches

1. Strict Control of Room Temperature

NTT West Group is making thorough efforts to maintain the air-conditioning temperature setting at 28°C in summer and 20°C in winter.

By doing so, annual power use is expected to reduce by about 7.5 million kWh. This is equivalent to the amount of CO_2 absorbed in a year by a forest with an area that is 140 times larger than that of the Koshien Baseball Stadium.

2. Power-saving Measures

To enhance the awareness among our employees toward power saving, we are ensuring even more strictly the habit of turning off the lights, air-conditioner, and office equipment that are not in use.

Awareness Poster (Summer 2010)

Awareness Poster (Winter 2010)

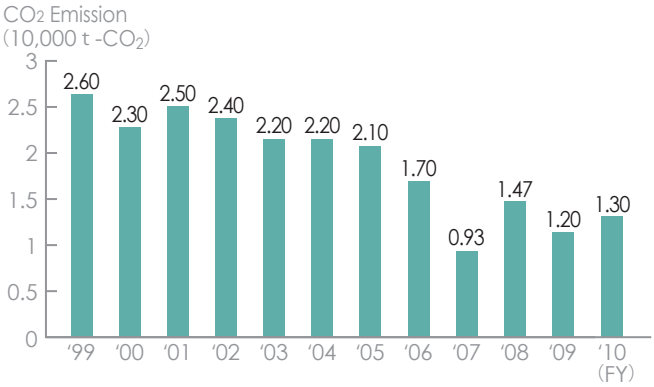
Reduction of Gas & Oil Fuel Consumption

Performance in FY 2010

In FY 2010, the amount of CO_2 emission from gas fuel (mainly for cogeneration systems) and oil fuel (mainly for boilers) at the main buildings owned by NTT West Group was 13,000 t-CO_2 (compared to about 12,000 t-CO_2 in the previous fiscal year). The CO_2 emission amount from fuel consumption increase by 1,000 t-CO_2 compared to the previous fiscal year (Figure 5).

We will continue our effort to further reduce the consumption of gas and oil.

Figure 5: Change in CO_2 Emission from Gas and Oil Fuel



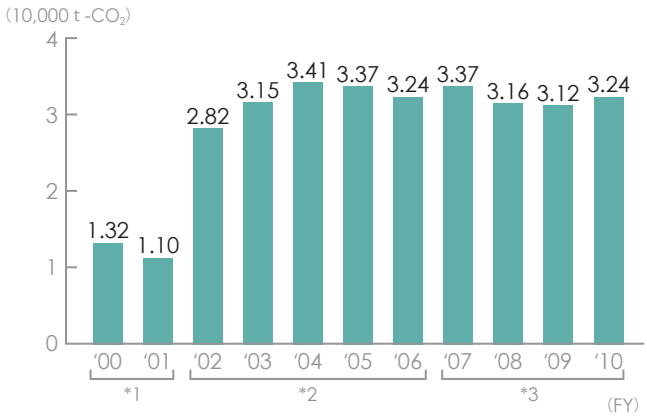
Reduction of CO_2 Emission from Company Vehicles

Performance in FY 2010

In order to bring down the amount of CO_2 emission from the company vehicles, NTT West Group has launched an “Eco Drive” as described below. We are also taking the initiative to rationalize the number of vehicles and introduce fuel-efficient and low-emission vehicles. In FY 2010, the amount of CO_2 emission from our company vehicles was 32,400 t-CO_2 (Figure 6).

*1 NTT West up to 2001
*2 NTT Neomeit and NTT Marketing Act included from FY 2002
*3 NTT West, 43 NTT Group companies and NTT Business Associe West from FY 2007

Figure 6: CO_2 Emission from Company Vehicles



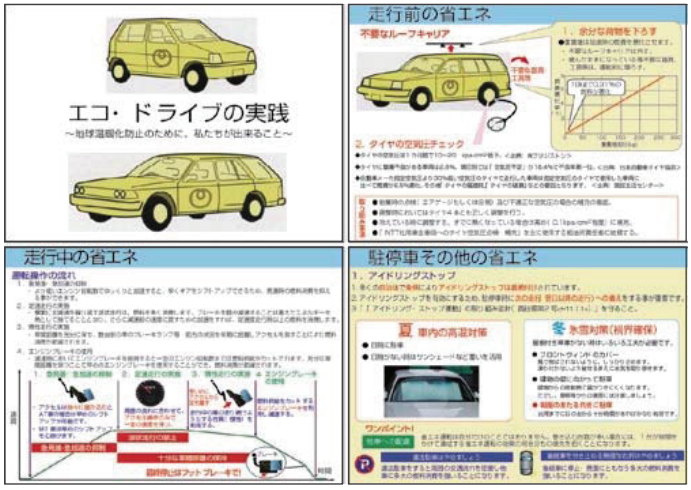
Eco Drive

NTT West Group owns about 15,000 vehicles. To reduce the CO_2 emission from these vehicles, we launched the “Eco Drive” in FY 2004, which added information on new eco-friendly driving techniques to the preexisting “Idling Stop Campaign.” (Figure 7)

As part of the measures to further enhance the awareness of our employees, we are putting in efforts to participate in the “Eco Drive Declaration” campaign organized by the Japan Automobile Federation (JAF). So far, about 50,000 employees who are mainly users of the company vehicles have signed the declaration to promote eco-friendly driving.

In FY 2010, to further consolidate the Eco Drive, we have been conducting Eco Drive workshops for our branches and group companies with support from the Japan Automobile Federation (JAF).

Figure 7: Manual for Eco Drive



Overview

Facilities and equipment such as cables and telephone switches are necessary for the telecommunications services we offer to our customers. They are dismantled for upgrading, such as upon reaching the end of life or for making functional improvements, and subsequently treated as wastes.

In the medium-to-long-term action plan, NTT West Group set the target "to reduce the final total amount of wastes by FY 2010 to 50% or below compared the level of 1998," and has been making efforts to satisfy the following action plan targets for FY 2010.

(1) Reduce wastes from dismantled communication facilities to 100 t or below

(2) Reduce wastes from civil engineering works to 200 t or below

(3) Increase the recycling rate of wastes from construction works to 96% or higher

(4) Reduce industrial wastes at offices to 400 t or below

Performance in FY 2010

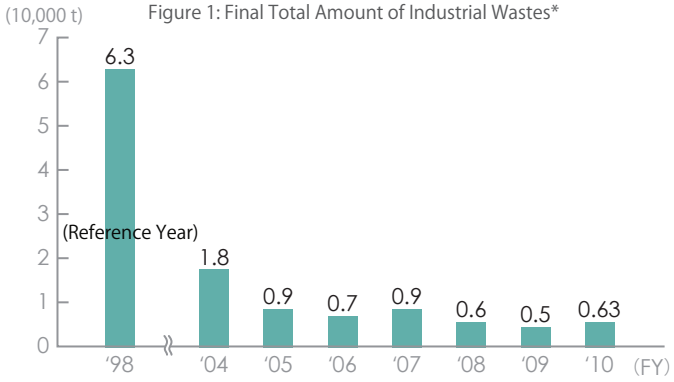
Although our performance in FY 2010 with respect to the target of the same year was good, there was an increase of 1,000 t compared to the previous fiscal year. (Figure 1)

In particular, a large amount of wastes, including rubble and sludge for which recycle is difficult, was generated from civil engineering works. This caused our performance to fall short of the target value (Page 35).

To reduce the final total amount of wastes, we will cooperate with our branches, regional companies, and work contractors to reinforce our efforts.

* Industrial wastes includes wastes generated from dismantled communication facilities, civil engineering and construction works, and also offices.

Figure 1: Final Total Amount of Industrial Wastes*



Proper Handling and Reduction of Dismantled Facilities

Instead of simply disposing dismantled facilities, we have implemented the three Rs: Reduce, Reuse and Recycle to further reduce the final total amount of wastes.

Performance in FY 2010

In FY2010, wastes generated from dismantled telecommunications facilities amounted to 124,800 t, of which 124,700 t were recycled, giving us the final total waste disposal amount of 100 t (Figure 2 and Figure 3 in Page 27). The target of 100 t set for FY 2010 was therefore met.

The overall recycling rate was 99.9%, thanks to extensive guidance given by the branches and regional companies to the waste disposal companies and also their own effort. Also, the recycling rate of plastic materials from terminal equipment was 99.6% (Figure 6 in Page 29).

In FY 2011, we will strive to maintain the zero emission* rate by enhancing the recycling of plastic wastes, whose rate was slightly lower.

* Zero emission
Proposed by the United Nations University, this is a concept that aims at production that does not generate wastes on the whole by utilizing all wastes and by-products generated by an industry as resources for another industry. NTT West Group defines zero emission as a final total amount of non-recycled wastes that is 1.0% or lower.

Figure 2: Final Total Amount of Wastes from Dismantled Facilities

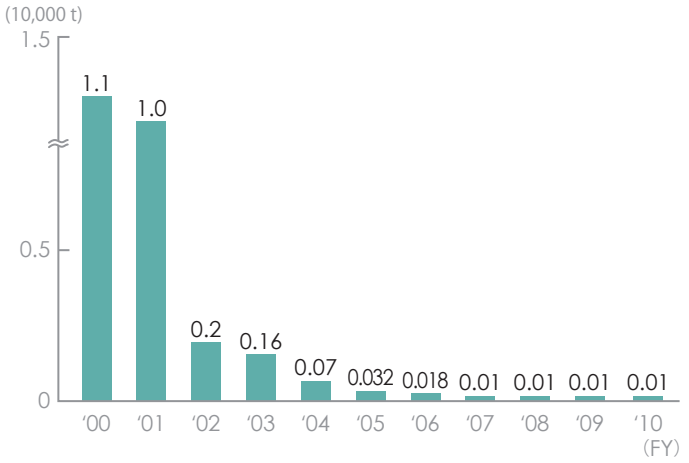
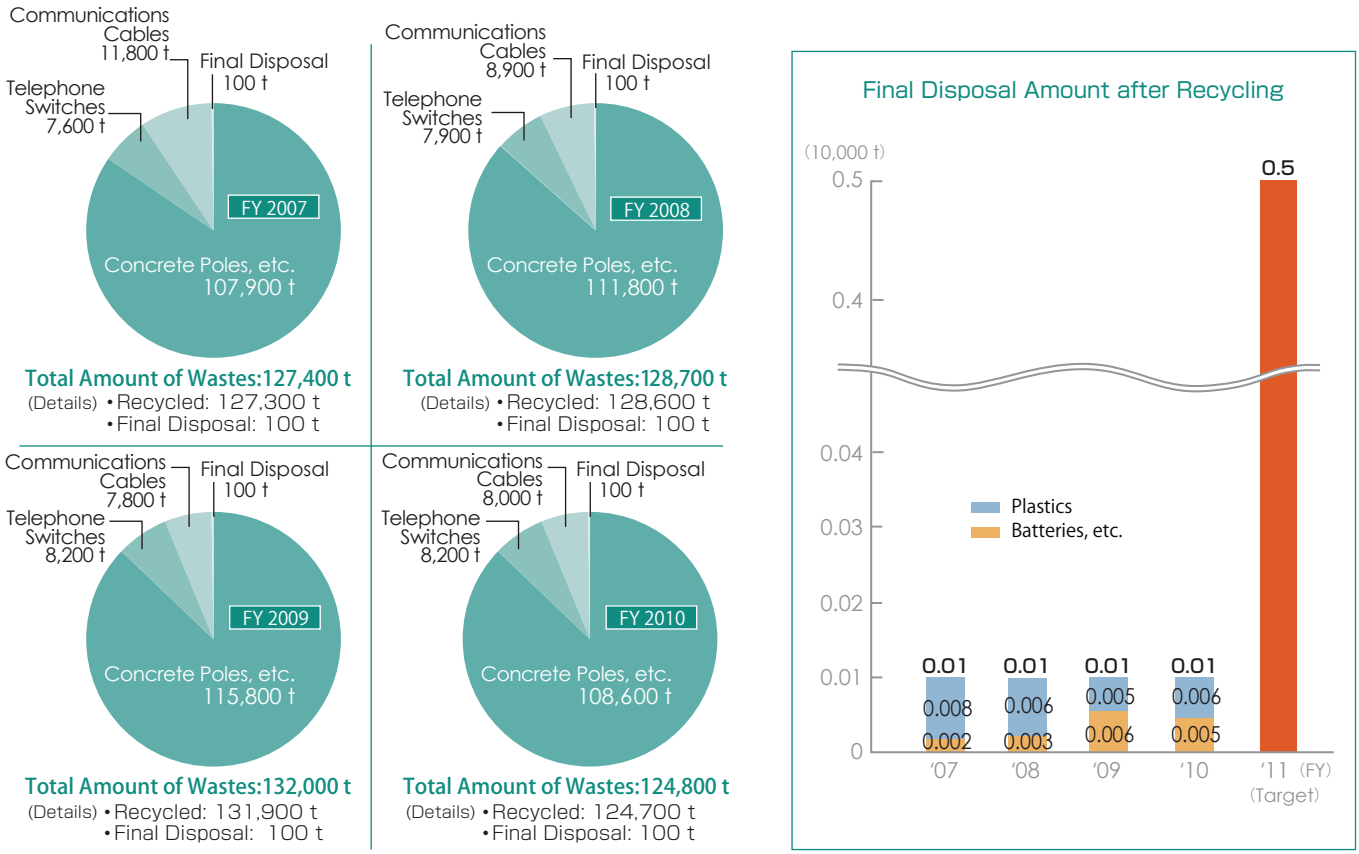


Figure 3: Total Amount of Wastes from Dismantled Facilities and Final Disposal Amount



Industrial Waste Subject to Special Control

A type of waste that is subject to special control is batteries for emergency power supply, such as those used in telephone switches. All waste types that require special control are handled according to the laws by the assigned managers at every branch. While the total amount of such wastes generated in FY 2010 was 4,981.4 t, recycling of the lead polar plates and plastic housings helped to reduce the final disposal amount to 51.0 t.

Proper Processing of Wastes from Dismantled Facilities

In order to offer telecommunications services, we make use of many kinds of facilities and equipment, including communication cables and telephone switches. During upgrading of the facilities following the introduction of new services, dismantling works for the existing facilities take place.

The recyclable parts of the dismantled facilities are reused, and when reuse is impossible, we will select qualified companies for waste disposal and outsource disposal of parts that are not reusable to them upon strictly assessing the companies' past records, handling capacity, and costs of disposal.

Moreover, we require the selected disposal companies to report on dismantlement and disposal works performed in Japan. We also conduct on-site inspections from time to time to ensure that the works are being performed properly (Figures 4 and 5 in Page 28).

Figure 4: Flow from Dismantlement of Facilities to Recycling/Disposal

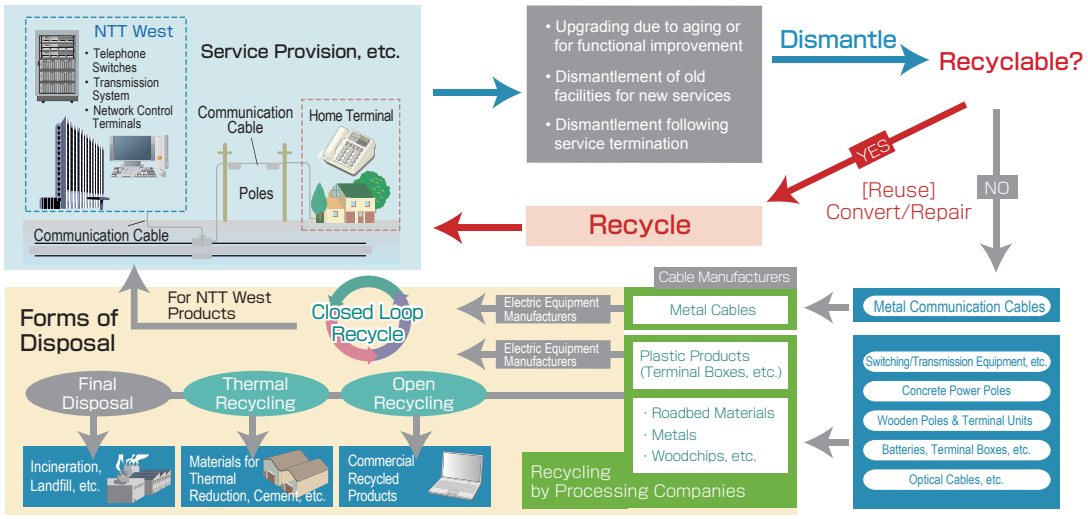
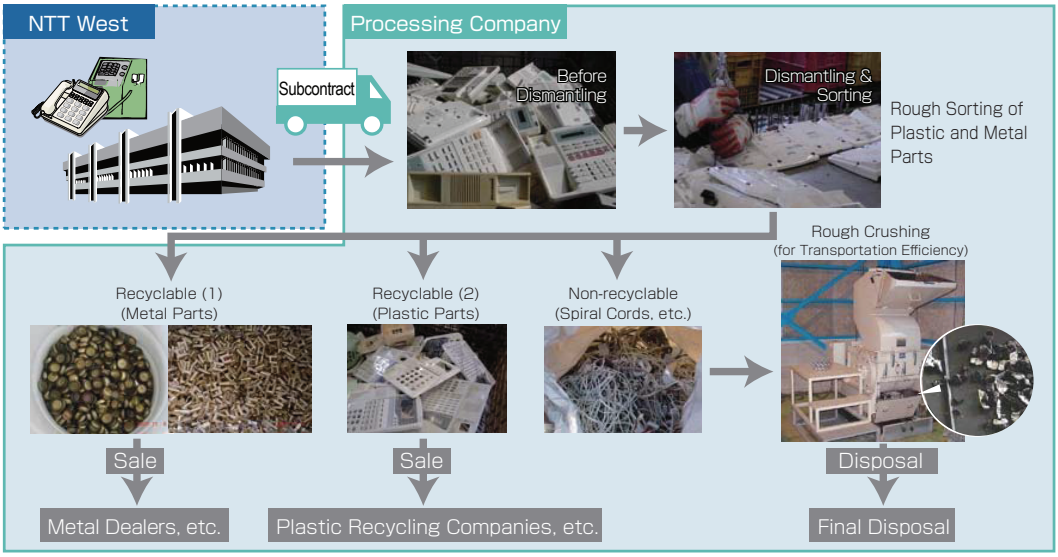


Figure 5: Processing Flow of Terminal Units (Telephones, etc.)



Electronic Management of Waste Disposal

In FY 2001, we introduced to the entire western Japan region an electronic manifest system* for the “manifest for industrial waste,” for which its issuance by waste-producing companies is made mandatory under the Wastes Disposal and Public Cleansing Act. The electronic manifest system helps us to thoroughly manage operations from waste production to final disposal, and collect data of processing results efficiently.

* Electronic manifest system
A system that converts manifest information, which was previously paper-based, into electronic data for distribution on the Internet. It is administered by the Japan Industrial Waste Technology Center, designated by the Ministry of Health, Labor and Welfare.
Its advantages include preventing omission in the entries, and eliminating the need to store and manage the paper data for five years. Also, central control of data by the data processing center makes manifest management easier and stricter.

Voices of Our Employees

Yoshihiro Inoue, Procurement Planning Subgroup, First Procurement Section, Procurement and Supply Center, Network Department

While taking appropriate actions during the generation of wastes, the personnel responsible for facility dismantlement in each area are also constantly tackling the issue as to how they can reduce the amount of the final waste disposal. As a result of our steady efforts to persuade our recycling contractors the importance of efficient resource utilization, such as by requesting them to introduce detailed sorting processes, we were able to achieve the target for the final disposal rate as well in FY 2010.

While it may not be easy to lower the final disposal rate in future, I hope to make as much contribution as possible to the reduction of global environmental load by continuing efforts to maintain the current final disposal rate.

Recycling of Dismantled Facilities

Promoting Recycling of Dismantled Facilities

In promoting measures for recycling, the first thing that NTT West considers is material recycle* into goods that it uses (closed-loop recycle).

NTT West sees it as part of its responsibility to do so, and promotes such an effort as a measure for contributing toward the formation of a circulating society, which would help to overcome national issues such as depletion of natural resources and shortage of final disposal sites.

Parts of our communication facilities that are not reused are recycled for various usages according to the item and material (Figure 6). While promoting recycling, we prioritize the different methods of recycling (see Figure 7). In other words, NTT West first considers whether the wastes it generated can be used for material recycle to create things that it uses (closed loop recycle). When closed loop recycle is not possible, the wastes are considered for external recycle (open recycle). If open recycle is also not possible, they will be considered for use as heat sources (thermal recycle).

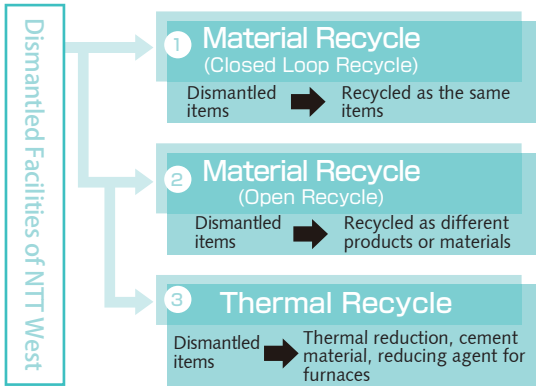
*1 Material recycle
Reusing of wastes as materials. Specifically, it refers to collecting used products or wastes generated from manufacturing processes, and processing them into readily usable forms, so that they can be utilized as materials for new products.

Figure 6: Recycling of Dismantled Facilities

Waste Item		Main Use after Recycling	Recycling Rate*
Communi-cation Cable	Metal Cable	Recycled Metal Cable Jacket for Recycled Optical Cable	100.0%
	Optical Cable	Imitation Wood, Construction Material, Cement Material, Fuel	96.8%
Indoor Facilities (Telephone Switches, etc.)		Metal Material, Construction Materia	99.9%
Concrete Power Pole		Roadbed Material, Metal Material	100.0%
Wooden Pole		Square Log, Board, Woodchip, Fuel	100.0%
Terminal Unit, etc.		Metal Material, Plastics, Imitation Wood, Construction Material, Fuel	99.5%
Battery		Recycled Battery	99.1%
Total			99.9%

* Estimate

Figure 7: Recycling Method Prioritization

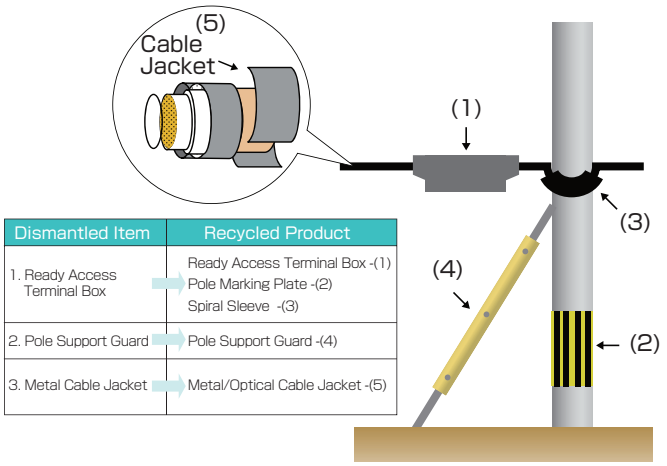


Efforts for Closed Loop Recycle of Facilities

To resolve the national issues of depletion of natural resources and shortage of final disposal sites, we need to "implement closed roop recycling." To make it happen, NTT West takes up the promotion of recycling as part of its responsibility. As already described, in promoting recycling, it is our top priority to examine material recycle (closed loop recycle), which recycles items into the same forms for our own use.

A representative example of NTT West's material recycle is shown in Figure 8 and the following page.

Figure 8: Closed Loop Recycling of Plastic Parts



Dismantled Item	Recycled Product
1. Ready Access Terminal Box	Ready Access Terminal Box -(1) Pole Marking Plate -(2) Spiral Sleeve -(3)
2. Pole Support Guard	Pole Support Guard -(4)
3. Metal Cable Jacket	Metal/Optical Cable Jacket -(5)

Recycling of Metal Cable Jackets

For dismantled metal cables, we used to implement the closed loop recycle for only metal materials, such as the copper parts of core wires. In FY 2002, we established and started operating a circulating recycling system for the plastic parts of metal cable jackets to recycle them into the same types of jackets.

It is the first attempt in the world to build a circulating recycling system for recycling products that require a high quality standard into the same products, such as jackets for communication cables. Our pioneering effort as a telecom carrier was highly rated at the 5th International Conference on EcoBalance*1.

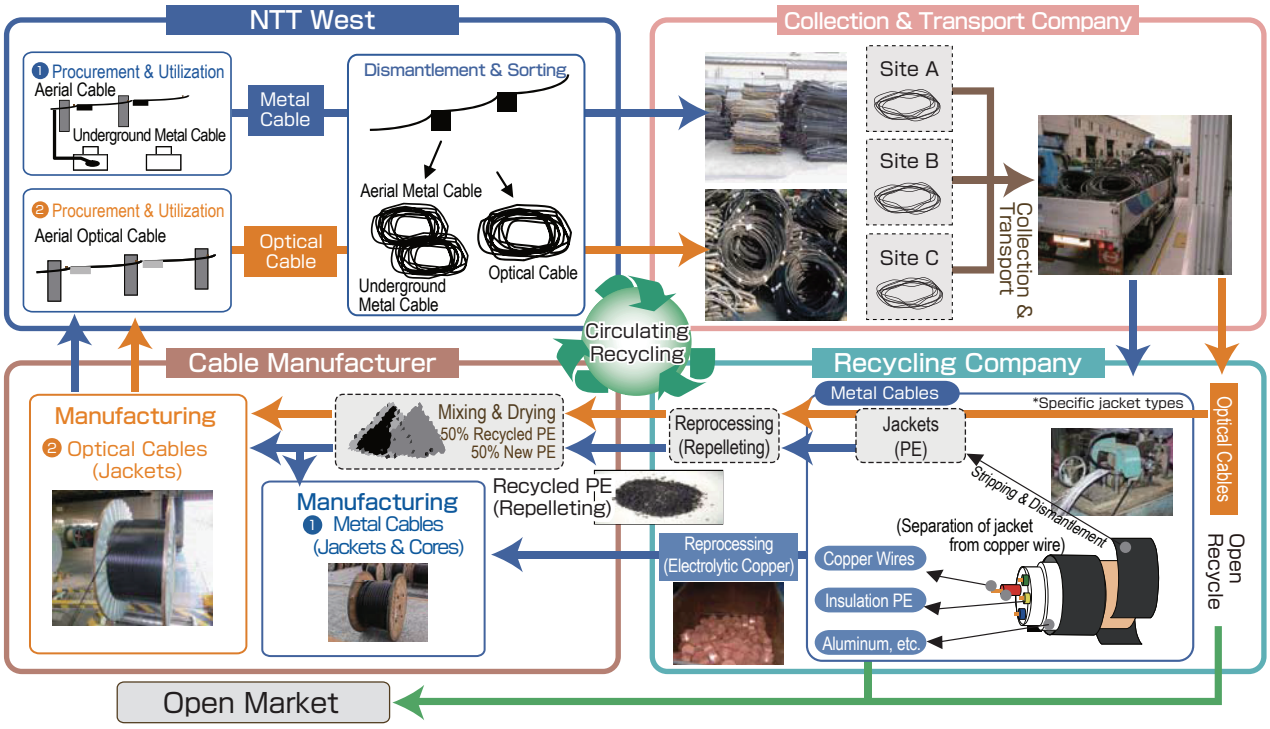
By using this know-how, we succeeded in FY 2005 in the reuse of jackets for metal cables as those for optical-fiber cables, establishing a closed loop recycling system of metal cable jackets (Figure 9).

Our recycling performance in FY 2010 was 159 t. This is equivalent to a saving of oil resources totaling the amount of 2,730 drums.

*1 International Conference on EcoBalance
Supported by the Ministries of Education, Culture, Sports, Science and Technology, Agriculture, Forestry and Fisheries, Economy, Trade and Industry, Land, Infrastructure, Transport and Tourism, and the Environment, this international conference focuses on the discussion of eco-harmony evaluation, including life cycle assessment (LCA)*2, and also studies on and implementation of evaluation methods. Starting from 1994, the conference has been held biennially in Tsukuba, Japan. About 450 professionals participated in the fifth meeting (6 to 8 November 2002). There were 93 overseas participants from 21 foreign countries, mainly in Europe and Asia.

*2 Life cycle assessment (LCA)
LCA attempts to measure the "cradle-to-grave" load of products on the environment quantitatively and comprehensively.

Figure 9: Closed Loop Recycle Flow of Cable Jackets



Efforts for Closed Loop Recycle of Optical Cable Jackets

To realize a large-capacity and high-speed (broadband) telecommunication environment, NTT West is moving rapidly from the use of metal cables to optical fiber ones.

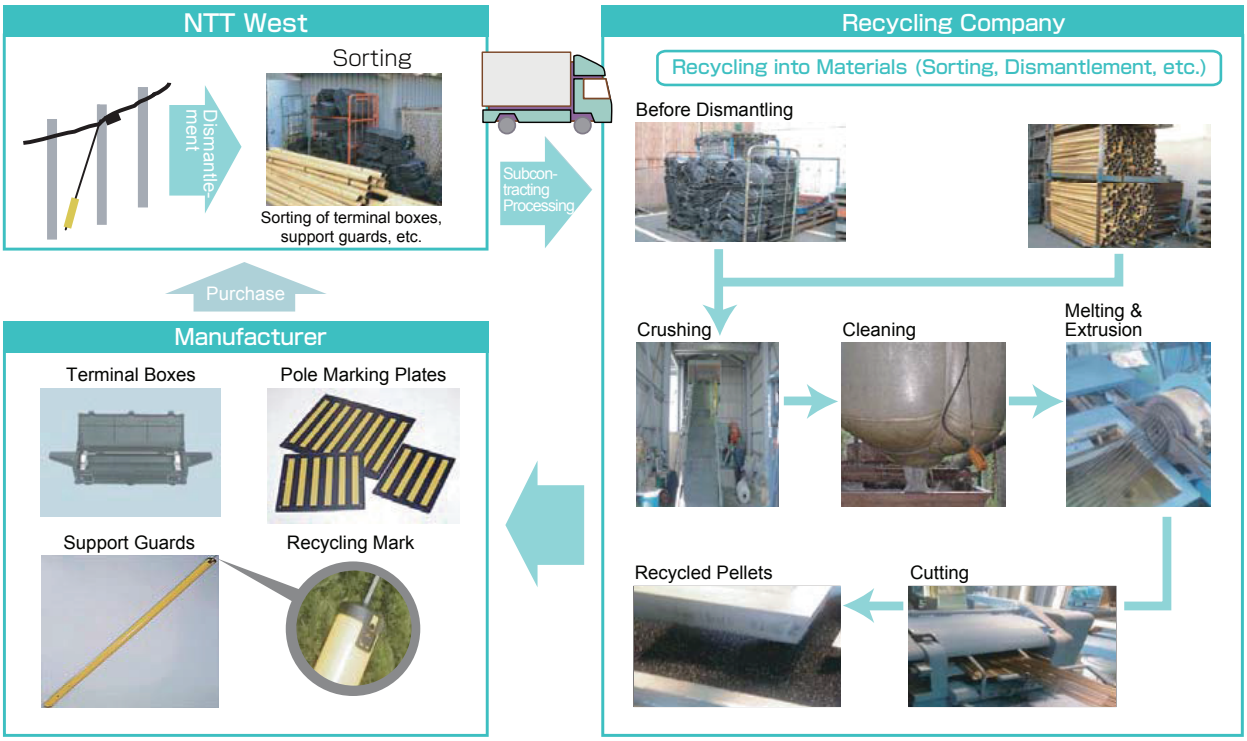
Previously, we had been cooperating with the manufacturers to implement the open recycling of wastes from dismantled optical fiber cables according to each type of material. Currently, however, we are studying the potential of establishing a circulating recycling system in which the plastic parts of dismantled optical cable jackets can be recycled into the same products.

As optical cables are structurally more complex than metal ones, sophisticated technology is required for jacket stripping. To address the anticipated increase in the amount of wastes, we hope to set up a closed loop recycle system.

Closed Loop Recycle of Plastic Products (Terminal Boxes, Pole Support Guards, etc.)

We are currently implementing a closed loop recycling system for recycling plastic products such as terminal boxes and power pole support guards into the same products (Figure 10). Since the inauguration of NTT West in 1999 to last year, a total amount of 4,023 tons has been recycled. We are continuing our effort to expand the system further to make it possible to recycle terminal boxes for optical cables.

Figure 10: Closed Loop Recycle Flow of Plastic Products



Topic: Reuse of Customers' Information Equipment

The network services that NTT West offers require different information equipment (including ONUs, CTUs, VoIP adapters, home gateways and ADSL modems) to be installed at the customers' premises (Figure 11). Following the spread of broadband services, the number of such equipment has increased greatly. At the same time, with the advancement of high-speed and diversified services to address the needs of the customers, equipment required for a particular service is utilized for a shorter period of time due to the shorter demand cycle for services.

In response to this situation, NTT West Group is promoting the effective utilization of resources by reinforcing activities to reuse information equipment for the network services we are offering (Figure 12).

Due to reasons such as customers changing the type of services they subscribe to or moving to a different address, most equipment that are no longer needed as a result are retrieved in the "collection kit" through couriers or dismantlement works. NTT West Group cleans the collected equipment, replaces missing components, and performs thorough checks on their operation before repackaging them for reuse. The aim of these recycling actions is to reinforce our contribution to a circulating society by reducing wastes and utilizing the limited resources efficiently. In FY 2010, we increased the number of reused equipment to about 1.66 million equipment. Some of the efforts include altering the color of the equipment' s housing and improving their shapes for easier cleaning (Figure 13).

We will continue to advance our efforts toward protecting the environment.

Figure 11: Main Equipment

Figure 13: Reuse Quantity of Customers' Equipment

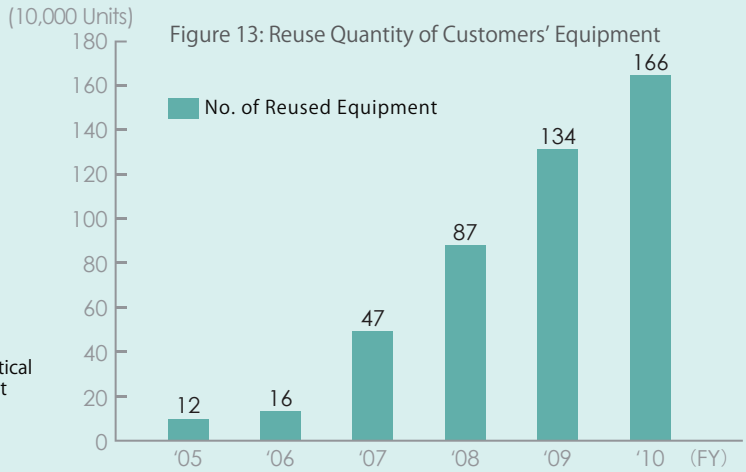
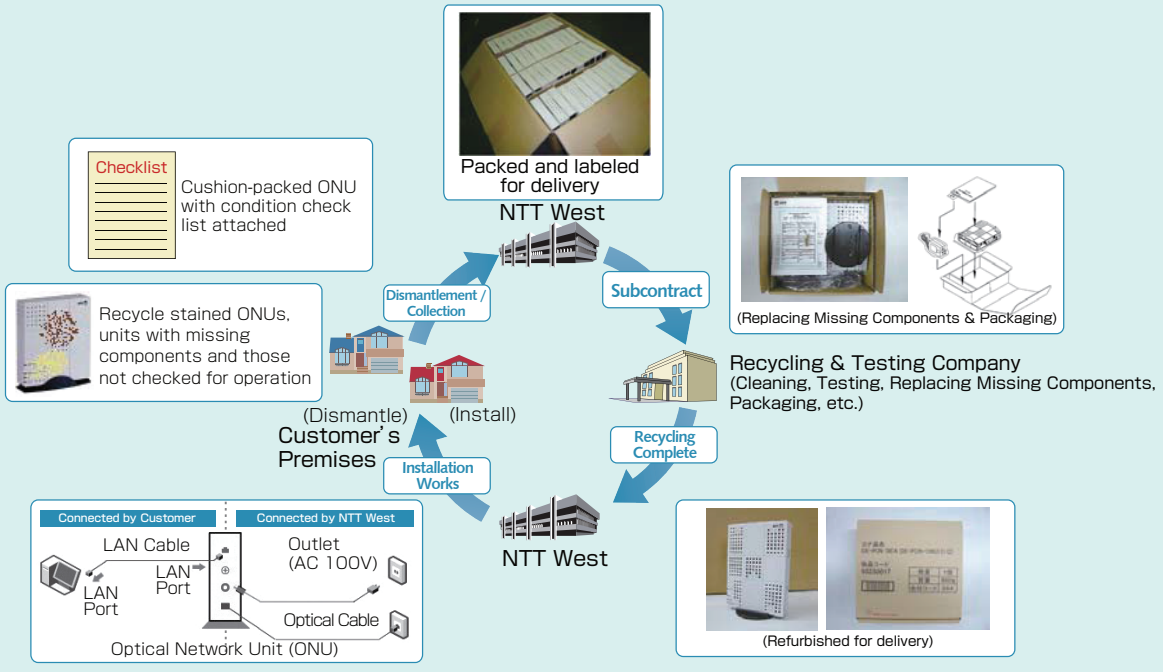


Figure 12: Reuse of Terminal Units for "Flet' s Hikari Premium" Services



Optical Network Unit (ONU): An equipment that is installed at the customers' premises for converting from optical fiber signal to 100BASE-TX Ethernet ones.

Recycling of Resources Used in Information Equipment

Collection and Recycling of Used Rechargeable Batteries for Wireless Phones, etc.

Since the "Law for Promotion of Effective Utilization of Resources" went into effect in April 2001, awareness in the society on small secondary batteries*1 (henceforth "rechargeable batteries"), such as those used for wireless phones, has been enhanced with each manufacturer beginning to take voluntary actions such as collecting used rechargeable batteries.

A rechargeable battery contains nickel, cadmium, lithium, and other metal compounds that can be recycled. In 1994, NTT West started its collection and recycling of nickel-cadmium batteries. Since April 2001, we have expanded it to nickel-hydride and lithium-ion batteries. Collecting used rechargeable batteries upon repair visits to our customers, we have been engaging in the recycling and efficient reuse of resources. In FY 2010, we collected a total of 4.1 t of used rechargeable batteries.

Also, our customers can bring used batteries to any of our recycling-partner shop*2 to dispose of them into the Recycling Box (Figure 14).

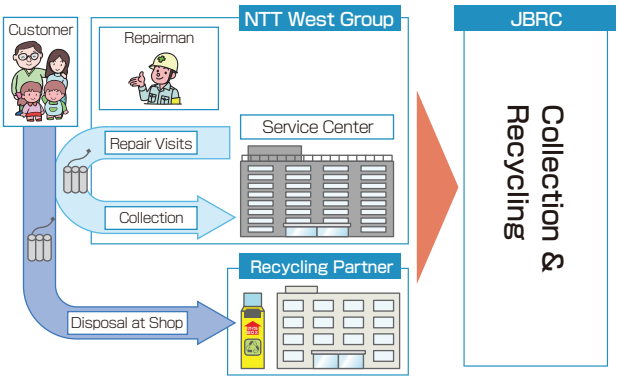
For details of NTT West Group's collection activities to promote recycling of resources used in information equipment, please visit the following websites.

"Collection and Recycling of Used Batteries for Wireless Phones, etc." and "Collection and Recycling of Used Toner Cartridges for Plain Paper Fax Machines"
Website:
http://www.ntt-west.co.jp/kiki/support/eco/eco_c3.html

"Collection and Recycling of Used PCs ('Southern Cross' PCs) from Residences"
Website:
http://www.ntt-west.co.jp/kiki/support/southern/recycle.html

To ensure the recycling of information equipment, we have also released a "Handbook on Global Environmental Protection Activities by Sales, Equipment Works and Maintenance Personnel" as part of our in-house educational activities. At the same time, each employee who is involved in the sales, equipment works and maintenance operations of NTT West Group is also actively promoting the reuse of these equipment to help protect the global environment.

Figure 14: Recycle Flow of Small Secondary Batteries



*1 Secondary Battery
Batteries are classified into two types, disposable primary (dry cell, lithium, etc.) and reusable secondary batteries. The secondary type can be further divided into a large type, such as those used for vehicles, and a small type for portable equipment.
<Representative Small Secondary Batteries>
Nickel-cadmium, nickel hydride, and lithium-ion batteries

*2 Recycling-partner shop
A shop that is registered as a member of the Japan Bioassay Research Center (JBRC), and assists in the collection of small secondary batteries. The JBRC members include electrical appliance shops, supermarkets, hardware stores and bicycle shops.

Minimizing Use of Polystyrene Foam in Equipment Packaging

From the viewpoint of protecting the global environment, we are minimizing the use of polystyrene foam, which we have been using for packaging information equipment and as a cushioning material.

We make use of polystyrene foam for packaging equipment we offer as the material possesses excellent properties: it provides fine cushion and strength to protect products against impact, can be shaped easily according to the product, and allows us to reduce transportation costs because of its lightweight.

Despite these merits, however, polystyrene foam has environmental drawbacks as, when disposed of, it cannot be readily decomposed under natural conditions.

Taking into consideration that cushioning materials for home-use equipment are likely to be disposed of by our household customers, instead of using those made of polystyrene foam, NTT West now employs cardboards, which can be recycled easily and economically.

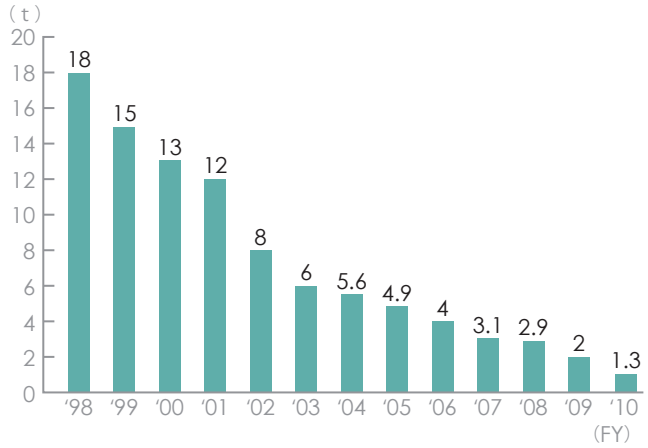
At the same time, for large products such as office-use fax machines and telephone switches, as well as precision equipment, for which there is no alternative that has the same strength as polystyrene foam, we have been reducing the amount of use, for example, by thinning the foam.

Currently, out of about 1,900 items we have on the market, approximately 99% of them do not make use of polystyrene foam packaging. In FY 2010, we have reduced its use to 1.3 t (Figure 15).

Also, during the launch of new products, we try to reduce the amount of polystyrene foam employed for packaging. For example, for the optical network products which saw an increase in shipment in recent years (about 990,000 units in FY 2010), we have completely eliminated the use of polystyrene foam ever since the release of these products.

Complying with the mandatory recycling regulations set forth in the Containers and Packaging Recycling Act, which took effect in April 2000, recycling work is currently subcontracted to qualified companies.

Figure 15: Use of Polystyrene Foam for Cushioning Information Equipment



Reduction and Recycling of Wastes and Soil Generated from Civil Engineering Works

Performance in FY 2010

NTT West Group owns underground pipes (conduits) and telephone tunnels for laying communication cables. Wastes are generated from civil engineering works for their construction and expansion.

In FY 2010, following an increase in expansion and relocation works, the disposal amount of 1,600 t (recycling rate: 98.2%) exceeded our target of 200 t by 1,400 t (Figure 16).

For FY 2011, we will make more aggressive recycling efforts to meet the target of 200 t by utilizing recycling technologies further as well as leveraging the intermediate processing facilities based on the processing flow for industrial wastes (Figure 17).

Figure 16: Disposal and Recycling of Wastes from Civil Engineering Works

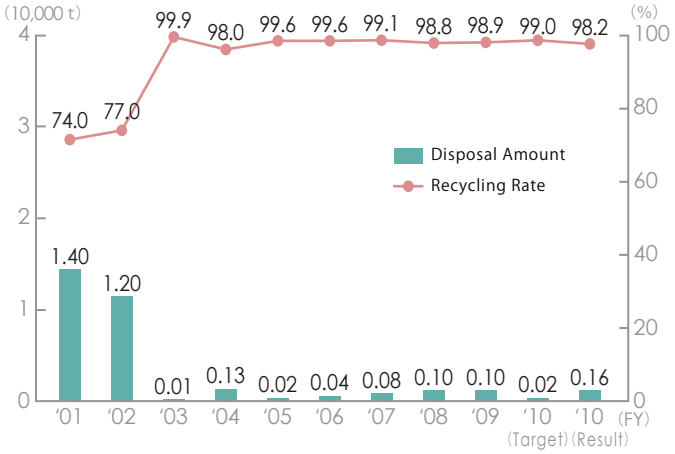


Figure 17: Flow of Industrial Waste Disposal in Civil Engineering Works

Recycling of Wastes and Soil Generated from Civil Engineering Works

In order to minimize the amount of wastes (concrete, asphalt sludge, etc.) and soil generated from civil engineering works, we put into practical use the pipe-jacking (trenchless) method (Figure 18) as a replacement for the traditional technique of digging a trench in the road. Since FY 2001, we have been making further improvements to expand the scope of application to different types of ground.

Also, in order to cut down facility upgrading works due to aging underground ducts that we own (total of about 330,000 km), NTT West has been actively promoting efficient utilization of facilities by developing and introducing the TM lining method for renewing conduits in FY 2001 (Figure 19).

Under the Construction Material Recycling Act, which went into effect on 30 May 2002, it has become obligatory to perform dismantlement and sorting at work sites, and also recycle specific construction materials, including concrete and asphalt, for works larger than a certain size. Based on this law, NTT West duly revised the agreements with our civil engineering subcontractors, making it mandatory for them to subcontract recycling operations to intermediary processing companies. This has contributed to an increase in the recycling rate since 2003.

In FY 2010, we also instructed our civil engineering contractors to ensure that recycling of wastes inevitably generated due to the work conditions or environment are also outsourced to intermediary processing companies. Moreover, we have also made consistent efforts to make sure that the intermediary processing companies take thorough actions to achieve the recycling rate, final disposal amount, and also final recycling rate targets.

Figure 18: Trenchless Method (Schematic Diagram)

A method for constructing conduits while generating a minimum amount of waste and soil by employing an "Acemole," which is able to advance underground without the need to dig a trench.

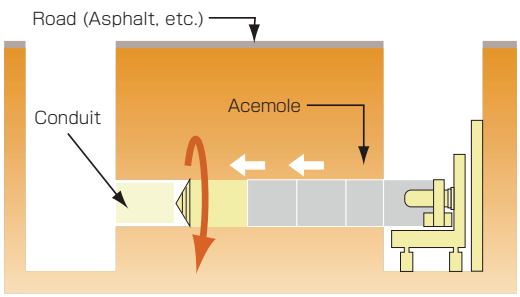
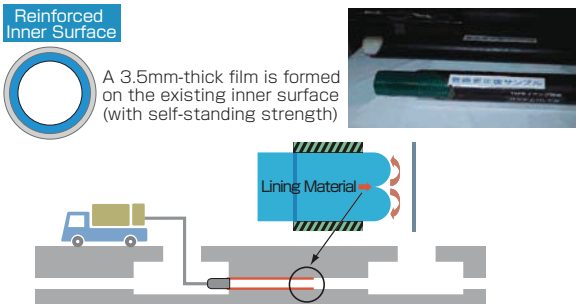


Figure 19: TM Lining Method (Schematic Diagram)

This is a method for repairing conduits by inserting a lining material inversely into the conduit, followed by hardening the material, such as by using hot water, so that a new layer of resin film can be formed.

* "TM lining" stands for "Thick Membrane Lining."



Voices of Partner Companies

Masahiro Nishimura,
Civil Engineering Department, Civil Engineering Business Division, Commuture Corp.

Asphalt mixtures and concrete slabs used as pavement materials for existing roads constitute a large part of industrial wastes that are generated from telecommunications-related civil engineering works. In recent years, following the promotion of the Construction Waste Recycling Law, it has almost become an established trend to achieve a 100% recycling rate. While such a high standard is being attained, our company, likewise, has been able to transport industrial wastes to recycling facilities, purchase recycled materials, as well as achieve 100% recycling.

At the same time, we are also working toward reducing construction by-products (wastes).

In a recent access pipeline work to existing manholes using a non-open cut method (propulsion work), instead of the conventional method of performing drilling at the start shaft and arrival shaft, followed by removing the manhole and installing a new one, we employed a method that removes only the floor plate, while keeping the existing manhole at the arrival shaft intact, followed by drilling downward from the interior of the manhole to install additional manholes below the existing one.

This method makes it possible to minimize generation of construction by-products from the removal of manholes at the arrival shaft as well as restoration of the pavement.

I will strive to make use of my knowledge and ideas as an engineer in promoting recycling in construction works and reducing construction by-products.

Reduction and Recycling of Wastes Generated from Construction Works

Performance in FY 2010

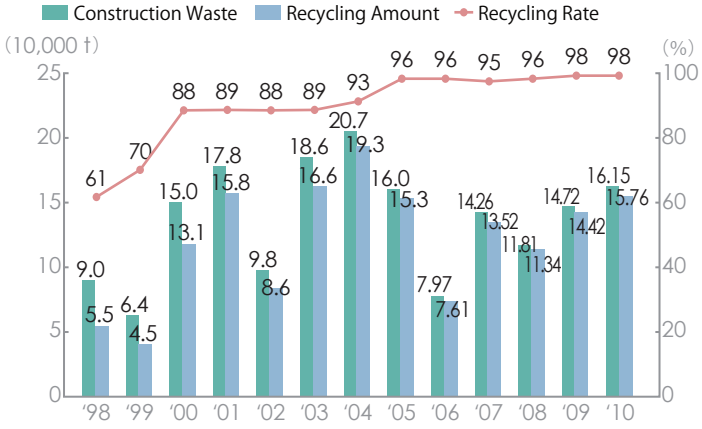
As NTT West Group owns many structures including communication facilities and offices, wastes are generated during their demolition, such as when the lands are sold off.

We achieved the annual recycling rate target of 98% in FY 2010 which is the same as in previous fiscal year, though the total amount of wastes from construction works increased by 14,300 t to 161,500 t, compared to 147,200 t in the previous fiscal year. One possible factor is due to the larger volume of wastes generated during each construction work (Figure 20).

The amount of soil generated from construction works saw an increase of 140 t from the previous fiscal year (2,880 t) to 3,020 t, while the recycling rate was 98% (26% in the previous year). In FY 2009, poor grade soil (non-recyclable) constituted 72% of the total amount generated, which resulted in a low recycling rate. In FY 2010, only normal grade soil was generated from the construction works, hence the high recycling rate.

We will continue our effort for a better recycling rate in FY 2011 while reducing the final amount of wastes.

Figure 20: Disposal and Recycling of Wastes from Construction Works



Reduction of Wastes and Recycling of Soil Generated from Construction Works

NTT West is promoting the efficient utilization of recyclable resources, such as concrete mass, and minimization of wastes generated by making it obligatory for its main construction contractors to prepare plans for processing wastes. For construction works, in particular, not only do we manage the total amount of wastes generated, we make sure that recycling is being promoted regardless of any fluctuations in the total waste amount.

Taking into account our social responsibility as the outsourcer, we ensure that industrial wastes generated from all our construction works (including industrial types subject to special control) are properly processed by using the manifest system.

Although soil generated from construction works is not classified as an industrial waste, we have implemented voluntary efforts to minimize its production and set a target recycling rate.

Voices of Our Employees

Shin Hiraga,
Real Estate Strategy Subgroup, Real Estate Strategy Office, Account & Finance Department

In order to reduce the final disposal rate of wastes from construction works, I believe it is important to raise environmental awareness at the work site.

To this end, we are currently examining measures such as case study of model works and awarding good companies.

Reduction and Proper Processing of Industrial Wastes at Offices

Performance in FY 2010

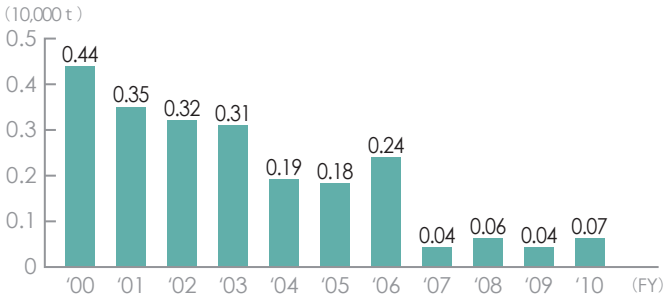
Promoting the reuse and recycling of unnecessary office computers and furniture such as desks, chairs, and bookshelves, NTT West Group aims at reducing the amount of industrial wastes generated at our offices.

In FY 2010, the amount of wastes was reduced to 700 t (Figure 21) as a result of our aggressive efforts in promoting reuse and recycling activities, such as those for computers.

Industrial wastes at offices are properly handled by strictly complying with the Wastes Disposal and Public Cleansing Act. At the same time, as an industrial waste discharge company, we ensure that agreements concluded with processing companies and the administrative procedures are appropriate.

As with FY2010, we will continue to advance our efforts to reduce wastes in FY 2011 such as by further promoting recycling, while setting targets for each office and ensuring more thorough progress management.

Figure 21: Final Disposal Amount of Industrial Wastes at Offices



Voices of Our Employees

Hiroki Iwakawa,
General Affairs Subgroup (Office/Welfare), General Affairs Section, General Affairs Department

In regard to reducing industrial wastes at the office, it is important that we think about the possibilities of recycling and reuse, and consider “disposal” as the last resort.

To achieve this, I will strive to build additional systems and enhance the awareness of other fellow employees.

Proper Processing of Medical Wastes

Generally, medical wastes can be divided into infectious wastes*1 and non-infectious wastes. Wastes of an infectious nature are classified as “industrial wastes subject to special control,” *2 and are subject to particularly strict storage and disposal regulations.

The medical facilities of NTT West generate medical wastes. At each medical facility, thoroughgoing efforts are made to ensure the proper processing of infectious wastes, with all employees exercising utmost care in their disposal.

*1 Infectious wastes
These wastes may contain blood, etc. and be contaminated with pathogens that may transmit infectious diseases to humans.
(Syringe needles, blood products and pathological wastes such as surgically removed human organs)

*2 Industrial wastes subject to special control
Wastes that are explosive, toxic or infectious, or those that may pose a potential hazard to human health or the living environment.
(Article 2-5 of the Wastes Disposal and Public Cleansing Act)

Storage of Polychlorinated Biphenyl

Polychlorinated biphenyl (PCB) is a chemically stable substance that cannot be thermally decomposed readily. Because of its excellent insulation and incombustible properties, PCB has been widely used as the insulating oil for transformers and capacitors of electrical equipment, heating medium, and pressure-sensitive copying paper. However, the toxicity that PCB poses became an issue, and although its production was terminated and use minimized in 1972, not much advancement has been made on its detoxification process. To this day, the storage of PCB wastes has been entrusted to the relevant companies. For these companies, which have been storing them for many years, the detoxification of PCB wastes has become an important issue.

Under the Law Concerning Special Measures against PCB Waste, which was enacted on 15 July 2001, companies storing PCB wastes are obliged to dispose of the stored PCB wastes by 14 July 2016 on their own or by subcontracting their disposal to other parties and produce annual reports on the storage.

In accordance with the instructions from the Ministry of the Environment, we are performing more detailed classification of the PCB wastes to enable more appropriate management of their storage.

NTT West, as a PCB-storage company, has formulated a storage guideline on the functions of the required facilities and the storage procedures to ensure appropriate storage of PCB wastes. Among the items that we store, those over 10 kg were registered at an early stage with our contractor, Japan Environmental Safety Corporation (JESCO). In FY 2007, 149 capacitors were detoxified at the Kita-kyushu Plant, followed by 144 high-voltage capacitors treated at the Osaka Plant in FY 2008. Another 202 high-voltage capacitors were detoxified at the Osaka Plant and Toyota Office in FY 2009, while 67 capacitors were detoxified at the Osaka Plant and Kita-kyushu Plant in FY 2010.

In FY 2011, we will continue our detoxification efforts at the Osaka Plant.

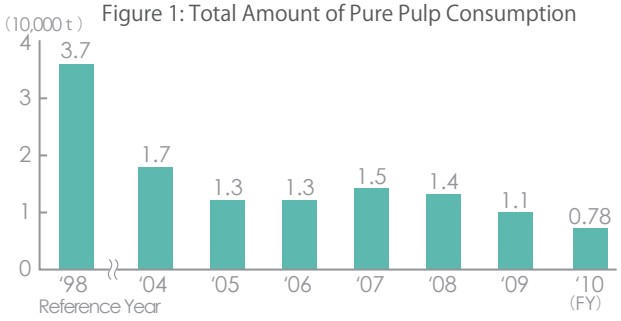
Overview

"Reducing the total amount of pure pulp used to four tons or lower by FY 2010" was one of the medium-to-long-term action plan targets of NTT West Group. As of FY 2006, we have already substantially achieved this "target on the total amount of pure pulp." In addition, with the ratio of used paper in telephone directories, which consume a vast majority of the amount of paper, reaching its technological limit, and our offices now purchasing only recycled paper supplies, we will continue to control the amount of pure pulp used, and strive to achieve further reductions.

Performance in FY 2010

The total amount of pure pulp consumed in FY 2010 was 7,800 t. Compared with the figure of FY 2009, the ratio of used paper in directories has improved greatly, leading to a reduction in the consumption of pure pulp (Figure 1).

Figure 1: Total Amount of Pure Pulp Consumption



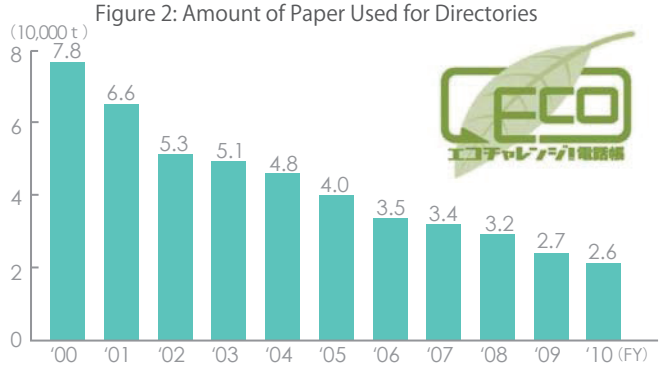
Use of Recycled Paper for Phone Directories

NTT West publishes about 49.15 million copies of phone directories with an approximate paper quantity of 26,000 t (Figure 2).

Precisely because the directories are consuming so much paper, we are implementing many eco measures to strike a balance between the directory business and reduction of the environmental load. The specific measures we are taking are described at our "Eco Challenges! Directories" *1 website.

*1 "Eco Challenges! Directories"
"Eco challenges" is a slogan that declares our active environmental stance, with "Eco" referring to the "environment," and "Challenges" representing our actions and attitudes.
Website: http://eco.tpnet.nttds.co.jp/

Figure 2: Amount of Paper Used for Directories



Reduction of Pure Pulp Use

Aiming at reducing the amount of pure pulp consumption, we have taken various measures over the past years in publishing telephone directories.

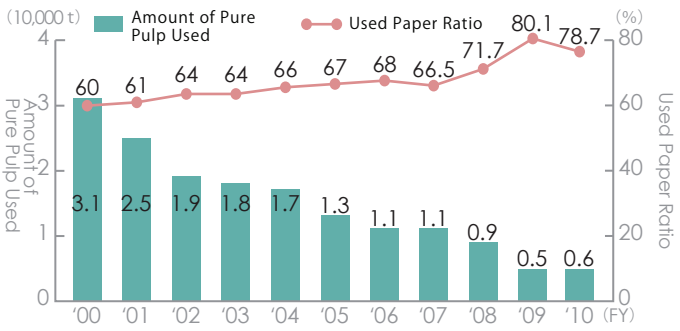
Directories are created by blending pure pulp*2 of woodchips and old paper pulp recovered from used directories. The measure on which we place most emphasis is how we can reduce pure pulp consumption and increase the ratio of used paper (Figure 3).

In an attempt to determine the correct number of directories to be printed, we take thorough actions to check with new and moving subscribers whether they wish to have a copy, and do not distribute directories to those who do not wish to receive one. We have also been printing two editions of "Hello Page" (white pages), one corporate and the other residential, and have started in July 2001 selective distribution to subscribers who need a copy based on prior check of their demands for residential directories.

In FY 2003, with the concept of "providing essential information to those who need it," we also divided the "Townpage (yellow pages)" into two editions, "Daily Town Page" for business types commonly made use of in our everyday lives, and "Business Town Page" for B-to-B types that are more frequently used in corporate activities. In principle, "Business Town Page" is distributed only to business offices, and doing so helps to contribute to reducing the amount of paper used for directories.

In FY 2011, we will continue to advance our efforts toward reducing paper use to 6,000 t or lower, which was the result of FY 2010.

Figure 3: Amount of Pure Pulp Used and Ratio of Used Paper



*2 To maintain a certain level of quality in paper used for directories, pure pulp is indispensable. However, to minimize direct consumption of forest resources, we are using remaining wood materials from housing construction works.

Woodchips

Recycling of Directories

Establishment of "Closed Loop Recycle System for Directories"

We have established a circulating "closed loop recycle system for phone directories," in which old directories are reprocessed into new ones (Figure 4).

A closed loop is a system for recycling old products into the same items, and is said to help minimize the wasting of resources. At NTT West, we are recycling old directories that we have collected into new ones.

The first step to establishing this system was taken in February 2000, when we started publishing directories using white recycled paper*3. By March 2001, we have employed the same type of paper to all directories.

As illustrated in Figure 4, collected directories are processed by a paper company into recycled paper, after which they are printed and bound into new directories. The copies our subscribers receive are recycled using such a system. In addition, since September 2001, we have been publishing directories by collecting old copies made from white recycled paper and transforming them into new ones.

In the past, we have been collecting outdated copies of directories while we deliver new ones (Figure 5). With improvements made to the quality, old directories can now be recycled as normal used paper. We will continue to make contributions toward building an environment-friendly community by reviewing the collection method, while at the same time implement efforts including those to reduce CO_2 emission.

Figure 4: Closed Loop Recycle System for Directories

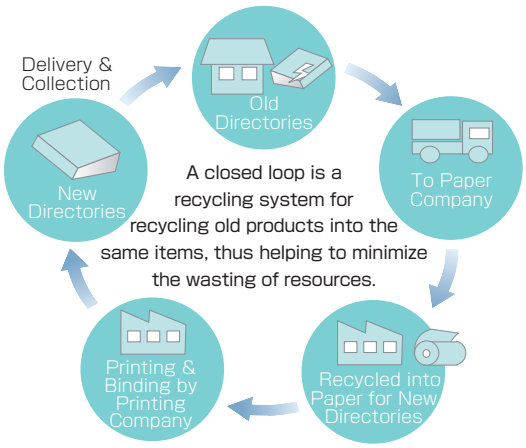
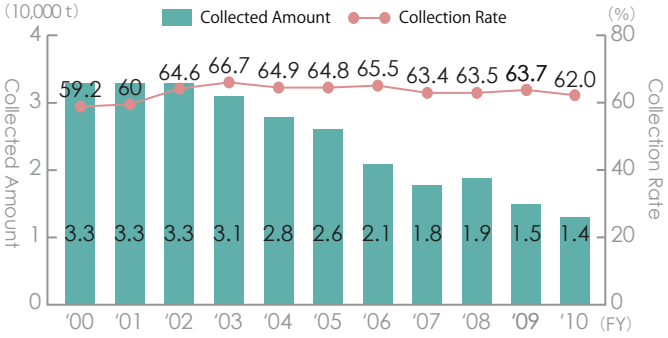


Figure 5: Amount of Old Directories and Collection Rate



*3 Directories using white recycled paper
In other countries, business-classified directories are called "Yellow Pages" because of the color of the paper used. The Yellow Pages of NTT West, "Townpage," used to be printed on yellow-dyed recycled paper. However, an issue with this type of paper was that it could not be fully decolorized in the recycling process. For this reason, we adopted the use of white recycled paper instead, and created yellow pages by applying yellow ink to the white paper.

* Townpage Center
Phone: 0120-506-309 (operating hours: 9:00 to 17:00 on weekdays, closed on Saturdays, Sundays, public holidays and new-year holiday season)
Fax: 0120-817-548 (24 hours)

Use of Recycled Paper for Telegrams

NTT West is taking measures to promote the use of recycled paper for telegrams, so as to reduce the consumption of pure pulp. As of 31 March 2011, there are 70 types of telegram package paper for different occasions, such as celebration, condolence and others, and the materials used include fabric as well as paper. In FY 2010, we handled as many as 6.78 million telegrams (out of 12.79 million nationwide), and the amount of paper used for the package paper was 592 t. As part of our telegram package paper recycling efforts, we have been implementing measures to raise the ratio of used paper when we develop new types of package paper or renew existing ones.

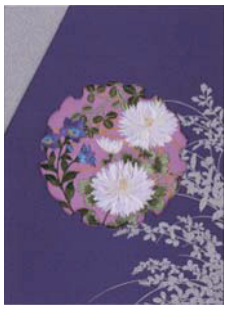
By paying attention to the paper materials used for our products, we achived the target of the total amount of pure paper consumption in FY2010 which was 5 t (over 67 t reduction compared to the target) while the target was set 72 t. Also, the ratio of used paper to the total amount of paper consumption was maintained at 63% and kept the same level compared to the previous year.

To address the needs of our customers further, we have plans to launch new products in FY 2011. We will continue our efforts to develop products that utilize recycled paper as well as eco-friendly paper materials.

In addition to the package paper, we also have fabric stuffed-toy telegrams such as “Hello Kitty Denpo,” “ Dear Daniel Denpo,” “Doraemon Denpo,” “Mickey Mouse Denpo,” “Minnie Mouse Denpo,” “Donald Duck Denpo,” “Daisy Duck Denpo,” and “Winnie the Pooh Denpo.” The fabric used for these telegrams are materials that do not impact the environment, such as those that are compliant with the ordinance on acetylacetone method (with a formalin content of 75 ppm or below) issued by the Ministry of Health and Welfare (No. 34, 1974). Another measure that we adopted to help reduce the consumption of pure pulp is the employment of eco-friendly recycled paper for the tubes into which telegrams are inserted.

We will advance further our effort in the development of telegram package paper using materials that have “less impact on the environment,” such as recycled paper.

Embroidery Telegram “Kikusetsuka” (Consolatory)



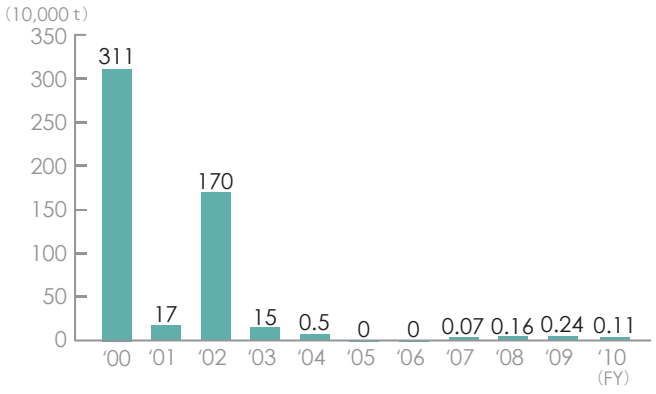
Embroidery Telegram “Shochikubai” (Congratulatory)

Reduction of Pure Pulp Used for Office Supplies

We have already switched to 100% use of recycled paper as paper supplies at our offices (Figure 6). As we have been classifying eco-friendly pulp*1 as pure pulp since FY 2008, the amount consumed has increased. We will continue our efforts to reduce the consumption of pure pulp.

*1 Eco-friendly pulp
- This type of pulp is produced in compliance with the laws and regulations in effect in the country of origin (logging area).
- The raw materials for eco-friendly pulp are FSCC-certified, planted or recycled/unused wood.
- Eco-friendly pulp is not bleached without chlorine gas.

Figure 6: Amount of Pure Pulp Used as Office Supplies



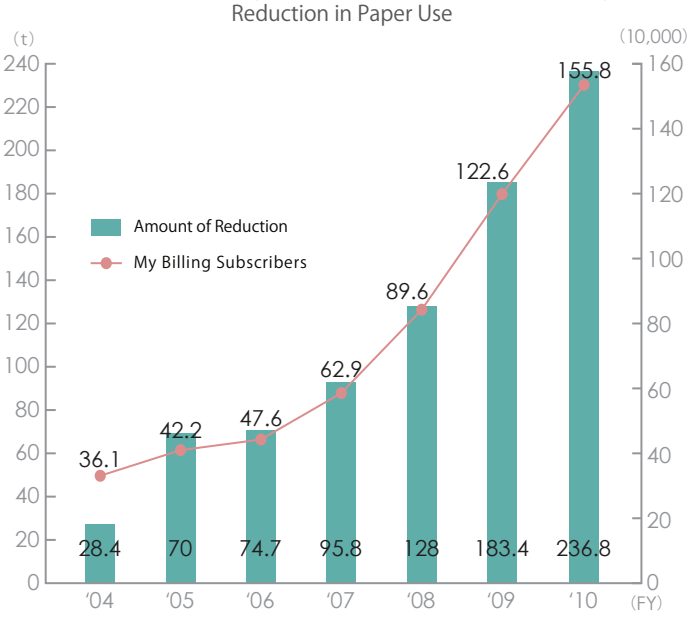
Reduction of Paper Use for Bills, etc.

For NTT West customers who settle their bills by credit card or account transfer, we are recommending them to use our Web-based system, “My Billing*” (membership service), which allows subscribers to check the service charges on the Internet, instead of sending out printed bills to them.

Our attempt to cut down paper resources for printed bills and envelopes has resulted in a reduction of 236.8 t in FY 2010, while the number of subscribers for the “My Billing” service has increased to 1.558 million (Figure 7).

* My Billing (membership service)
- Subscribers will need to bear the Internet connection charges when using this service.
- Users can view the monthly billing notices and also paid bills for the previous 12 months. However, this is only applicable to users who have subscribed to the My Billing service.

Figure 7: Number of “My Billing” Subscribers and Accompanying Reduction in Paper Use



Removal of Asbestos

Removal of Asbestos from Bridge Facilities and Communication Cable Bridges

We had been using fire-retardant asbestos to protect the facilities (conduits and cables) attached to bridges from fire that could break out under the bridges (Figure 1).

However, following the amendment of the "Ordinance on Prevention of Hazard Due to Specified Chemical Substances" and the "Wastes Disposal and Public Cleansing Act," asbestos has been defined as a substance subject to special control given its hazards. In response to this, we developed and adopted the rockwool method*1, which makes use of new harmless materials for protecting the bridge facilities from fire. In 1983, we have started the removal and upgrading of asbestos fire-protection facilities.

Through further technical improvements made to the fire-protection methods, we have, in 1997, introduced the precast construction method*2, which excels in fire-resistance and economic efficiency, and have since then been active in promoting the upgrading our fire-protection facilities (Figure 2).

Specifically, for the removal and upgrading of the facilities, we investigated their conditions while developing the method. We then prepared a "checklist for upgrading old fire-protection facilities" to judge the extent of degradation and damage through periodic checks. As a result of such effort, and based on works such as bridge replacement planned by the managers responsible for bridges, we expected fire-protection facilities containing asbestos (total 550 tons approximately) as of end FY 1999 to be fully eliminated by the end of FY 2003. However, during the course of our inspections and construction works in FY 2003, more bridges that required removal and upgrading were found, and 14 t of asbestos remained at the end of FY 2005. We ensured that removal and upgrading of the remaining facilities were performed, and systematically completed our works on removal of asbestos from and upgrading of bridge facilities and communication cable bridges by the end of FY 2006.

Unfortunately, fragments of the remaining asbestos were discovered in some of the upgraded bridges in FY 2007, and we have conducted works to remove them appropriately. We will perform inspections of the bridge facilities to check if there are any other remaining fragments, and will duly remove them should any be found.

*1 Rockwool method
A construction method that uses harmless new materials to wrap the heat-insulating material (rockwool) and covering material individually.

*2 Precast construction method
A construction method that uses harmless new materials to wrap the heat-insulating material (ceramic fiber) and covering material together.

Figure 1: Fire-protection Area of Bridge Facilities

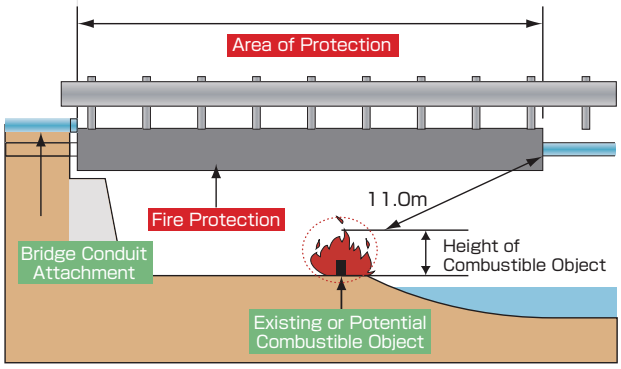
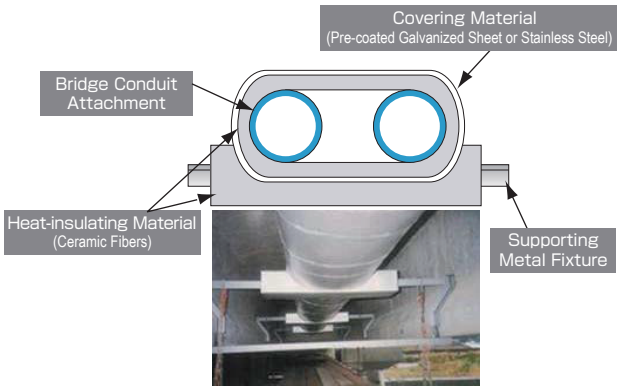


Figure 2: Precast Construction Method



Removal of Spraying Material with Architectural Asbestos

NTT West had about 120,000 m² of spraying asbestos in its buildings. To reinforce our asbestos removal plan, we set a target "to remove all asbestos for which this is feasible by the end of FY 2000," and we were able to do so as planned for all of the spraying asbestos for architectures. Meanwhile, based on the directive for inspection of private structures issued on 14 July 2005 by the Ministry of Land, Infrastructure, Transport and Tourism, we performed a stricter investigation in FY 2005. As a result of this investigation, spraying materials with asbestos content equivalent to about 65,000 m² were newly found, and we removed about 500 m² in FY 2008 and about 1,200 m² more in FY 2009. The remaining asbestos either cannot be removed or are unlikely to detach, and we are monitoring the condition by performing yearly measurements of the air condition. From FY 2011 onward, we will conduct asbestos removal works accordingly if the measurements for an area exceed the criteria.

In FY 2011, we will continue to implement removal measures. Materials that do not contain asbestos are used for ongoing construction works.

Discontinuing Use of Halon for Extinguishers

As part of our measures to protect the ozone layer, we have been advancing efforts to discontinue the use of halon in fire-extinguishing equipment, while introducing halon alternatives at the same time. The main substance that has been used for fire suppression is halon 1301 due of its excellent fire-extinguishing performance and properties such as high insulation, low toxicity and low ozone depletion. At NTT West, halon 1301 is employed at locations including equipment rooms, computer rooms, and power rooms, and we possess approximately 410 t of it. Since 1992, we have stopped constructing any new structure that contained halon.

As a substitute for halon, we are introducing a halon-alternative fire-extinguishing system, which provides high fire-extinguishing performance and safety to human body and telecom systems by adopting new extinguishing agents*1 that pose no risk to the ozone layer.

For the halon extinguishers, we are also taking measures to prevent accidental release, and are progressively adopting an early-detection system to increase the level of safety against fire (Figure 3). Equipped with an air-sampling smoke detector, which is superbly sensitive, the system is capable of detecting low-concentration smoke. This enables it detect a fire quickly in a large space where air-conditioned air circulates, leading to enhanced safety.

In 2011, we will continue to implement the necessary measures.

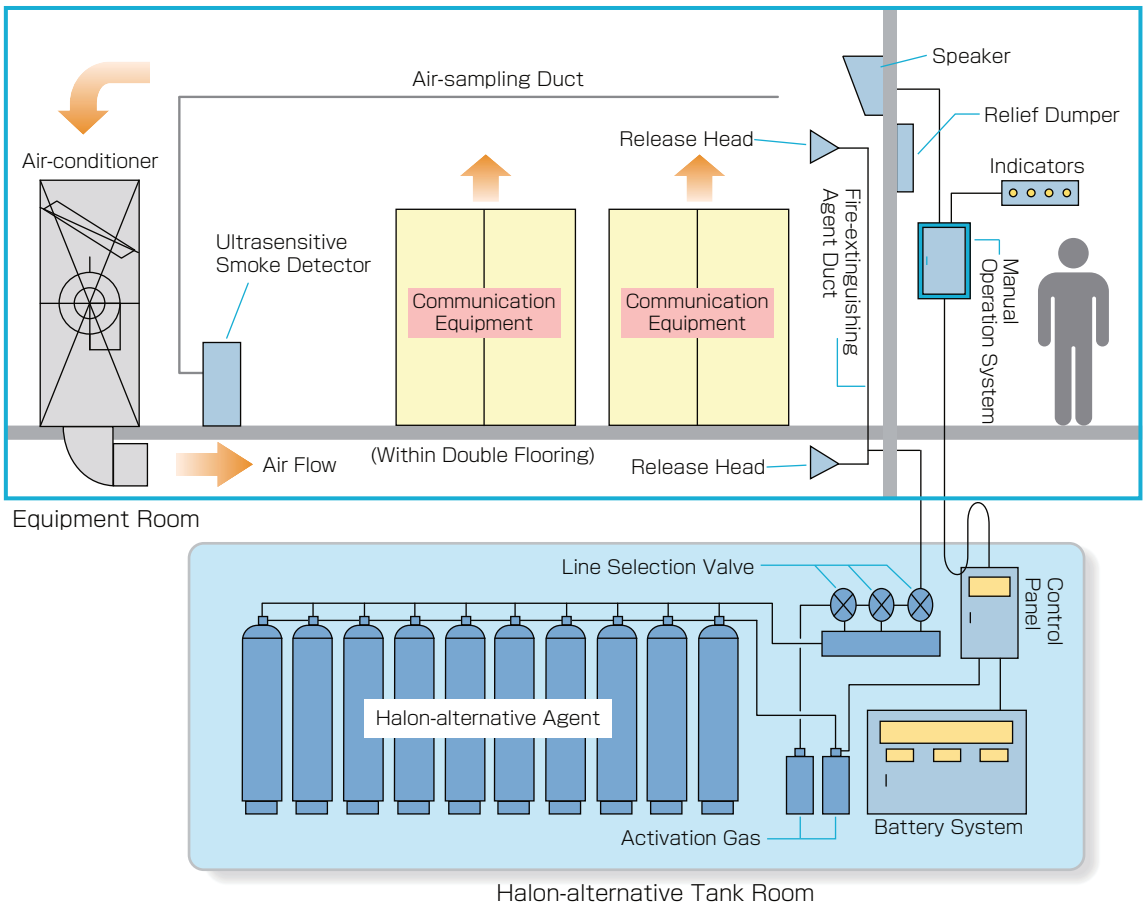
*1 The agent is any of the three substances, NN100*2, Inergen*3 or FM200*4. The most appropriate substance is selected for each building based on comprehensive consideration of issues such as construction costs.

*2 NN100
An inert agent, which, employing nitrogen gas, has zero ozone depletion potential and zero global warming potential.

*3 Inergen
An inert agent, which is a mixture of three gases, nitrogen, argon and carbon dioxide. It has zero ozone depletion potential and zero global warming potential.

*4 FM200
A fluorochemical agent with a limited releasing time. Compared with NN100 and Inergen, FM200 requires a fewer number of tanks as the agent is stored in the liquid form. It has zero ozone depletion potential and a global warming potential of 2050.

Figure 3: New Fire-extinguishing/Fire Protection System for Equipment Rooms



Environmental Load Reduction through e-comics - from Hard to Soft Media -

Given the improved broadband infrastructure and the prevalent use of mobile phones, NTT Solmare is offering a web-based service for comics, which used to be read as books. This “e-comics” service is rapidly spreading especially among young people (Figure 1).

In this service, each frame of a manga work is digitized meticulously to allow the subscribers to view it clearly on their mobile phone screen. It realizes an unprecedented reading style, which allows readers to enjoy their favorite comics on their mobile terminal anytime and anywhere.

The advantages of such a paperless electronic service on the environment are not limited to reduction of paper resources. We believe that it can help to further ease the environmental load in many respects, including a reduced amount of CO_2 emission as it involves no printing and transportation.

Figure 1: e-comics Frame

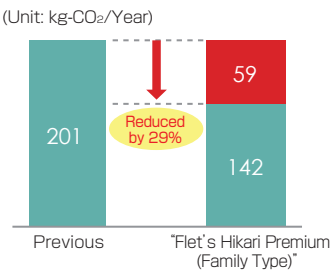
Environmental Load Reduction in ICT Services

Load Reduction through “Flet’s Hikari Premium (Family Type)” Internet Service

In order to demonstrate the positive effects of spreading ICT services toward environmental load reduction in a concrete way, we evaluated the environmental impact of the “Flet’s Hikari Premium (Family Type)” Internet service that NTT West offers. By making a comparison with existing connections with regard to the CO_2 emission for about 19 types of online services, including IP phones, netsurfing, and e-mails, we found that the above service is able to reduce the annual emission per connection by 29% to 59 kg-CO_2 (Figure 2).

To further lessen the impact on the environment, we are planning to conduct more evaluations on the ICT services that NTT West Group offers.

Figure 2: Estimate of Load Reduction Effect by “Flet’s Hikari Premium*1 (Family Type)” Service*2



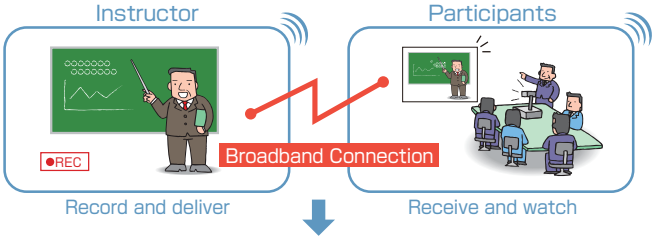
Types of Online Services

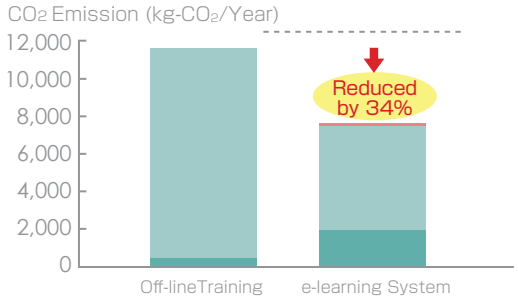
- IP phone
- Websites, message board chat, blogs
- E-mail
- Information through e-mail magazines and news
- Information from government offices
- Online games
- Quizzes & Contests
- Answering questionnaires
- Online trades, etc.

Load Reduction through e-learning System

To reduce the load on the environment, we are employing an innovative, live interactive e-learning system for our employee training, such as environmental education. This system integrates the merits of the e-learning system developed by our group company, NTT Learning Systems (Figure 3).

Figure 3: Estimate of Load Reduction Effect through e-learning System





Disposal: Energy consumed for disposal
Use: Energy consumed for training trips & facility operation
Manufacturing: Energy consumed for equipment manufacturing, etc.

Comparison of e-learning with off-line training in Osaka with 87 participants from 21 branches

*1 Flet’s Hikari Premium (Family Type) Internet Service
- Within an area where the service is available, due to the conditions of the system, the start of the service may delay or subscribers may not be able to use it.
- For details of the areas covered by the service, please contact any of our NTT West offices or visit our website (http://flets-w.com).
- Subscribers are required to have a legitimate contract with a paid service provider who supports this service.

*2 Estimate by NTT R&D Laboratory

Environmental Solutions

Load Reduction through Environmental Solutions

We offer a wide variety of solutions to assist our customers in tackling environmental issues. These solutions not only contribute to environmental protection, but also have benefits with regard to cost management and enhancement of business efficiency.

In the initial stage, we held interviews with customers to sort out their situations and challenges, based on which we put forward appropriate proposals. For example, if they do not know where to start, we would help them analyze their current situations, formulate approaches and plan how to implement them.

If a customer is not sure of what specific measures to take to reduce CO_2 emission, we would offer solutions for conserving energy and resources by means of systems for video-conferencing or e-learning (Figure 4).

In addition, for a customer who wishes to establish an efficient data collection system for calculating the amount of CO_2 emission, we would propose the introduction of an “environmental monitoring system.”

Figure 4: Environmental Solution Examples Offered by NTT West

Video-conferencing System

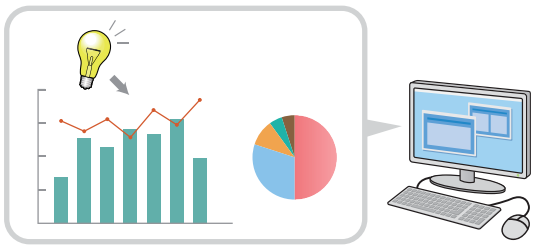
Overview

A remote conference system that utilizes a network.

Benefits

Reduces environmental load due to transportation with a fewer number of meeting trips.

Environmental Monitoring System



Overview

A data collection system for measuring the consumption of energy, such as electric power.

Benefits

By obtaining a detailed grasp of the amount of energy consumed, conservation plans and reports can be created more efficiently.

“NTT Smile Energy” is a joint venture set up by NTT West and Omron in June 2011 with the aim to expand services for energy-saving support and for promoting the utilization of recyclable energy by capitalizing the know-how of NTT West and Omron, such as the network technologies of the former and advanced sensing and control technologies of the latter, and linking communication with control, so as to provide energy-saving support services to households in the environment and energy fields.

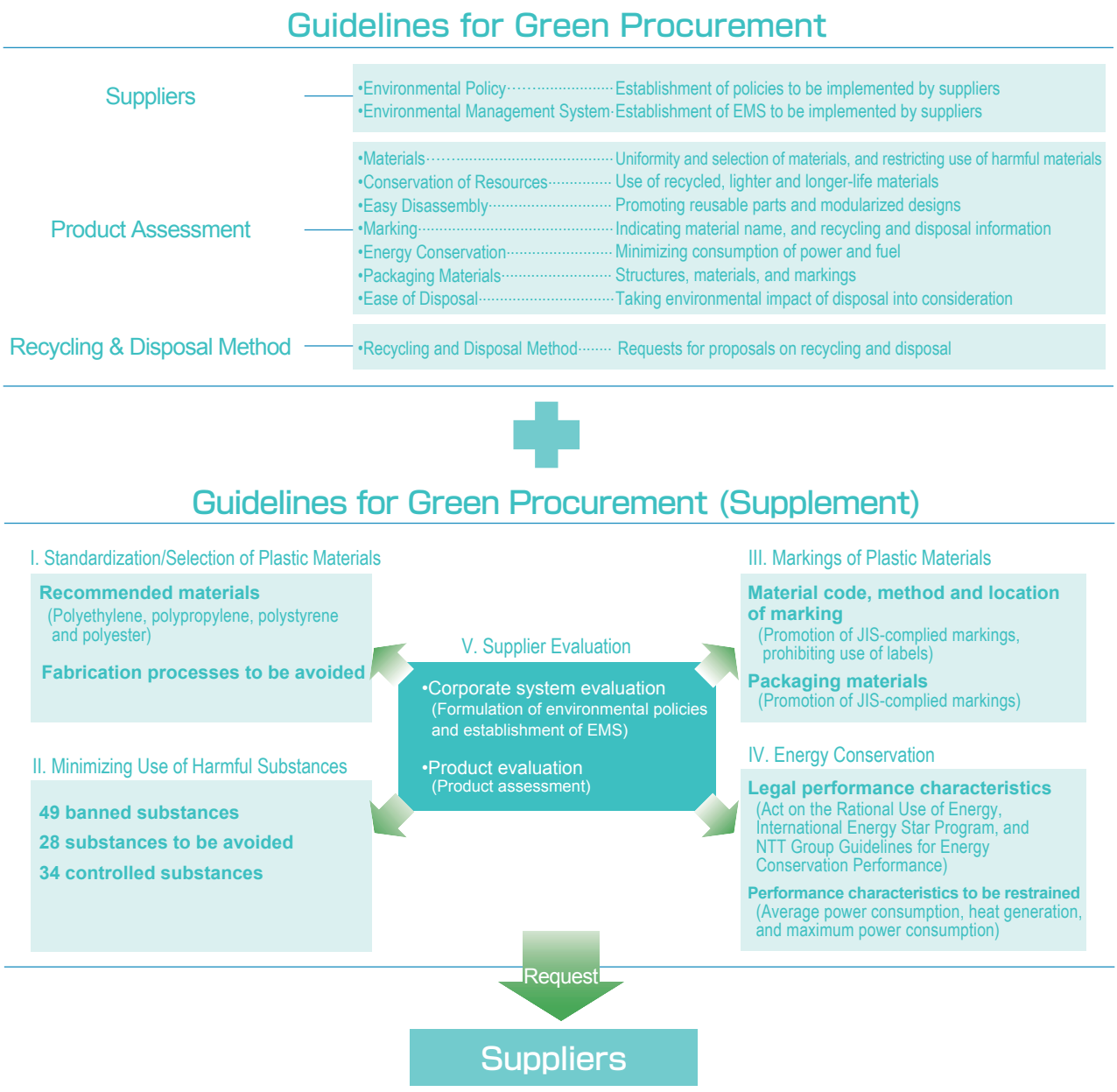
In addition to our cooperation with Omron, NTT West will continue to propose an eco life by promoting future alliance with other enterprises and providing further services and businesses for energy-saving support and for promoting the utilization of recyclable energy through utilizing communication and control.

Green Procurement at Communication Facilities

While constructing communication facilities, NTT West procures all necessary materials from external sources, which means that the impact of the procured materials on the environment is directly reflected on how our business activities affect the environment. For this reason, we set up the "NTT Group Guidelines for Green Procurement" in July 1997 (amended in April 2010, Figure 1), according to which we started green procurement activities. These activities aim at easing the impact on the environment by prioritizing products to be procured based on how eco-friendly they are.

In January 1998, we also drew up the "Guidelines for Green Procurement (Supplement)" (amended in December 2010) to request cooperation from our suppliers.

Figure 1: Outline of "NTT Group Guidelines for Green Procurement"



Green Procurement through Supplier Evaluation

In April 2002, we organized an evaluation system by drawing up the “Guideline for Supplier Evaluation” based on the request items to suppliers already set forth in our “Guidelines for Green Procurement.”

The evaluation guidelines intend to determine and evaluate the eco-friendliness of the products we procure quantitatively in terms of both the suppliers’ corporate system and the product specifications.

Our full-scale green procurement activities began with the implementation of the evaluation guidelines.

In principle, the evaluation applies to all products that NTT West procures. Particularly, the products we purchase, or expect to purchase, in large volumes are our main focus. In FY 2010, we evaluated 16 products.

(1) Corporate System Evaluation

Evaluations are performed on the environmental protection system adopted by the supplier (Figure 2).

This is to determine the willingness of the suppliers toward tackling environmental issues. We consider it significantly important to the whole society that more suppliers are actively involved in measures to protect the environment as having such suppliers can also enhance the eco-friendliness of our own products.

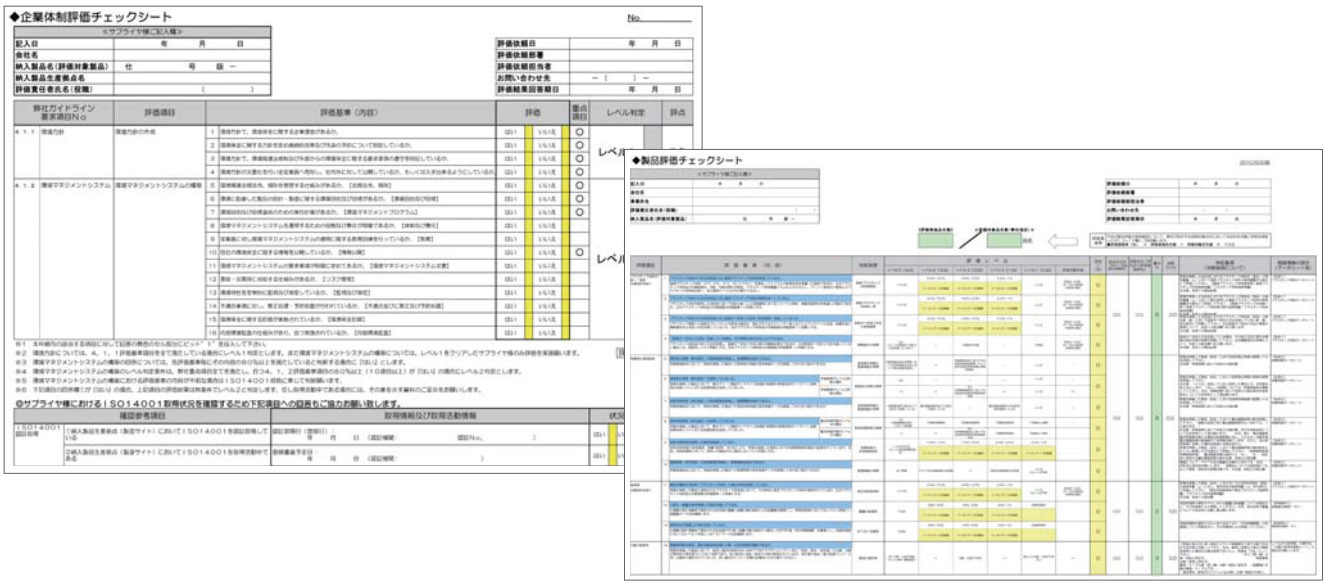
(2) Product Evaluation

We are requesting our suppliers to assess all components of products whenever it is possible. We also ensure the fairness of our evaluation by assigning scores to suppliers according to the number of components they evaluated.

In accordance with the “Guidelines for Green Procurement,” the evaluation criteria include items such as “uniformity and selection of plastic materials,” “restriction of use of harmful materials,” “marking of plastic materials” and “energy conservation.”

Website:
http://www.ntt-west.co.jp/procure/activity/

Figure 2: Supplier Evaluation Sheet



Environmental Value Analysis Proposals

As a part of its effort toward mitigating the environmental impact in the whole product life cycle from the R&D stage to disposal, NTT West is welcoming proposals for the products it procures from suppliers, such as ideas on the use of eco materials and improvement in manufacturing. Among the environmental value analysis (VA) proposals in FY 2010, we adopted two, “Reduction and Improvement of Used Materials” and “Waste Reduction by Improving Packaging Boxes and Materials.”

Green Designs of Buildings

Generally, a large amount of resource energy is required to construct, own and manage buildings, while the load on the environment increases from the wastes generated when they are dismantled. NTT West, owning many buildings, is advancing a "Green Design" concept to minimize the impact on the environment by paying attention to eco issues from the planning and designing stages of buildings.

In October 2000, NTT Group established the "NTT Group Green Building Design Guidelines," which summarize the basic ideas and aims for fostering eco-friendly building designs. To ensure that the guidelines are adhered to throughout the company, NTT West created another "Green Building Design Guidelines (NTT West Commentary)," which describe the measures in more detail. The "Green Building Design Guidelines" are reviewed to comply with the enactment and amendment of eco-related laws, including the Building Standards Act, Soil Contamination Countermeasures Act and Health Promotion Act. The current guidelines are the third edition, released in May 2004.

The third edition describes the details of our aggressive efforts to realize building designs that are harmonious with the environment, including how we run the facilities.

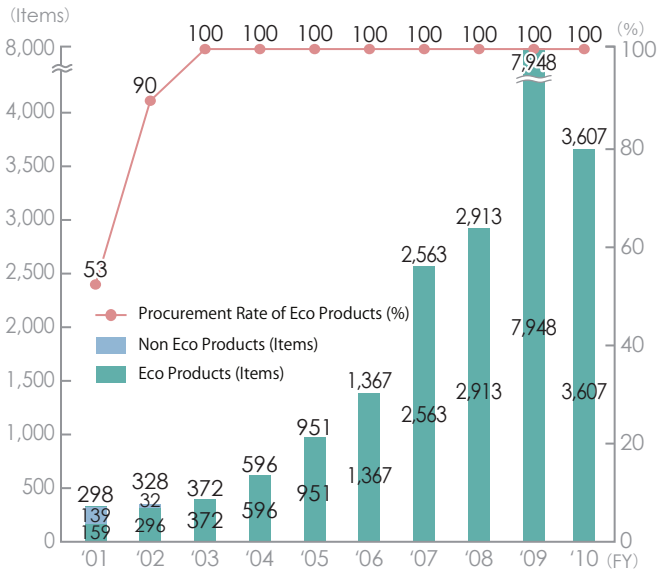
Green Procurement of Office Supplies

When purchasing office supplies such as copy paper and stationeries, NTT West Group considers not only their costs and qualities, but also their impact on the environment. Being a member of the Green Purchasing Network (GPN)*1, we are applying the product guidelines of the network to promote the procurement of office supplies with a low environmental load.

After selecting items, 3,607 office items with a low environmental load have been introduced at the end of FY 2010 into the group-wide accounting system*2 (Figure 3).

An "Environmental Classification" is included in the unit-price list for office supplies to ease the identification of products with a low environmental load.

Figure 3: Green Procurement of Office Supplies



*1 Green Purchasing Network (GPN)
The GPN is a loose network established in February 1996. The members comprise companies, government offices and consumers. As of 20 April 2011, there is a total of 2,749 corporate and government organization members.

*2 Group-wide accounting system
Introduced in FY 2008 for the entire NTT Group, the system mainly manages credits and debts, and fixed assets. With an e-procurement function, procedures from purchase to payment can be processed.

Development of Eco-friendly Information Equipment

For the information equipment of NTT West provides, further effort to promote the lowering of their impact on the human body and natural environment is needed, as they are used at the residences of our customers, touched by them and disposed of by them. In March 2000, we established the “Guidelines for Green Procurement of Telecommunication Equipment,” a supplementary document to our “Guidelines for Green Procurement.” Based on the guidelines, certain products are certified with the “Dynamic Eco” mark.

Dynamic Eco Certification

To make known to the society information on our contributions through environmental protection activities, such as reduction of the environmental load, NTT West instituted the ISO 14021-compliant Dynamic Eco mark system in March 2001. The purposes of this self-declared system are to “promote eco-friendly products to our customers” and to “improve the product competitiveness with an enhanced corporate image by making our eco attitude widely known” (Figure 4).

The “Dynamic Eco” certification is given only to products that meet the stringent standards based on the provisions of the “Guidelines for Green Procurement of Telecommunication Equipment (Supplementary Edition).”

In order for our customers to gain a better understanding of our environmental conservation efforts through the information equipment we use, we have publicized the “Dynamic Eco” certification criteria on NTT West website.

Figure 4: Dynamic Eco Certification Mark

Website:
http://www.ntt-west.co.jp/kiki/support/eco/eco_c2.html

Dynamic Eco Certification Criteria

<Eco-friendly Materials>
- None of the banned substances specified by NTT West shall be used in the products.
- The use of restricted substances specified by NTT West shall be minimized, and the type and quantity of such substances to be used shall be administered.
- The use of lead that is hazardous to the human body when seeped into the ground due to acid rain shall be minimized.
- The use of polyvinyl chloride (PVC), which produces dioxin when incinerated, and halogenated fire-retardants, with the exception of non-Deca-based flame retardants, shall be minimized.
- Taking disposal and recycling into consideration, recommended plastic materials (polyethylene, etc.) and/or recommended metal materials shall be used for the products.
- The operation manual for the product shall make use of recycled paper, and the ink for printing the manual shall not contain any prohibited substance, such as those that may pose a threat to the ozone layer.

<Designs for Easy Recycling>
- The recycling rate for the products shall be 70% or higher.
- In order to make recycling easier, the materials’ names shall be displayed on all plastic products in such a way that does not impede recycling.

<Eco-friendly Packaging Materials>
- The use of polystyrene foam shall be minimized.

<Energy Conservation>
- The product design shall take energy conservation into consideration.
- For products subject to the International Energy Star Program, they shall be designed in compliance with the program.

Dynamic Eco-certified Products

Every year since our launch in November 2001 of the first Dynamic Eco-certified product, which was an office-use fax machine, we have been promoting the certification of such products. In FY 2010, we have certified three Dynamic-Eco products (Figure 5).

Now, the Dynamic Eco certification applies to a wide range of products from office-use phones to office-use fax machines, VoIP adapters for “Hikari Denwa,” and home-use phones and fax machines. We are making an effort to ensure that the newly-released successor models of existing products are certified.

Figure 5: Dynamic Eco-certified Product

Certified Business Phone “Netcommunity SYSTEM BX II” (Information Equipment)

Certified IP Video Phone “Hikari Flet’s Phone VP3000” (Information Equipment)

System Products for Corporate Users

It is an important requirement to offer eco-friendly products when we construct the communication systems for our corporate customers.

Especially for client-server equipment such as PC terminals, which are specified as Particular Procurement items based on the Act on Promoting Green Purchasing, we are making effort to obtain a grasp of the product performance from the procurement stage. By doing so, we will be able to select, propose and establish a lineup of eco-friendly products that also meet the requirements of customers.

Specifically, our selection of products is made based on the following criteria.

<Described in the procurement description since the procurement in FY 2000 (invitation of suggestion)>

Compliance with the International Energy Star Program

If a product is subject to the voluntary International Energy Star Program, which is approved by the governments of the United States and Japan, it shall be compliant with the specifications set by the program.

Compliance with Act on Promoting Green Purchasing

When a product is subject to the Act concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Act on Promoting Green Purchasing), it shall be compliant with the criteria imposed by the act.

Compliance with Energy Saving Act

When a product is subject to the Act on Temporary Measures for Promotion of Rational Uses of Energy and Recycled Resources in Business Activities (Energy Saving Act), it shall be compliant with the "criteria for vehicles, home appliances, office equipment, etc."

Exclusion of Prohibited Substances

The product shall not contain any substance prohibited by the "Guideline for Restriction of Use of Harmful Materials" in the "NTT Group Guidelines for Green Procurement (Supplementary Edition II)," or an established collection system for such substances must be available.

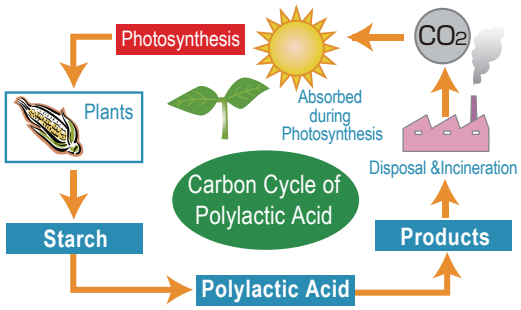
Development of Environment-friendly Business through "Eco & B Bioplastic Project"

As part of the environmental protection effort by all NTT group companies, NTT Neomeit plans, develops and sells office supplies and novelties made of plant-based bioplastic materials, which help to reduce CO_2 emission.

As efforts to mitigate global warming and environmental protection become more active, NTT Neomeit plans and develops bioplastic office supplies and novelties for use within the company, which are effective in "reducing CO_2 emission" and "dealing with depleting fossil fuel." These products are also sold to other NTT group companies and companies that are promoting eco-protection activities.

As bioplastics do not make use of oil as the raw material, they help to prevent the depletion of limited fossil fuel resources. Not only so, the amount of CO_2 emitted from the manufacturing and incineration of bioplastic products is almost the same as the amount absorbed in the photosynthesis process by plants, which form the raw material of bioplastics, they are therefore carbon neutral, as they do not increase the amount of CO_2 emission on the Earth (Figure 1). In addition, no toxic fumes are produced when bioplastics are burned.

Figure 1: Carbon Neutral with No Additional CO_2 Emission on Earth



NTT Neomeit has commercialized more than 30 eco-friendly products. Chopsticks made of bioplastic resin, which are supplied in cooperation with Telwel West Nippon, are being used at many of NTT West Group canteens. So far, over 34,000 pairs of bioplastic chopsticks have been used (Photo 1).

Photo 1: Over 30 Eco-friendly Products


Bioplastic Products


Boxed Draining Kitchen Nets


Clear Files


Bioplastic Resin Chopsticks

NTT Group companies are making use of the eco-friendly "ECO & B" neck straps, they are also utilized every year at NTT shareholders' general meetings for shareholders to insert the "Reception Card" (Photo 2).

Photo 2: Neck Straps and Shareholders' Meeting Neck Strap


Neck Straps


Neck Strap for Shareholders' Meeting

The most highly utilized "ECO & B" bioplastic products in the NTT Group are calendar-related items. In particular, these are gifts that we give to our valued customers as a token of appreciation at the end of each year, and therefore we make it a point to employ plant-based, eco-friendly "ECO & B" bioplastic materials, such as in the tube package of wall calendars and case for desktop calendars (Photo 3).

Photo 3: Calendar-related Products


Tube Package for Calendars


Desktop Calendar Case

In FY 2010, we used plant-based bioplastics for 253,000 tube packages for wall calendars and 148,000 desktop calendar cases, which contributed to a total CO_2 reduction of about 5.7 t.

This is equivalent to the amount of CO_2 absorbed in a year by a lush forest whose size is about the same as that of Koshien Baseball Stadium.

NTT Neomeit will continue to contribute to the promotion of CSR activities at each NTT group company by planning, developing and selling environmentally friendly ECO & B bioplastic products.

Battery Recycling

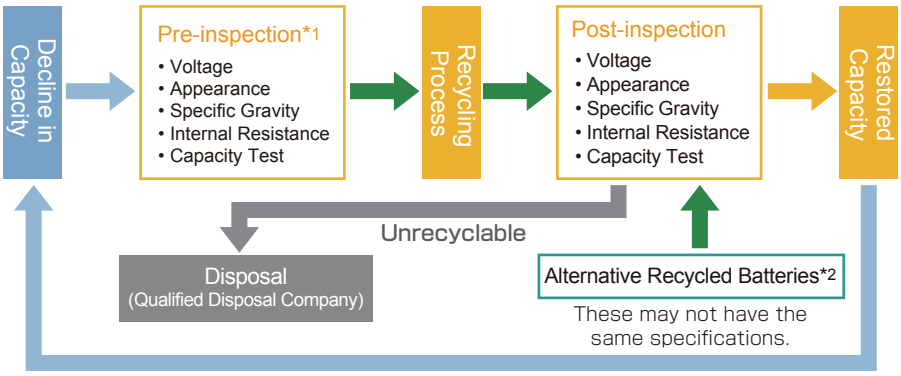
Based on the "3Rs + CO_2" concept, which adds "CO_2 reduction" to the "environmental 3Rs (Reduce, Reuse and Recycle)," Telwel West Nippon is providing support to advanced measures by eco-minded companies. From the viewpoint of "Reduce," Telwel West Nippon has built a battery recycling plant to engage in battery recycling more actively.

By promoting "battery recycling," we can reduce the number of disposed batteries, which amounts to 40 million annually. Also, we can contribute to the formation of a circulating society by preventing environmental pollution or leakage of hazardous electrolytic solution (dilute sulfuric acid).

[Objectives]	To contribute to the reduction of industrial wastes (CO_2, etc.), as well as to cut costs.
[Batteries for recycling]	(Large) lead batteries, alkaline batteries (Small) nickel-cadmium batteries, nickel hydride batteries
[Recycling procedure]	(1) Perform inspection before recycling. (2) Remove batteries if they are recyclable, and load substitute batteries. (3) Perform capacity test before recycling, followed by recycling, and inspection after recycling is complete. Items that are rejected during the inspection are disposed of as industrial wastes. (4) Load the recycled batteries at customers' facilities.

The chart below describes the flow of recycling depleted batteries into new ones.

Battery Recycling Flow



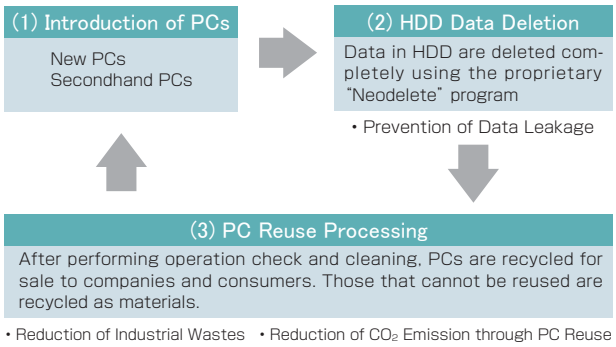
*1 Pre-inspection: Determines whether batteries are recyclable through inspections before recycling.
*2 Alternative recycled batteries: Temporary batteries are provided if needed.

PC Reuse and Recycling Efforts for Reduction of Environmental Load (CO_2 Emission)

Employing the technology for deleting data stored in hard disk drives (HDD), NTT Neomeit contributes to the reuse and recycling of PCs, while ensuring proper disposal of old PCs that are no longer used in NTT Group.

Old PCs are recycled as secondhand machines and supplied to the market for reuse. We believe that doing so helps to yield marked results for lessening the impact on the environment, as the processes from resource mining to manufacturing can be eliminated (Figure 5). However, compared to the annual sales volume of new PCs, which can be as many as 14.56 million sets, the quantity of used PCs in the market in the last fiscal year was merely 2.01 million. In other words, in reality, many of used PCs are presumed to be disposed of (including those collected for resource recovery).

Figure 5: Flow of PC Reuse



When recycling old computers instead of disposing, a critical point of consideration is to ensure complete deletion of the HDD data to prevent personal information and corporate confidential information from leaking.

Generally, formatting a HDD does not delete data completely. The data can be restored easily using some special programs. For this reason, the Japan Electronics and Information Technology Industries Association (JEITA) made public its guidelines for data deletion, which set forth that the user is responsible for deleting data. JEITA also recommends that (1) data be deleted by overwriting the data at least once using a software program designed for data deletion, or (2) the HDD be destroyed physically or electromagnetically to make the data inside unreadable (Table 1).

Table 1: HDD Data Deletion Methods

Method	Description	PC Reuse	Environmental Effects
By Software	Overwriting of the whole HDD area with deletion program	Yes	Fewer new PCs Resource utilization
Physical	Data destruction electromagnetically or physically, e.g. drilling holes Can be completed within a relatively short time	No	Resource utilization

To promote PC reuse, which enhances environmental contributions, it is therefore crucial to promote deletion of data using software considering its methods.

Since 2002, NTT Neomeit has been offering a proprietary data deletion service, "Neodelete."

In addition, the data of old PCs within NTT Group are deleted at the PC Security Recycle Center of NTT Neomeit, and thus PCs are reused or sold to recycling companies only after their HDD data are deleted.

From the viewpoint of data security, in order to address corporate needs such as "concerns about bringing PCs out of the offices while data are not deleted," and "the wish to reduce the cost incurred for transporting PCs for data deletion," our plan is to introduce an "online data deletion service," which also helps to reduce CO_2 emission. This service was first introduced in-house in FY 2010, and we are considering offering it to companies outside the NTT Group.

On the basis of the performance of NTT Neomeit and using the quantitative evaluation formulated by the Refurbished (Reuse) Information Technology Equipment Association (RITEA), we believe that the effect for mitigating environmental load in FY 2010 should be as high as 3,916 t of CO_2, with a total number of about 32,000 recycled PCs (out of the total collected number of about 41,000 sets and excluding those used for material recycle) (Figure 6).

Figure 6: Environmental Load Reduction Based on PC Reuse in FY 2010 (Including Recycle by Subcontractors)

* Excerpt from "RITEA's Quantitative Evaluation of CO_2 Emission Reduction Effect (No. C-001, 2010-2011)"

Through reuse and recycling of secondhand PCs, NTT Neomeit will continue to contribute to an environment-friendly and circulating society that utilizes resources efficiently, minimizes wastes, and reduces CO_2 emission.

Main Activities in FY 2010

As part of its effort to protect the global environment, NTT West Group cooperates with local communities and municipal governments to implement grass-root cleaning activities which are led by the respective branches and group companies.

The “Team NTT*,” comprising our employees, their families, and also retired employees, participate actively in cleanup activities in many places such as the surrounding areas of our offices, parks, beaches, and river banks. In FY 2010, a total of 64,000 members took part in the activities.

As a “good corporate citizen” who strives to preserve the beautiful nature and protect the global environment, NTT West Group will continue to contribute to the local communities through our community-based “environmental communication” activities.

* Team NTT
Includes our full-time, temporary, contract employees, partner companies as well as retired employees who sympathize with the CSR activities of NTT group. They are the ones who carry out the social missions as members who share the NTT brand.

Activities

On November 7, 2010 (Sunday), a brisk autumn day, NTT West Kyoto Group (Kyoto Branch and NTT West - MIYAKO) participated in the “Kyoto Cleaning Project Citizen's cleaning action" event organized by the Kyoto City Bikasuishin Jigyoudan (Kyoto City Beautification Promotion Agency).

This is an annual voluntary beautification event organized by Kyoto City, which is a yearly occasion for groups and companies engaging regularly in the city’ s beautification activities to communicate with each other. NTT West Group has also been taking part actively in this event since 2005.

On the day of the event, about 184 members of NTT West Kyoto Group, which included employees and their families, as well as retired employees, set out from the front of Kyoto City Office to take part in cleaning activities at the center of the City. Through picking up trash in the City, the participants promoted the importance of environmental conservation in the world-renowned ancient capital of “Kyoto.”


On June 12, 2010 (Saturday), employees from the Wakayama Block of NTT West Group and their family members took part in cutting the undergrowth at the cypress “Shining Forest” in Ryujin Village of Tanabe City. The activity took place on a steep slope, but the event ended successfully with the guidance and cooperation of the local forestry cooperative. The participants felt refreshed from a good sweat. We will continue our environmental conservation efforts through the forestry preservation activities of the “Shiny Forest,” including cutting of undergrowth.

According to Wakayama Prefecture, this activity is expected to help absorb about 400 CO_2t/100 years, and the block was certified by the Prefecture for its contribution to environmental (forestry) preservation.


Based on the slogan to “help preserve a beautiful nature for future generations,” Kagawa Branch of NTT West held a “2010 NTT West Environmental Cleanup Operation in Mineyama” at Mineyama Park of Takamatsu City from 9:30 a.m. of November 6, 2010 (Saturday).

This environmental cleanup operation is a part of the social contribution activities undertaken jointly by NTT West Group companies located in Takamatsu City. 2010 marked the 19th round of this event (14th time at Mineyama Park).

Blessed with good weather, a total of about 240 NTT West Group company employees and their families, as well as retired employees from 16 companies took part in the event. All the participants worked steadily and efficiently, and cleaned up the Park in one hour as scheduled.

Okayama Branch of NTT West has been making joint efforts with other NTT West Group companies and retired employees in Okayama Prefecture to carry out the “Telegraph and Telephone Day Cleaning” activity, a yearly voluntary event to clean up city areas particularly those in Okayama City, Kurashiki City, and Tsuyama City. The cleaning activities, including picking up trash, are carried out with appreciation for our customers’ continued support. Each year, about 400 employees participate in this event.

On September 23, 2010 (Thursday, public holiday), a sculpture cleaning event was held in Ube City, also known as the "City of Sculptures." Many employees from NTT West Yamaguchi Group took part in this activity.

The sculptures were displayed on the streets. Exposed daily to rain and wind as well as exhaust fumes, they were much dirtier than expected. The rain in the early morning threatened the event, but fortunately the sun showed itself through the clouds at the time of the opening ceremony, and participants engaged in the cleaning activity while enjoying the sculpture works. NTT West Yamaguchi Group was in charge of cleaning a total of three sculptures, among which the tallest was about 4 meters high. For work at an elevated height, NTT West Group' s employed its own unique means, such as using vehicles for high altitude work, to polish the statues carefully using brushes and cloths. The participants took a good look at the sculptures at the end of the activity, and were reminded once again the artistic quality of these works.

This cleaning event is held on the Vernal Equinox Day and Autumnal Equinox Day of each year. We will continue to take part in this activity to share such feeling of excitement with the local community.

On April 18, 2010 (Sunday), a spring season mass cleaning event was held at the Tottori Sand Dunes. The "Tottori Sand Dunes Mass Cleaning" event is organized by Tottori City, and has been held twice a year since 1980.

As many as 121 employees from the NTT Tottori Group took part in this event, and enjoyed a good sweat under the sun while engaging in the global environment conservation and regional contribution activities.

During the Environment Month in June, a mass cleaning event was held at Lake Shinji and Nakaumi, which are registered sites under the Ramsar Convention. Joint efforts were made by residents from seven coastal cities and towns of the two San-in area Prefectures to pick up trash along the shore of the lakes.

About 50 employees from the Shimane Branch of NTT West and other group companies participated in the event to collect litter around the area from Shirakata Park to Shimane Art Museum.

As part of the regional environment preservation activities, NTT West Shizuoka Group has been taking part in the cleaning and beautification activities every year held within Shizuoka Prefecture.

In FY 2010, they participated in environmental cleaning activities including the "Lake Hamana Cleaning Campaign" (June), "Mount Fuji Mass Cleaning" (August), and "Abe River Driftwood Removal Campaign" (November).

A total of 370 NTT West Shizuoka Group employees and their families, as well as retired employees had a good sweat at the event together with participants from the local community associations, citizens' groups, and other companies and groups.

* Photo: Scene at Abe River Driftwood Removal Campaign

At NTT West Gifu Group, the "Himawari-kai," an NTT West volunteer club, was launched in 1994 by some voluntary employees, which carries out cleaning activities every year as part of the endeavor to protect the regional environment. With the joint effort of temporary, contract, and retired employees in recent years, the scope of the activities is gradually expanding.

A total of three cleaning activities were held in 2010, with the environment cleaning campaign at Nagara River in August and September 2010, and a cleaning activity in March at the Gifu Park, the symbol of Gifu Prefecture. A total of 354 NTT West Gifu Group employees and their families, as well as retired employees gathered to collect litter at these events. We will strive to contribute to the regional society and enhance the corporate image of NTT West Group by making continuous efforts as a good corporate citizen.

Mie Branch of NTT West takes part in the cleaning activities at the Akogiura Beach of Tsu City.

This activity is organized jointly by the local community associations and Mie Fishery Association with the slogan of "realizing a beautiful sea in Tsu," with volunteer citizens gather to participate in the mass cleaning of Tsu City' s beach over a stretch of about 20 km.

On July 3, 2010 (Saturday), about 60 employees and their families, as well as 20 retired employees of NTT West Group turned up for the event. After about one hour of cleaning on this drizzling day, everyone felt a rewarding sense of satisfaction at the sight of the dumping site, which was filled with branches drifted to the shore, bike helmets, and other garbage that they have picked up.

Fukui Branch of NTT West is putting in effort to achieve total participation in environmental conservation activities on a regular basis, while ensuring that each employee understands the objectives of environmental protection. In particular, reports have been made to the Prefecture on the implementation of cleaning activities around the beaches and NTT office buildings during the enforcement period for beautification activities based on the request of the Prefecture.

In addition, employees of the said Branch have also been taking part in the "Car Save Day Fukui," which is introduced by the Prefecture to encourage the use of public transport every Friday. Their participation was recognized and the Branch was certified by the Prefecture as a "Fukui Prefecture Volunteer Support Organization for 2010."

NTT West Toyama Group has been promoting environmental protection efforts by taking active part in the "Clean Campaign" activity with a theme of "Enjoying Environmental Activities," which is organized by FM Toyama. In FY 2010, 50 employees and their families, as well as retired employees of the group companies participated in a cleaning activity at the Iwasehama Bathing Beach.

Website on Our Environmental Activities

We have launched a “Global Environmental Protection Activities” website to disclose NTT West Group’s general efforts toward environmental protection. On this website, you can find the NTT West Group Charter for Global Environment, the main pillar of the group’ s environmental protection activities, as well as reports that give a full picture of these activities.

Also, the “Main Efforts” page on the website contains links related to environment that are available on the NTT West official website, thus fulfilling the function as a portal site on environmental information at the same time.

Website:
http://www.ntt-west.co.jp/kankyo/

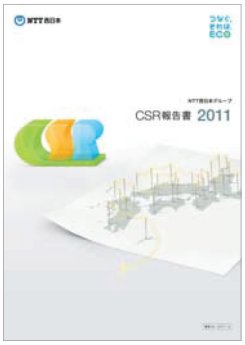
Internal Website

By posting internal publicity documents related to environmental conservation as well as the efforts and topics of each section, the site has helped to promote exchange of information between sections, enhance the efficiency of implementing environmental measures by each section, and heighten employees’ awareness toward environmental conservation.

Release of CSR Report 2010

NTT West Group’s attitude toward CSR (Corporate Social Responsibility) and the corresponding systems, together with the concrete actions taken in each fiscal year are disclosed in simple terms for our stakeholders. By allowing stakeholders to gain a better understanding of our group’s CSR efforts, we hope to widen our network of communication.

CSR reports have been released since FY 2005, and are scheduled to be prepared on a yearly basis.



Website:
http://www.ntt-west.co.jp/csr/2011/

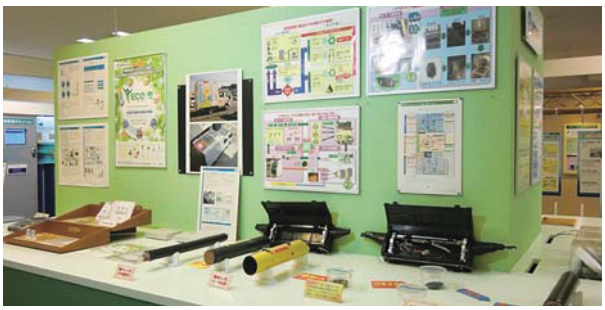
Awards for Global Protection Activities

In the 14th survey on “Corporate Environmental Performance,” a survey conducted by Nikkei Inc. to perform a comprehensive evaluation of a corporation’s environmental measures, NTT West was ranked fourth place in the nonmanufacturing sectors (telecommunications services).

External Exhibition

At the Osaka ATC Green Eco Plaza, NTT West Group’s environmental activities and goods related to environmental protection are displayed and exhibited using panels for easy understanding by visitors.

Website:
http://www.ecoplaza.gr.jp/corp/zone/corp/nishi_denden/nishi_denden-2.html



External Awards

Award Title	Description	Building	Organization
Osaka City Environment Bureau Waste Reduction Excellence Award	Presented with an excellence award by Osaka City for efforts made to reduce waste by securing different corners for raw garbage, items for recycling, etc., at the garbage collection point.	Community Plaza Osaka	NTT West – Kansai, Osaka Division Technical Control Center Flet's Hikari Center Coordination In-charge
"Shimonoseki City Green Curtain" Contest Business Office Category Excellence Award	Presented with an excellence award by Yamaguchi City for creating a green curtain as an effort to prevent global warming.	Yamaguchi Branch Building	Yamaguchi Branch, NTT West / NTT West – Chugoku Yamaguchi Division CSR Promotion In-charge
Shimonoseki City "No My Car Day" Excellent Participating Office Good Effort Award	Presented with a good effort award by Shimonoseki City for registering as a participating office in the "No My Car Day," as well as the efforts made.	Shimonoseki Office	Yamaguchi Branch, NTT West / NTT West – Chugoku Yamaguchi Division CSR Promotion In-charge
Efforts to Realize Kagawa Prefecture's "Pleasant Roads"	Presented with an award by the Japan Road Association for the longstanding efforts made in cleaning the roads.	Kaminocho Building	Kagawa Branch, NTT West / NTT West – Shikoku Kagawa Division General Affairs In-charge
Osaka City Environment Bureau Waste Reduction Excellence Award	Presented with an excellence award by Osaka City for efforts made to reduce waste by securing different corners for raw garbage, items for recycling, etc., at the garbage collection point.	NTT Higashi-Yodogawa Building	NTT West – Home Techno Kansai, Administration Office In-charge

Environmental Accounting in FY 2010

With the aim to efficiently and effectively promote environmental conservation efforts, NTT West Group introduced an environmental accounting system in FY 2000. This system gathers and analyzes the costs for conserving the environment in business activities, as well as the economic effects obtained from these activities.

Data acquired from environmental accounting is utilized as the base data for promoting environmental management.

* Environmental conservation costs refer to the investments and expenses required for implementing corporate environmental protection measures.
Investments refer to investments in depreciable assets that are intended for environmental conservation. Expenses refer to costs incurred by environmental conservation activities.
Environmental conservation costs include items ranging from 1. Business Areas to 6. Environmental Damages.

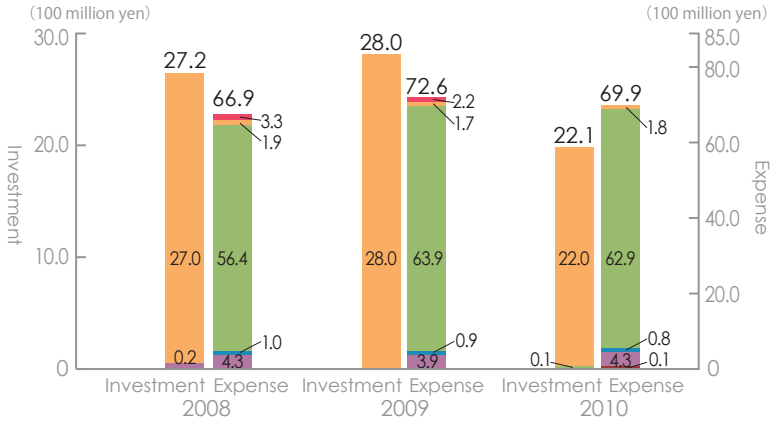
* Environmental conservation effects (economic) refer to the economic effects on corporate management, including reduction in cost of disposal and gains from the sale of valuable resources, as a result of promoting environmental conservation.
Environmental conservation effects (economic) include items ranging from 1. Cost Reduction by Energy Saving to 4. Postage Expense Reduction through Online Correspondence.

Environmental Conservation Costs

Due to a decline in the number of renewed telephone switches compared to the previous year, investments in FY 2010 decreased to 2.2 billion yen (from 2.8 billion yen in FY 2009).

Due to a decline in the number of disposed PCB units compared to the previous year, expenses in FY 2010 decreased to 6.99 billion yen (from 7.26 billion yen in FY 2009).

1. Business Areas
   - (1) Prevention of Pollution (Asbestos, PCB, Oil Tanks)
   - (2) Protection of Global Environment (Energy-saving Activities, Ozone-layer Protection)
   - (3) Circulation of Resources (Industrial Waste Disposal, Reuse)
2. Upstream & Downstream (Recycling of Directories and Packaging)
3. Management Activities (ISO 14001, Environmental PR)
4. R&D (Environmental R&D)
5. Social Activities (Contributions to Local Communities)
6. Environmental Damages (Recovery of Environmental Damages)



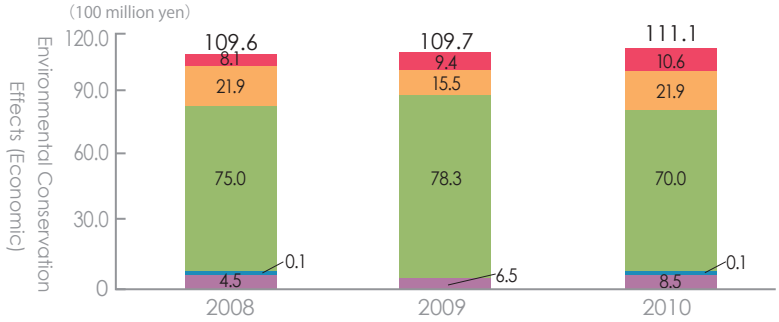
Environmental Conservation Effects (Economic)

The environmental conservation effects (economic) for FY 2010 exceeded those of the previous year, reaching 11.11 billion yen (compared to 10.97 billion yen in FY 2009).

In particular, due to an increase in the price of copper, revenue from recycling grew to 2.19 billion yen (from 1.55 billion yen in FY 2009).

However, with a decline in the number of recycled public telephone units, the amount of cost reduction following the promotion of their reuse decreased to 7.0 billion yen (from 7.83 billion yen in FY 2009).

- 1. Cost Reduction by Energy Saving
- 2. Revenue from Recycling
- 3. Cost Reduction by Reuse Promotion
  - ・Dismantled Communication Facilities
  - ・Office Wastes
- 4. Postage Expense Reduction through Online Correspondence



1. Target Companies
   - ・ 43 companies of NTT West Group and NTT Business Associe West.
2. Applicable Period
   - ・FY 2010 data: from 1 April 2010 to 31 March 2011, FY 2009 data: from 1 April 2009 to 31 March 2010
     FY 2008 data: from 1 April 2008 to 31 March 2009
3. Data Tabulation Method
   - ・Based on the “NTT Group Guidelines for Environmental Accounting 2007,” which is in compliance with the “Environmental Accounting Guidelines 2007” issued by the Ministry of the Environment.

NTT West Group Environmental Report 2010 Data Sheet

			Unit	Performance									
				2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Management of Action Plan Targets	Global Warming Prevention Measures	Power	CO_2 Emission	10,000t-CO_2	16.3	17.4	19.1	18.4	28.6	82.55	84.57	86.34	92.4	93.32
			Purchased Quantity	100 mil kWh	16.2	16.9	17.2	17.9	18.9	20.05	20.33	20.43	20.76	21.08
			Electricity Generated by CGS	100 mil kWh	0.25	0.24	0.25	0.25	0.24	0.22	0.07	0.03	0.03	0.03
		Clean Energy System	No. of Equipment Introduced	Sets	42	43	46	48	48	49	51	63	61	61
			(Breakdown) Solar-generated Electricity, etc	Sets	40	41	44	46	48	47	49	61	59	59
			Fuel Batteries	Sets	2	2	2	2	2	2	2	2	2	2
			Electricity Generated	10,000 kWh	189.5	168.9	183.4	163.5	156.2	140.76	36.59	46.16	50.47	45
		Company Car	CO_2 Emission	10,000t-CO_2				0.93	3.37	3.24	3.37	3.16	3.1	3.24
			No. of Low Emission Vehicle	Cars	105	244	252	248	252	250	224	213	171	202
			(Breakdown) Electric Vehicle	Cars	3	0	0	0	0	0	0	0	0	0
			Natural Gas Vehicle	Cars	56	168	172	170	167	160	132	106	77	69
			Hybrid Vehicle	Cars	46	76	80	78	85	90	92	99	94	133
		Fuel	CO_2 Emission	10,000t-CO_2				0.61	0.58	1.73	0.93	1.47	1.40	1.3
	Waste Reduction Measures	Communications Facility	Disposal Quantity	10,000t	1	0.2	0.16	0.07	0.03	0.02	0.01	0.01	0.01	0.01
			Total Emission	10,000t	14.3	10.5	9.8	11.95	12.38	11.91	12.74	12.87	13.2	12.47
			Recycled Quantity	10,000t	13.3	103	9.6	11.88	12.35	11.9	12.73	12.86	13.19	12.46
			(Breakdown) Communications Cables	10,000t	3.2	1	0.9	1.58	0.75	0.76	1.18	1	0.88	0.89
			Telephone Switches	10,000t	0.7	0.6	0.8	0.85	0.9	0.76	0.76	0.79	0.84	0.82
			Concrete Poles	10,000t	9	7.8	6.9	9.44	10.01	9.67	10.14	10.46	10.54	10
			Others	10,000t	0.4	0.8	1	0	0.64	0.7	0.65	0.61	0.93	0.75
			Disposal Quantity of Waste Batteries (Industrial Wastes Subject to Special Control)	t	924	525	500	184	45	15	4	30	58	185
			Quantity of Waste Batteries Generated	t	4,621	5,718	5,261	3,961	2,669	2,788	2,229	2,895	6,689	4,981
			Recycled Quantity of Waste Batteries	t	3,697	5,193	4,761	3,777	2,624	2,773	2,225	2,865	6,631	4,930
		Wastes from Civil Engineering Works	Disposal Quantity	10,000t	1.4	1.2	0.01	0.13	0.02	0.04	0.08	0.1	0.11	0.16
			Quantity Generated	10,000t	5.6	5.2	7.9	6.4	2	4	9.06	8.52	9.57	9.07
			Recycled Quantity	10,000t	4.2	4	7.8	6.27	1.98	3.96	8.98	8.42	9.47	8.9
			Recycle Rate	%	75	77	99.9	98	99	99	99.1	99.8	98.9	98.2
		Wastes from Construction Works	Disposal Quantity	10,000t	2	1.2	2	1.4	0.7	0.35	0.74	0.47	0.31	0.3
			Quantity Generated	10,000t	17.8	9.8	18.6	20.7	16	7.97	14.26	11.81	14.7	16.1
			Recycled Quantity	10,000t	15.8	8.6	16.6	19.3	15.3	7.61	13.52	11.34	14.4	15.6
			Recycle Rate	%	89	88	89	93	96	95.6	94.8	96.0	97.9	97.76
		Offices	Disposal Quantity	10,000t	1.12	1.01	0.95	0.83	0.82	0.92	0.18	0.14	0.12	0,09
		Medical	Disposal Quantity of Medical Wastes	t	1,279	1,305	1,211	1,162	1,095	1,139	1,108	1,179	1,135	1,018
			[Reposted] Disposal Quantity of Infectious Wastes (Industrial Wastes Subject to Special Control)	t	281	274	278	311	326	335	389	360	369	388
	Paper Resource Reduction Measures	Phone Directories	Quantity of Pure Pulp Used	10,000t	2.5	1.9	1.8	1.7	1.3	1.1	1.1	0.9	0.5	0.6
			Usage Rate of Old Paper	%	61.4	63.5	64.1	65.5	67.2	67.6	66.5	71.7	80	78.7
			Quantity of Paper Used	10,000t	6.6	5.3	5.1	4.8	4	3.5	3.4	3.2	2.7	2.6
			Quantity Collected	10,000t	3.3	3.3	3.1	2.8	2.6	2.1	1.8	1.9	1.5	1.4
		Telegram Paper	Quantity of Pure Pulp Used	10,000t	0.03	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.005
		Office Paper	Quantity of Pure Pulp Used	10,000t	0.01	0.02	0.02	0.01	0	0	0.07	0.04	0.04	0.01
Resource Recycle Management		Communications Facilities	Repelleting Quantity of Dismantled Facilities (Plastic)	t	208	567	462	303	272	292	428.9	189	157	159
			Recycled Quantity of Optical Cables	t	207	331	716	725	224	796.5	883.3	1024.0	86.0	89
		Soil Generated from Civil Engineering Works	Quantity Generated	10,000t	30.7	23.7	36.6	31.7	24.3	30.5	34.9	35.6	33.1	18.5
			Recycled Quantity	10,000t	8.9	12.3	27.5	21.2	22.9	28.67	33.2	34.8	30.6	18
			Recycle Rate	%	29	52	75	67	94	94	95	97.9	92.7	97
		Soil Generated from Construction Works	Quantity Generated	10,000t	0.48	0.05	0.28	0.1	0.06	6.53	0.03	0.007	0.29	0.3
			Recycled Quantity	10,000t	0.48	0.05	0.28	0.1	0.06	6.52	0.03	0.005	0.07	0.29
			Recycle Rate	%	100	100	100	100	100	99.8	100	69.2	26	98.4
		Secondary Small Cells	Quantity Collected	10,000	15	13	10	9	6.8	75.6	63.5	4.75	4.79	5.53
			Collection Rate	%	71.1	71.6	64.9	67	51.9	80.6	36.7	27.0	27.7	27.7
		Packing Material	Quantity of Polystyrene Foam Used for Products	t	12	8	6	5.2	4.9	4	3.1	2	1.4	1.5
Proper Wastes Disposal Management		Asbestos	Quantity of Remaining Construction Asbestos	10,000t	0	0	0	0	6.12	6.8	5.93	6.62	6.61	6.04
			Quantity of Remaining Bridge Asbestos	t	11	2	42	19	13.7	0	0	0	0	0
		CFC	No. of Remaining Air-cons Using Specified CFCs	Sets	0	0	0	0	0	0	0	0	0	0
Implementation Status			No. of ISO14001 Certified Organizations	Organizations	14	22	33	42	45	33Br. +2Org.	43Br. +2Org.	42Br. +2Org.	42Br. +2Org.	42Br. +2Org.
			Total No. of Participants in Clean Environment Campaign	Persons	13,200	14,800	21,536	16,900	17,628	14,948	32,178	41,500	64,003	64,000
No. of NTT West Employees				Persons	50,450	14,750	13,750	12,850	12,250	5,800	5,800	5,700	5,700	5,550
Operating Revenue of NTT West				100 mil yen	24,067	22,150	21,669	20,980	20,296	19,515	19,012	18,243	17,808	17,623

* Starting from FY 2000, the targets of control have been expanded to the performance of NTT Marketing Act and NTT Neomeit group companies.
* Target organizations: 43 companies of NTT West Group as well as NTT Business Associe West.

Achieved Values in Units of Action Goal

CO_2 Emission	
FY 2001 Performance	645,000 t-CO_2
FY 2002 Performance	693,000 t-CO_2
FY 2003 Performance	754,000 t-CO_2
FY 2004 Performance	733,000 t-CO_2
FY 2005 Performance	769,000 t-CO_2
FY 2006 Performance	889,000 t-CO_2
FY 2007 Performance	889,000 t-CO_2
FY 2008 Performance	910,000 t-CO_2
FY 2009 Performance	969,000 t-CO_2
FY 2010 Performance	933,000 t-CO_2

* Up to FY 2003, the official coefficient of the Federation of Electric Power Companies of Japan had been used as the CO_2 emission coefficient for power consumption. From FY 2004 onward, coefficients based on the "Law Concerning the Promotion of the Measures to Cope with Global Warming" are used (0.378 kg-CO_2/kWh in FY 2004, 0.555 kg-CO_2/kWh in FY 2005).

Achieved Values in Units of Action Goal

Total Final Disposal Quantity of Industrial Wastes	
FY 2001 Performance	48,000 t
FY 2002 Performance	29,000 t
FY 2003 Performance	25,000 t
FY 2004 Performance	18,000 t
FY 2005 Performance	9,000 t
FY 2006 Performance	7,000 t
FY 2007 Performance	9,000 t
FY 2008 Performance	6,000 t
FY 2009 Performance	5,000 t
FY 2010 Performance	6,000 t

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Professor Kokubu completed his doctoral program at the Graduate School of Business, Osaka City University, where he was conferred the degree of Doctor in Business Administration. After working as an associate professor at Osaka City University and Kobe University, he became a professor at the Graduate School of Business Administration in Kobe University in 2011. Professor Kokubu is the chairman of ISO/TC207/WG8 and the Material Flow Cost Accounting Forum Japan, and also holds posts such as the board member of the Society for Environmental Economics and Policy Studies and the Sustainable Management Forum of Japan. His major published works include "Theory and Execution of Environment Management Innovation" (Chuokeizai-sha, 2010), "Material Flow Cost Accounting" (Nikkei Publishing, 2008), and "Environment Management and Accounting" (Yuhikaku Publishing, 2007).

NTT West Group promotes active environmental conservation activities in a wide range of business areas, focusing particularly on prevention of global warming and reduction of wastes. In the "NTT West Group Environmental Report 2011," a wide variety of information has been provided, from major undertakings to individual efforts. This report demonstrates their sincere attitude toward environmental conservation activities and information disclosure. In terms of performance, both the targets for global warming prevention and waste reduction were achieved, and this should be highly evaluated.

Following the development of an environmental vision toward FY 2020 by NTT Group, known as "THE GREEN VISION 2020," NTT West Group has established an "Environmental Grand Design (New Targets of Voluntary Action Plan)." In response to this policy, concrete actions are explained, while long-term environmental targets and the means to achieve them are clearly described. These are proof that practical environmental conservation actions have been implemented, and are therefore commendable.

Additionally, most of NTT West Group' s valued customers are citizens of the respective cities, so it is important that environmental conservation activities be carried out together with them. For example, the NTT West Group Tree-planting Project is a unique attempt, where switching to online bills by users helps to promote the planting of trees. I hope such activities that involve the customers (citizens) can be further widened in future. Similarly, using the number of subscribers as the base unit for calculating CO_2 emission can be understood as demonstrating the significance of CO_2 reduction to the society on behalf of the users, and this makes it a highly valuable indicator.

The global environment issue is not a problem that can be resolved by the effort of a single company. Endeavor on the part of each citizen is also essential. While there is a limit to how much the industrial sector alone can do, efforts by the household sector are also indispensable. Educational activities to achieve this purpose are therefore a vital social responsibility of companies that maintain contact with the citizens, who are the end users. Specifically, there is plenty of room for more creative efforts, such as conducting environmental education and enlightenment activities for the citizens, and holding meetings with customers on the topic of environment. Although many activities have already been implemented, it would be good if the above can also be advanced systematically as a pillar of the environmental activities.

Response to Third Party Opinions

NTT West Group believes that it is a corporate social responsibility to realize a sustainable society that is environment-friendly. To this end, we have established targets of our voluntary action plan focusing on global warming prevention and waste reduction, and have promoted efforts to achieve these targets. Although targets of our voluntary action plan that we set for FY 2010 were met, we are also aware that further reduction of CO_2 emission and more eco-friendly measures are some of the important long-term issues for NTT West Group.

To address these issues, NTT West Group has established the "Environmental Grand Design (New Targets of Voluntary Action Plan)," which is a new set of targets for efforts up to FY 2020. The "Environmental Grand Design" states targets for reduction of power use and paper use, as well as the final waste disposal rate in order to realize a low carbon society and form a circulating society. To achieve these targets, a working group is set up for each issue, which is managed through the use of a PDCA cycle for every quarterly period.

As pointed out above, we are aware that the global environment issue is not a problem that can be resolved by the effort of a single company. In addition to continuing the environmental protection activities we have undertaken thus far, we will consider new approaches, including holding environmental education and enlightenment events that are open to participation by the public and our customers.

We sincerely hope that this Environmental Report will help to show our efforts toward environmental protection more widely.

We, NTT West Group, are determined to continue our endeavor, in cooperation with every member of the society, toward realizing a sustainable society.

Environment Management Promotion Office
Technology Innovation Department
Nippon Telegraph and Telephone West Corporation