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NTT WEST GROUP

Environmental Report

2012

NTTWEST

CONTENTS

We are committed to reduce our own power use, and contribute to social activities for energy saving and environmental protection through our business.

村尾 和俊
Kazutoshi Murao
President
Nippon Telegraph and Telephone West Corporation

Aiming at creating a low-carbon and recycling-oriented society, NTT West Group has been making efforts based on the "Environmental Grand Design," which sets our own targets for reducing the use of power and paper, as well as the final waste disposal rate.

In particular, we are committed most strongly to reduce our power use. Annually, NTT West Group, as a whole, accounts for approximately 0.24% (2.1 billion kWh) of the total electricity use of the country, while our customers also consume much power through the use of telecommunication devices such as optical network units (ONUs). Taking into consideration this situation, NTT West Group, as a major energy user, established the "Green NTT West Strategy" in June 2012 to deal even more actively with power-saving and environmental issues.

More specifically, aside from our effort to reduce the power use of our telecommunication facilities, which constitutes much of our energy consumption, we are also promoting eco office activities to reduce power use for lighting and air conditioning, as well as reducing the amount of power required for our customers' telecommunication devices. Our aim of these efforts is "to reduce our energy use by at least 40% by FY 2020 compared to the FY 2008 level," excluding the amount consumed by our customers. Not only are we cutting down on our power use, we are also in the process of "introducing renewable energy" to generate power on our own. Two more solar power generation systems will be added by the end of FY 2012 to the existing ones at 48 locations, allowing us to achieve a total generation capacity of about 1,200 kW.

While continuing these programs, we, as a telecommunications company, also plan to promote "contribution though our business activities" from two approaches: "energy saving" and "energy creation." For energy saving, we started a cloud-based power consumption visualization service, "Flet's Eco Megane," which helps reduce power use and CO_2 emission. For energy creation, on the other hand, we are offering our customers who are users of solar panels a generation and consumption visualization service, "Eco Megane," through NTT Smile Energy Inc., a joint venture company with OMRON Corporation that was established in June 2011.

Based on the Green NTT West Strategy, we will make consistent efforts toward reducing the environmental load. As part of the strategy, the entire NTT West Group has also begun activities for biodiversity conservation by establishing a "Lush Project Supported by Green West," which focuses mainly on tree-planting activities to contribute to the local environment.

I promise you that each and every one of the employees of NTT West Group will continue to engage actively in addressing the environmental issues through these activities.

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 2012 CSR Report, please visit http://www.ntt-west.co.jp/csr/2012/

To view our 2012 Environmental Report, please visit http://www.ntt-west.co.jp/kankyo/report/2012/

Reference

■ "Environmental Report Guidelines 2012" Ministry of the Environment

Applicable to

■ 39 NTT West group companies and NTT BUSINESS ASSOCIE Co.,Ltd

Organization Charts Branches http://www.ntt-west.co.jp/corporate/about/sosikizu.html
Group Companies http://www.ntt-west.co.jp/corporate/about/group.html

Applicable period

■ Based on records from April 2011 to March 2012

【 Contact 】
Environment Management Promotion Office, Technology Innovation Department, NTT West,
3-15 Bamba-cho, Chuo-ku, Osaka, Japan 540-8511
Email: kankyo@west.ntt.co.jp

Feature 1

Efforts on Conservation of Biodiversity

Events such as the 10th Conference of the Parties to the Convention on Biological Diversity (COP 10), which was held in 2010 in Nagoya of Aichi Prefecture, have heightened social awareness toward the issue of biological diversity: active discussions have been taking place, as people understand that it is necessary to preserve the gifts endowed by nature to ensure mankind's prosperity in the future.

NTT West Group has long been dealing with environmental issues. We established the "NTT West Group Charter for Global Environment," which specifies policies to address the issues, as well as the "NTT West Group Environmental Policies," which aim at promoting the more specific activities, so that our employees, their families as well as retired employees are able to make contributions through a wide range of social support activities.

While further reinforcing our activities for nature preservation, we are also advancing the "NTT West Group Tree-planting Project" and "NTT West Group Afuhi Project" as part of our effort to help preserve biological diversity

NTT West Group Tree-planting Project

For every 10,000 subscribers who have switched to web-based bills from paper ones, we are planting 10 trees at the industrial waste disposal facility located in Sakai, Osaka. A total of 142 people have participated in this project for the past two years, planting 660 trees. We will continue this activity.

NTT West Group Afuhi Project

The wild hollyhocks in the precincts of Kamigamo Shrine (Kyoto) had almost disappeared. In this project, NTT West Group employees and their families, as "foster parents," grow hollyhock saplings at their workplace or at home, and plant them in the shrine after the plants have grown up. In April 2012, we started our second round of foster parent applications. In the following month, 175 hollyhocks grown by their foster parents since March 2011 were planted in the shrine for the first time.

NTT West's activities for biodiversity preservation are implemented at many different locations. Our activities are wide-ranging, from forest conservation to removal of alien species for protecting the native nigorobuna, a type of crucian carp, and protection of the rosy bitterling, a rare fish species, by providing a better biotope. Information on these activities is available on the NTT West website to both our employees as well as our customers.

NTT West website "Midori Ippai Project": http://www.ntt-west.co.jp/kankyo/regional/

Head Office

- Tree planting in Sakai with reduced paper use through "My Billing"

- Hollyhock planting in Kamigamo Shrine by employees and families

Shiga

- Fishing events to remove alien species to protect the crucian carps in Lake Biwa

- Reed mowing to protect crucian carps and little grebes

Hyogo

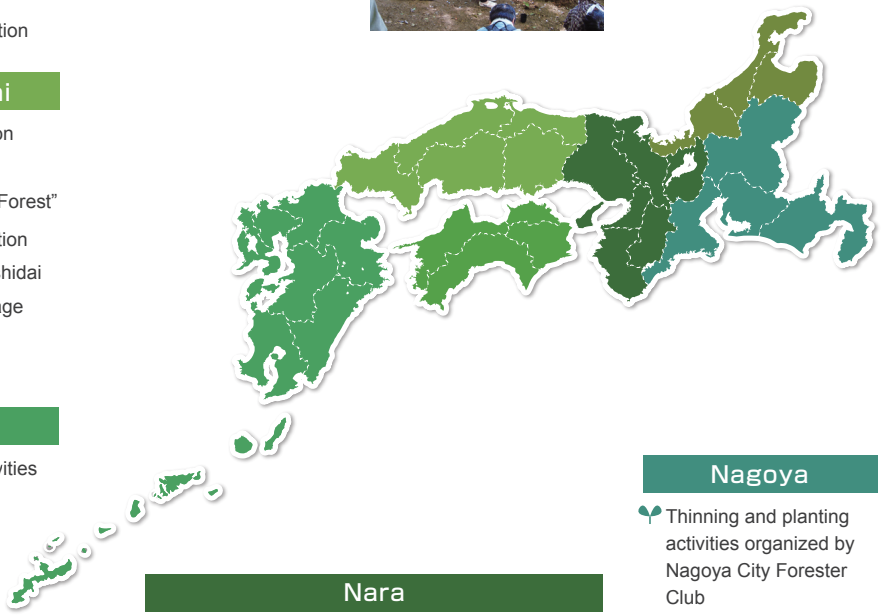
- Planting of cherry trees in Tatsuno City
- Flowerbed activities by Kobe Parks and Greenery Association

Yamaguchi

- Forest conservation activities through "Akiyoshidai NTT Forest"
- Satoyama restoration activities in Akiyoshidai Family Travel Village

Oita

- Tree-planting activities promoted by Oita Prefecture



Kanazawa

- "Ishikawa Reforestation" project organized by the Ishikawa Reforestation Association

Toyama

- Forest conservation activities at the piedmont of Mount Tate by Toyama City

Nara

- Activities for satoyama restoration and protection of the endangered rosy bitterling

Kumamoto

- Ecological education activity "Smart Lake Ezu Explorers" in Kumamoto City

Nagoya

- Thinning and planting activities organized by Nagoya City Forester Club
- 2012 Spring Fujimae Higata Wetland Cleanup Campaign

Gifu

- Cleanup activities to conserve the ecosystem of Nagara River

HOMETECHNO Tokai

- Activities to keep cherry rows disease-free in Ito City
- "Forest Volunteers" activity by a volunteer NPO in Ito City

Kochi

- Collaborative tree-planting activities by green companies and Kochi Government
- Organizer of "NTT Hikari no Mori (Bright Forest)" activities (classes on thinning and woodwork)

Wakayama

- "Kigyo no Mori (Corporate Forest)" project organized by Wakayama Government
- "Kagayaki no Mori (Shiny Forest)" forest conservation activities in Ryujin Village, Tanabe City

Mie

- "Hikari no Mori (Bright Forest)" forest conservation activities with Mie Government
- Cleanup activities to conserve the environment of Akogiura Beach in Tsu City

Feature 2

Environment and Energy Business

Start of “Eco Megane” and “Flet’s Eco Megane” Services

Establishment of “NTT Smile Energy” and Start of “Eco Megane” Household Power Visualization Service

To realize a low-carbon society, NTT West has been making efforts through ICT-based services to ease environmental load. Following the launch of our “Corporate Energy Visualization Solution” service in 2010, NTT West began to provide the “Eco Megane” service, a visualization and watchdog system for household solar power generation through NTT Smile Energy Inc., which was established in June 2011. On July 27, our “Eco Flower Service” was certified as an emission credit business (Certification No.: JDCM-PG0035). The service calculates emission credits earned through solar power generation by our “Eco Megane” subscribers, and pays back them with eco goods or donations to environmental protection activities.

NTT West Group is planning to push forward our continuous efforts toward realizing a low-carbon society in the fields of smart city projects and Home Energy Management System (HEMS), which combines “energy storage” with “energy creation” and “energy saving.”

“Eco Megane” Website Image

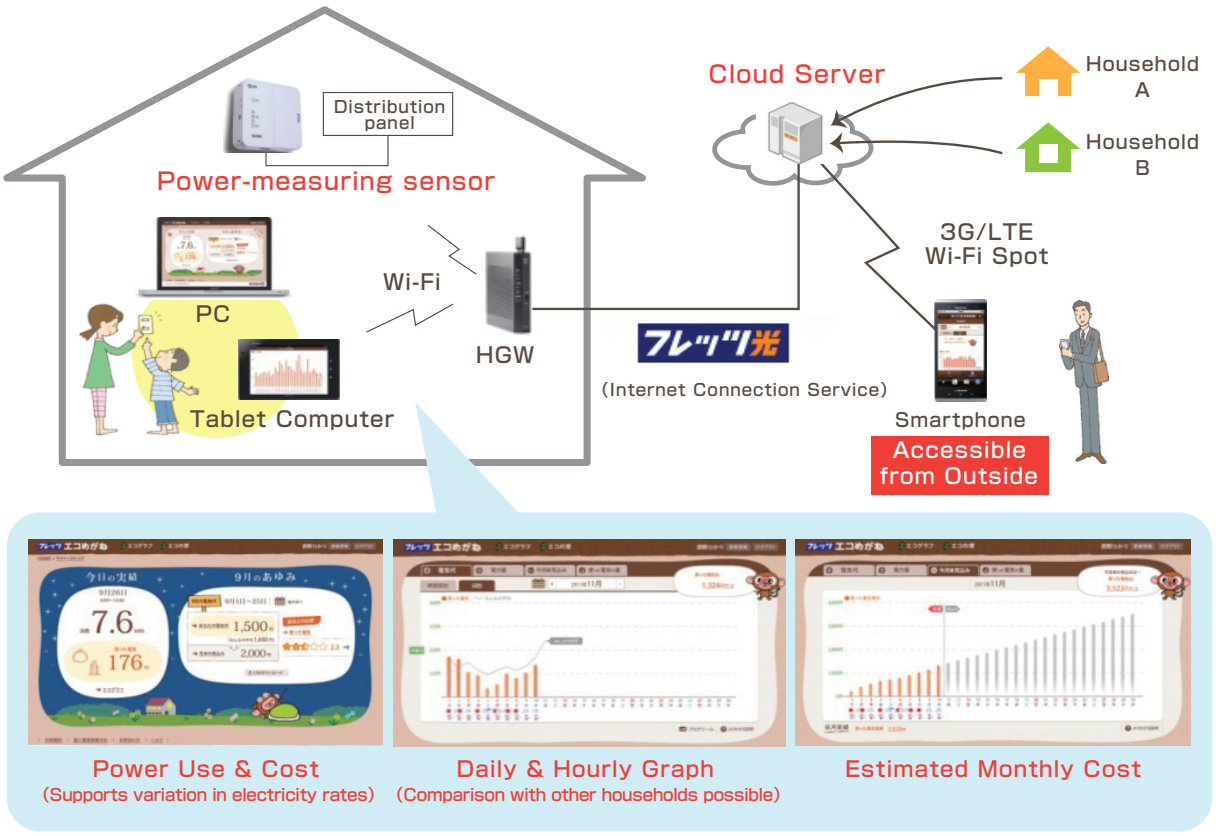
Start of the Household Power Visualization Service, "Flet's Eco Megane"

Power shortage in the wake of the Great Eastern Japan Earthquake and subsequent energy-saving requests have raised the awareness of power saving in households, leading to the increasing importance of effective and lasting effort toward energy conservation.

Amidst this situation, NTT West started the cloud-based "Flet's Eco Megane" household power visualization service in July 2012. By using a power-measuring sensor attached to the household distribution panel and connecting the sensor to an online network, this service allows subscribers to monitor power use and costs from their computer, smartphone, or tablet terminals.

The service contributes to power saving and reduction of CO_2 emission, as it is believed that visualizing household power use leads to about 10% energy saving per day. By enhancing the "Flet's Eco Megane" service further and based on the concept of digitizing the entire home to help create a more convenient and comfortable life for everyone, NTT West will further promote the utilization of ICT through such "digital home" services to realize a simple, convenient, and comfortable home.

"Flet's Eco Megane" Service Image



◆"Flet's Eco Megane" is a cloud-based household power visualization service.
* To make use of the service, subscription to Flet's Hikari and internet connection service, a power-measuring sensor and its installation, and a Wi-Fi environment are required.

◆By installing the power-measuring sensor in the distribution panel and connecting it to the Internet, users can "visualize" power use and cost via their PCs, smartphones, or tablet computers. The service supports the price plans and fluctuating price rate of each power company. Comparison with other households and estamated monthly costs can also be viewed. *1

*1 Power costs are estimated amounts calculated based on the contract of the respective power companies. Also, the amount may differ from the billing amount from the power company due to a different method and period of measurement used.

Feature 3

Smart Town Project

"Smart Hikari Town Kumamoto" Project for an Attractive, Convenient and Happy Kumamoto

"Smart Hikari Square Kumamoto" Showcase for Latest ICT and Services

On February 14, 2012, NTT West signed a "comprehensive cooperation agreement for regional revitalization through ICT utilization" with the governments of Kumamoto Prefecture and Kumamoto City. Under this agreement, we are advancing the "Smart Hikari Town Kumamoto" project with the aim of creating an "attractive, convenient and happy Kumamoto." On March 30, a showcase "Smart Hikari Square Kumamoto" was launched, which features the project undertakings and provides hands-on experience of the technologies used, while exhibiting an environment-load reduction system and services based on the latest ICT. In addition to introducing the project, the "Community Zone" (multipurpose space) also functions as a "local exchange hub" for holding local events as well as providing tourist information on Kumamoto and event schedules, making the "Smart Hikari Square Kumamoto" a popular communication space among locals and tourists.

"Smart Hikari Square Kumamoto" Showcase for Latest ICT and Services

◆Smart Hikari Office Zone

Proposes a new style for office work

- This space with an office layout proposes a new working style through the exhibition of cloud services and information terminals.
- Tablet computers with augmented reality (AR) technology provide information about the exhibited items.

Smart Hikari Office Zone Image

◆Community Zone (Multipurpose Space)

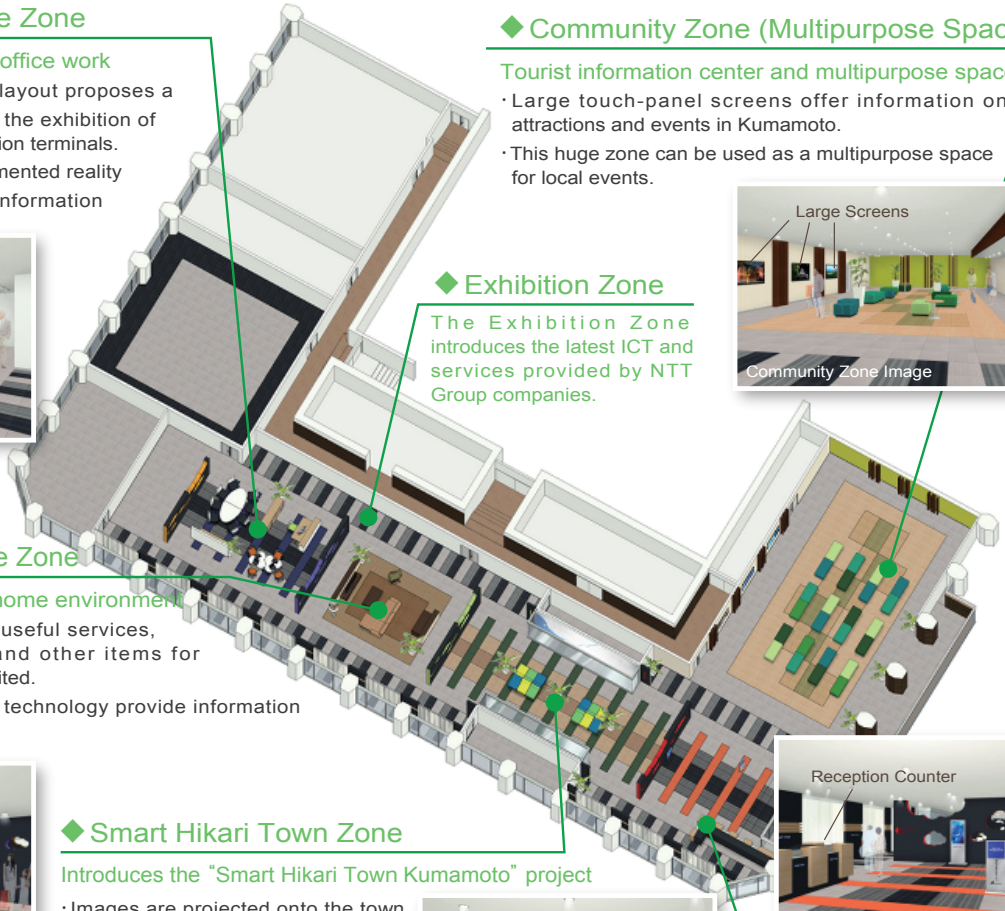
Tourist information center and multipurpose space

- Large touch-panel screens offer information on attractions and events in Kumamoto.
- This huge zone can be used as a multipurpose space for local events.

Community Zone Image

◆Exhibition Zone

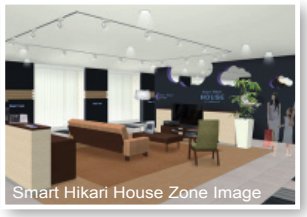
The Exhibition Zone introduces the latest ICT and services provided by NTT Group companies.



◆Smart Hikari House Zone

Proposes a comfortable home environment

- In the living-room space, useful services, information terminals and other items for comfortable living are exhibited.
- Tablet computers with AR technology provide information about the exhibited items.

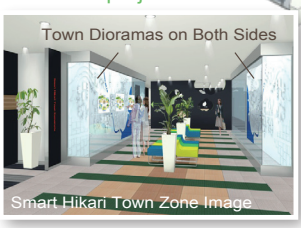


Smart Hikari House Zone Image

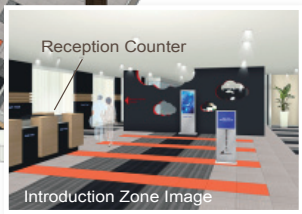
◆Smart Hikari Town Zone

Introduces the "Smart Hikari Town Kumamoto" project

- Images are projected onto the town dioramas in the showcases to introduce the project concept visually.
- A video of the project activities can be viewed on a tablet computer with the town dioramas and AR technology.



Smart Hikari Town Zone Image



Introduction Zone Image

◆Introduction Zone

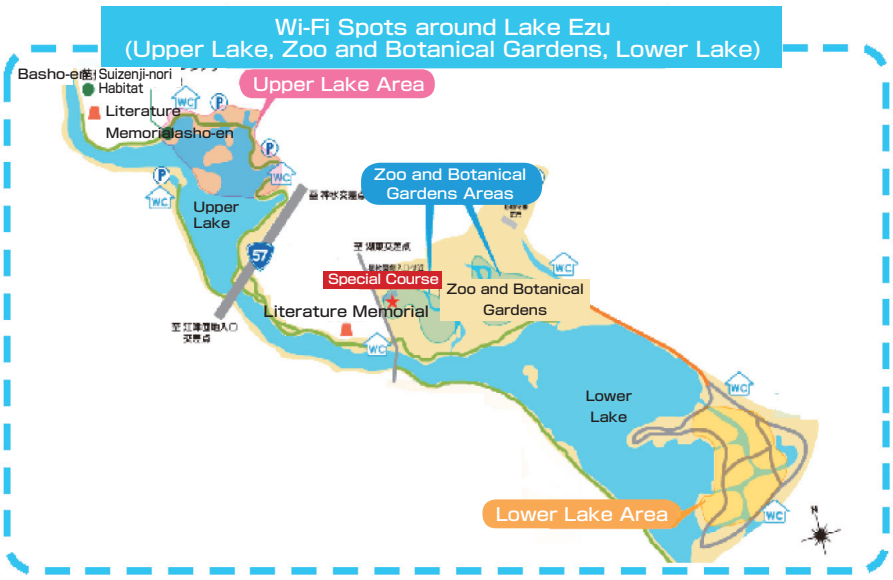
Reception

- Visitors receive tablet computers to be used in the zones. Explanation on how to operate the tablet is also provided.
- Signage is installed to introduce the facility

ICT-based Ecological Education Activity, "Smart Lake Ezu Explorers"

As part of the "Smart Hikari Town Kumamoto" project, we provided a "Smart Lake Ezu Explorers" application program designed as part of an ecological education activity for the "Wakuwaku Lake Ezu Festa" held from May 3 to June 3, 2012. The program can be downloaded to devices such as smartphones for users to enjoy learning more about the environment around Lake Ezu while exploring.

Areas of "Smart Lake Ezu Explorers"



"Smart Lake Ezu Explorers" Application

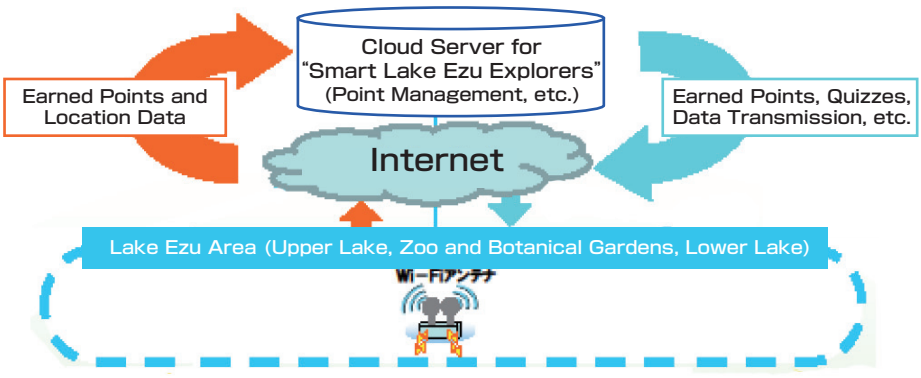
1."Lake Ezu Walk" Menu

When a user finds a location specially set up and hidden in the areas and holds their smartphone or tablet computer over it, descriptions of the fauna and flora and spring water of Lake Ezu will appear on the screen. Not only can users learn about the local ecology, they can also earn points by answering the quizzes in the program. Accumulated points can be used to enter a lucky draw to win eco goods.

2."Lake Ezu Picture Book" Menu

Digital photos of animals and plants found in the areas can be uploaded with comments.

Overview of "Lake Ezu Walk"



"Lake Ezu Walk" Points by Area

Area	No. of Locations
Upper Lake	16
Zoo and Botanical Gardens	13
Lower Lake	18
Total	47

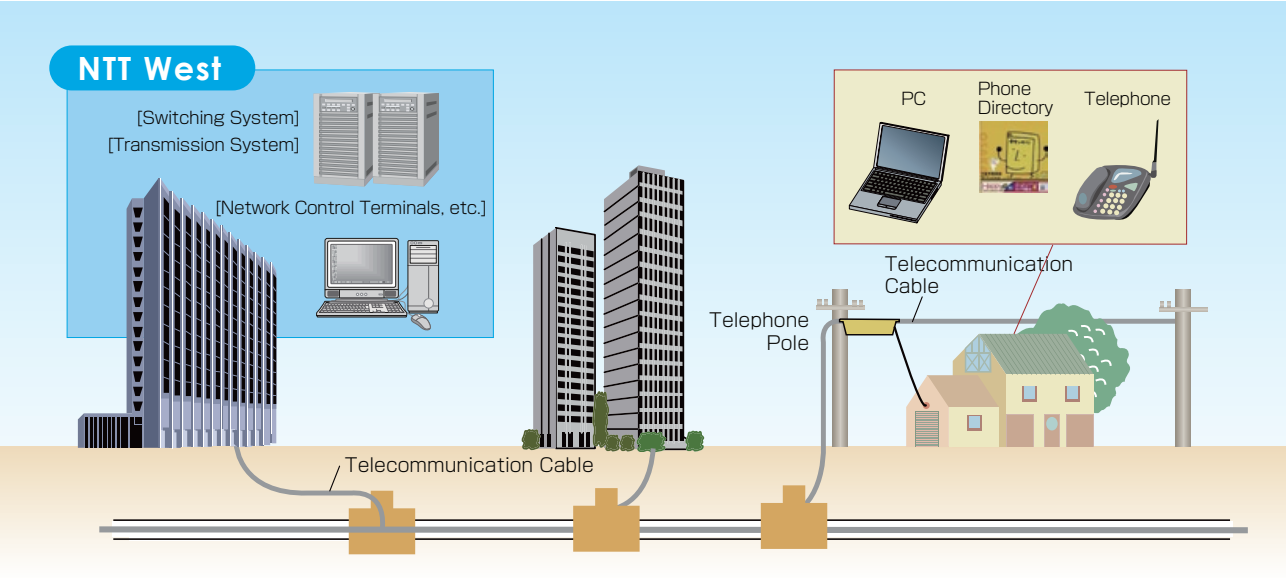
Overview of Our Business and the Environment

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 telecommunication cables and switching systems 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



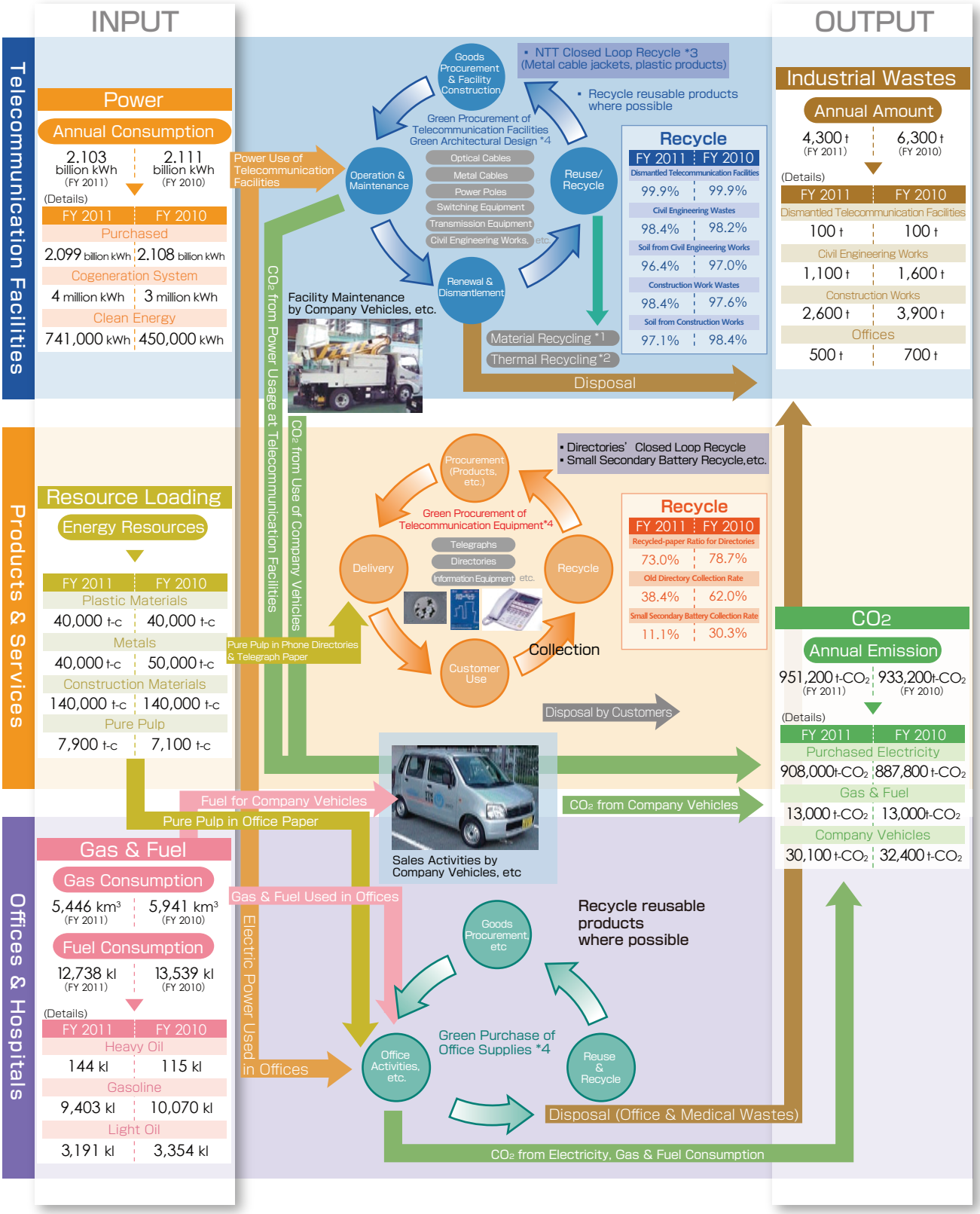
Harmony with the Environment

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 consumption at our telecommunication facilities (global warming prevention measure), cutting down of the amount of industrial wastes produced from dismantling of telecommunication 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 telecommunication 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 2011



※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 produced 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 telecommunication 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 activities to conserve the environment.

NTT West Group Charter for Global Environment

Basic Philosophy

In order 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 the 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 Group Environment Vision “THE GREEN VISION 2020”

With the aim to realize the development of a sustainable society with man 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 “realization of a low carbon society,” “formation of a circulating society,” and “conservation of biodiversity.”

3 Environmental Themes

1. Realization of 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.

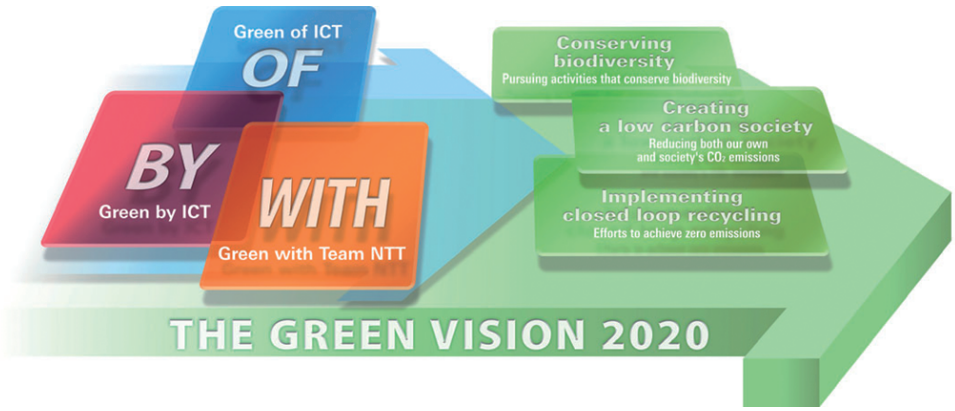
2. Formation of a circulating society

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. Conservation of 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 「THE GREEN VISION 2020」



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.”

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.

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

Environmental Grand Design

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 telecommunication 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.

*2 The target value may be subject to change following any changes in the emission coefficient due to impact of the said earthquake. 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 switching equipment 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.42 to p.45).

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 telecommunication buildings and offices, wastes from civil engineering works following duct line and telephone tunnel works, as well as wastes from telecommunication facilities as a result of dismantling transmission cables and switching equipment. We are working to improve the final disposal rate *4 (p.29 to p.41).

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

Green NTT West Strategy

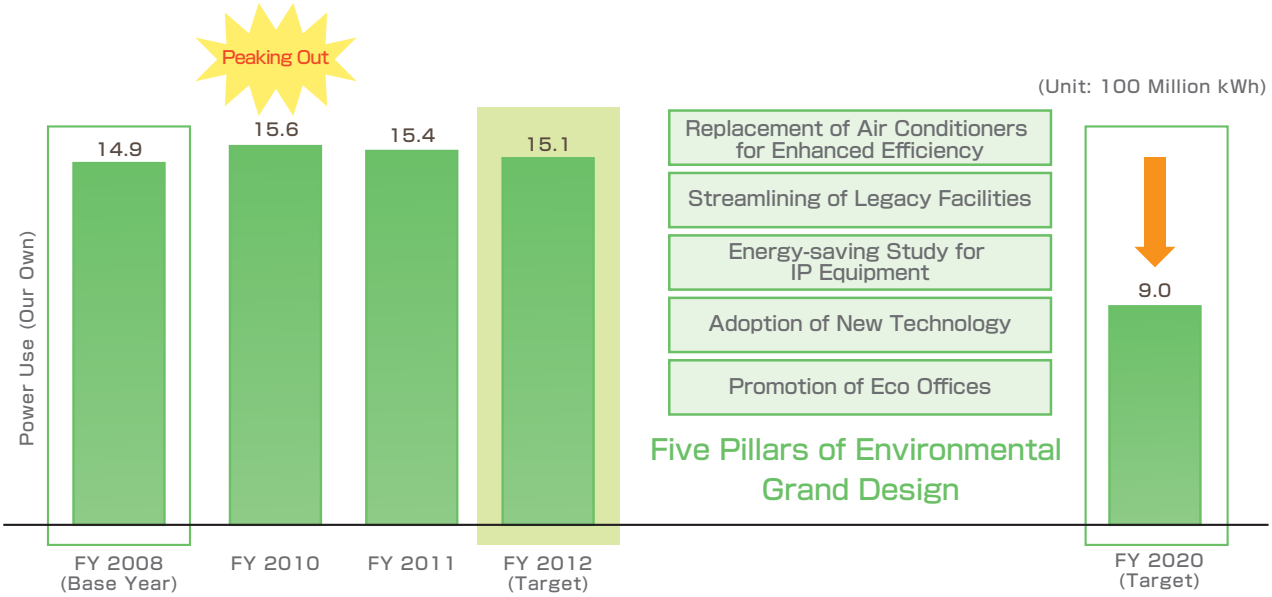
As a major energy consumer, NTT West Group formulated in June 2012 the “Green NTT West Strategy” to engage actively in power-saving and environmental conservation efforts.

1. Power Use Reduction (Peaking Out)

Five Pillars | Eco Offices | Solar Generation

Aiming to “reduce our energy use by at least 40% by FY 2020 compared to the FY 2008 level,” excluding the amount consumed by our customers, we are not only continuing our effort to reduce the power use of our telecommunication facilities, which constitutes much of our energy consumption, but are also promoting eco office activities to reduce power use for lighting and air conditioning, as well as decreasing the amount of power required for our customers’ telecommunication devices. Our effort is not limited to reducing our power use. We are also progressing with the “introduction of renewable energy” to generate power on our own. Two more solar power generation systems will be added to the current 48 to achieve a total generation capacity of about 1,200 kW.

・Target for FY 2020　From FY 2008 Level　40% Power Use Reduction



2. Environment and Energy Business

“Eco Megane” and “Flet’s Eco Megane” – Business from “Energy Creation” and“Energy Saving” Approaches

Our effort is two-fold: “energy saving” and “energy creation.” For energy saving, in July 2012, we started a cloud-based power consumption visualization service, “Flet’s Eco Megane,” which helps reduce power use and CO_2 emission. For energy creation, on the other hand, we are offering our customers who are users of solar panels a generation and consumption visualization service, “Eco Megane,” through NTT Smile Energy Inc., a joint venture company with OMRON Corporation that was established in June 2011.

3. Expansion of Biodiversity Conservation Activities

Mainly through tree planting, we are implementing group-wide activities for biodiversity conservation in 18 prefectures with participation by about 2,000 employees. Each and every one of the NTT West Group employees will continue their active involvement in tackling the environmental issues.

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.) — Action Plan Targets
	Industrial waste reduction (wastes from dismantling of telecommunication facilities, etc.) — Action Plan Targets
	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)
	Green R&D and procurement
	Use of clean energy
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 — NTT Group Vision for Environmental Contributions
	Development & provision of eco-friendly products (telecommunication 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 vehicles
	CO_2 emission from gas & 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 telecommunication 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 telecommunication facilities
	Recycle quantity of small secondary batteries for telecommunication 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 telecommunication 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

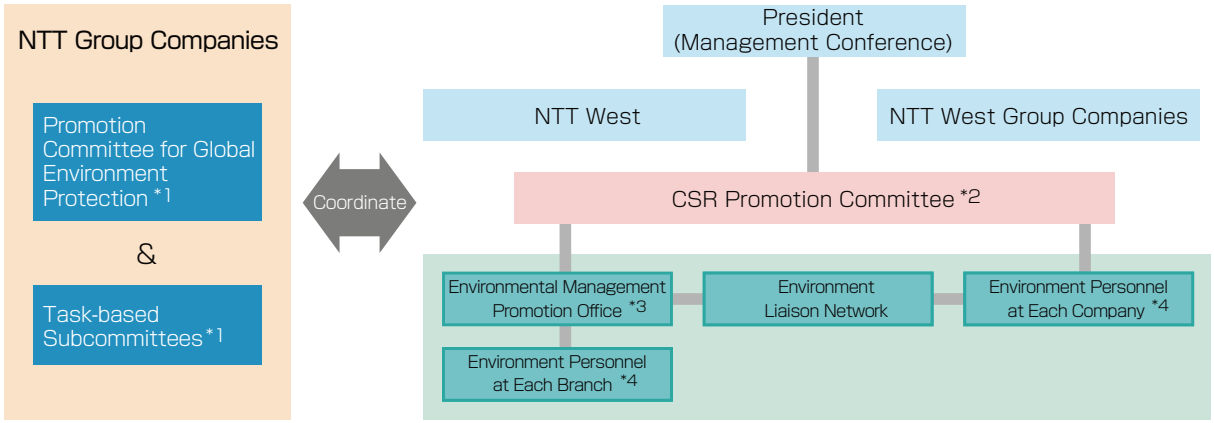
Implementation Management Item
Green R&D and procurement
Use of clean energy
Development & provision of eco-friendly products (telecommunication equipment, etc.)
Clean environment mission (cleaning activities for regional environment)
Promotion of social contributions
Support for establishment of EMS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

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



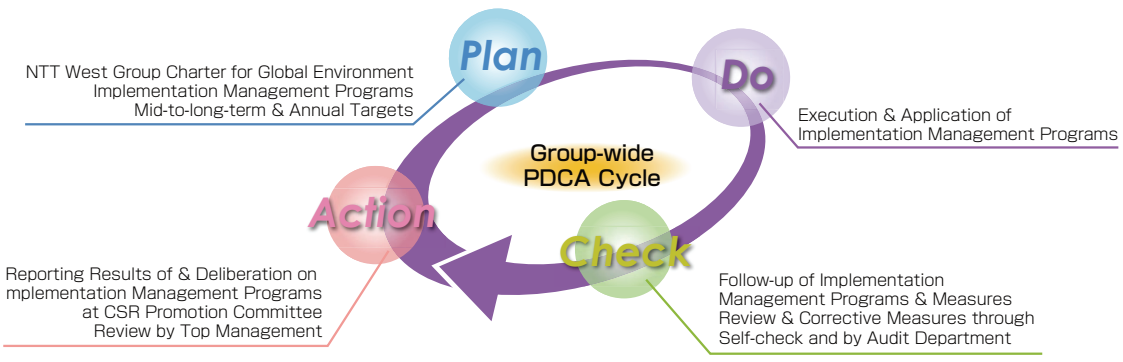
*1 Decide, manage and review NTT Group's environmental policies and measures for each task.
*2 Establishes basic principles in NTT West Group's promotion of CSR, and strive to ensure a consistent stance at the management level.
*3 Coordinates with the Promotion Committee for Global Environment Protection 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 Co.,Ltd is also included to make our Plan-Do-Check-Act (PDCA) cycle a truly group-wide effort (Figure 1).

As of FY 2011, 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*1 to manage the progress of our effort periodically (Figure 3).

*1 See "2012 CSR Report"
Website: http://www.ntt-west.co.jp/csr/2012/

Figure 2: "Save Resource Program"

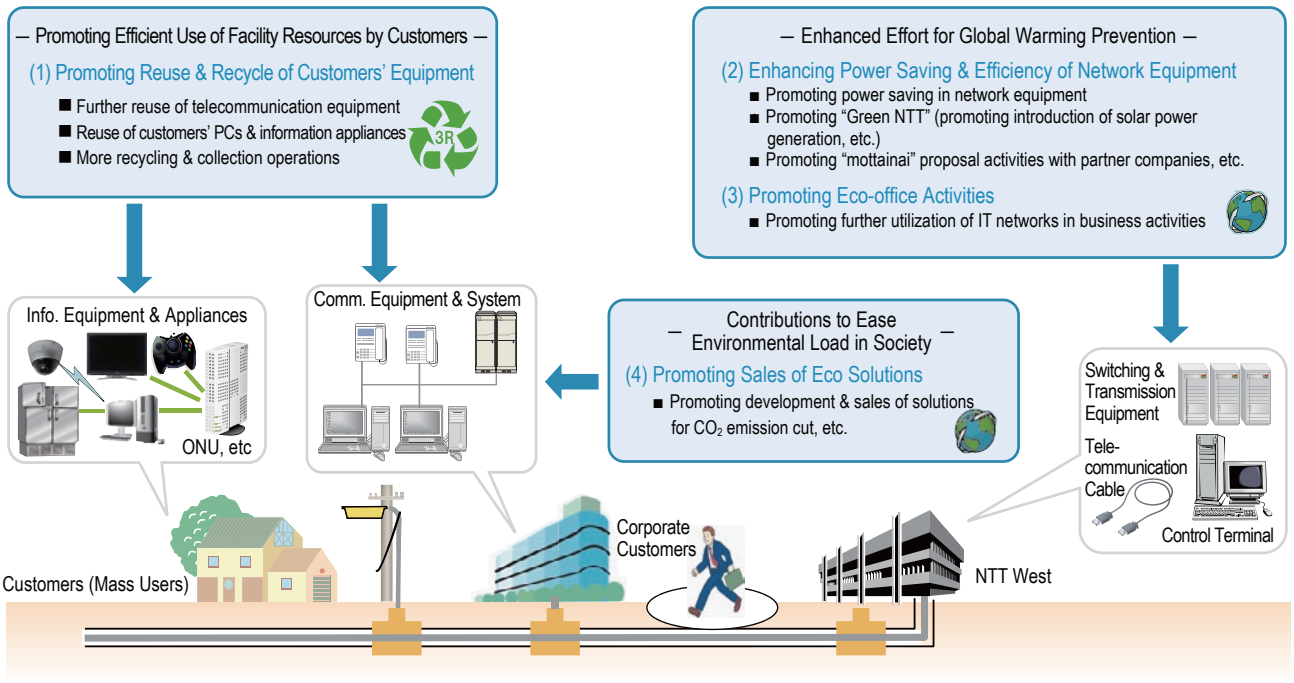


Figure 3: Visualization Indicators

Classification	Indicator	Yearly Target
Promotion of Environmental Management	Reuse/recycle of telecommunication equipment	Reuse/recycle rate for customers' information equipment: 90%
		Reuse/recycle of computers: 100%
	Suppression of power use	Keep electricity use to 2.11 billion kWh or lower
	CO_2 reduction through reduction in the amount of paper use *2	CO_2: -1,392t
	Execution of environmental protection activities	Implementation of Eco Drive, etc.

*2 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 2011, we reused 1.2 million information equipment installed at our customers' premises, thereby promoting the effective utilization of resources (Page 35).

*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 telecommunication 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 23) 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 81 million kWh (CO_2 emission of 39,000 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 2011, we adopted solar power energy systems at 48 facilities with a total power of 741 MWh (Page 25).

► 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.

► 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 48)

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 telecommunication 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 telecommunication 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 2011, 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 2011

In FY 2011, we convened a CSR Committee meeting, as shown on the right, where our environmental protection activities implemented in the year were reported, and discussions were held for further improvement. The result of the meeting was disseminated to the entire NTT West Group through the Environment Management Promotion Office and the employees of the Group companies who were responsible for the activities.

Agenda of CSR Committee Meeting

1. Activities in FY 2011 and FY 2012
2. FY 2012 "ART MEET WEST" cultural heritage conservation activity
3. CSR Visualization Guideline and Targets for FY 2012

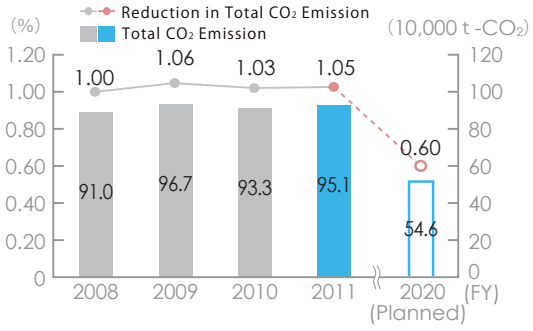
Progress of Environmental Grand Design

Global Warming Countermeasures

The contributing factors of CO_2 emission at NTT West Group are our use of power, company vehicles and fuel (gas and oil). Among these, power use is the largest emission source.

While a comparison with FY 2010 shows a decrease in our power use in FY 2011, CO_2 emission went up due to a rise in the emission coefficient following the stoppage of the nuclear plants.

Total CO_2 Emission



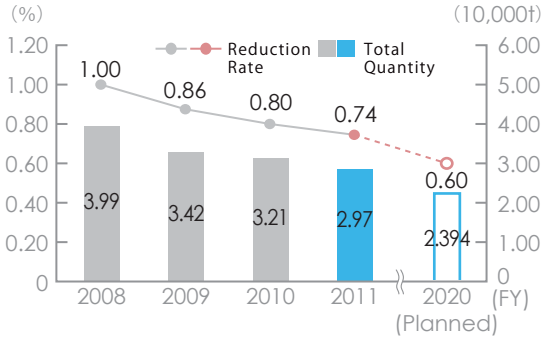
Reduction of Paper Use

NTT West Group uses paper for phone directories, bills, office work and telegraphs.

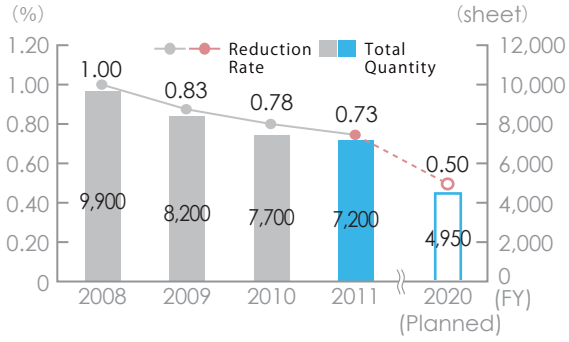
The total amount of paper used during FY 2011 was 29,700 tons (Figure 1), of which 24,000 tons were used for directories, while for bills, office work, and telegraphs, we consumed 2,700, 2,500 and 500 tons respectively.

Besides being committed to paperless meetings and making thorough and systematic efforts to reduce paper use within the company, we are also promoting a web-based paperless billing service, My Billing, with understanding and support from our customers.

Figure 1: Total Paper Use



Quantity of Office Paper Used Per Employee



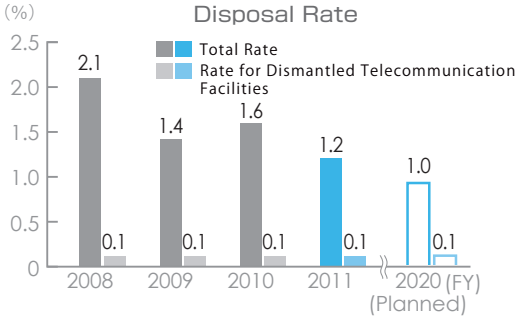
Reduction of Final Waste Disposal Rate

Industrial wastes are generated mainly from dismantled telecommunication facilities, civil engineering projects, construction projects, and office work.

The final industrial waste disposal rate for FY 2011 was 1.2% (Figure 2), among which 0.1% was from dismantled telecommunication facilities, while civil engineering projects, construction projects, and office work generated 1.6%, 1.7% and 5.7% respectively.

While the rate for dismantled telecommunication facilities was low, that of office work was comparatively high. Because of this reason, we keep in mind to procure environmentally-friendly office supplies that can be easily reused or recycled.

Figure 2: Final Industrial Waste Disposal 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 20) 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 FY 2011, 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 2011, this was held at the "Mominoki Forest Park" (Hiroshima Prefecture)

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.

Performance in FY 2011

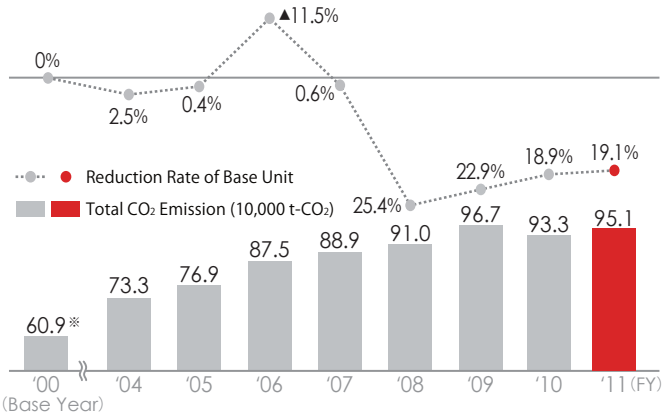
In FY 2011, we achieved a 19.1% reduction by implementing efforts such as promoting energy saving through the TPR Campaign (Figure 1).

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

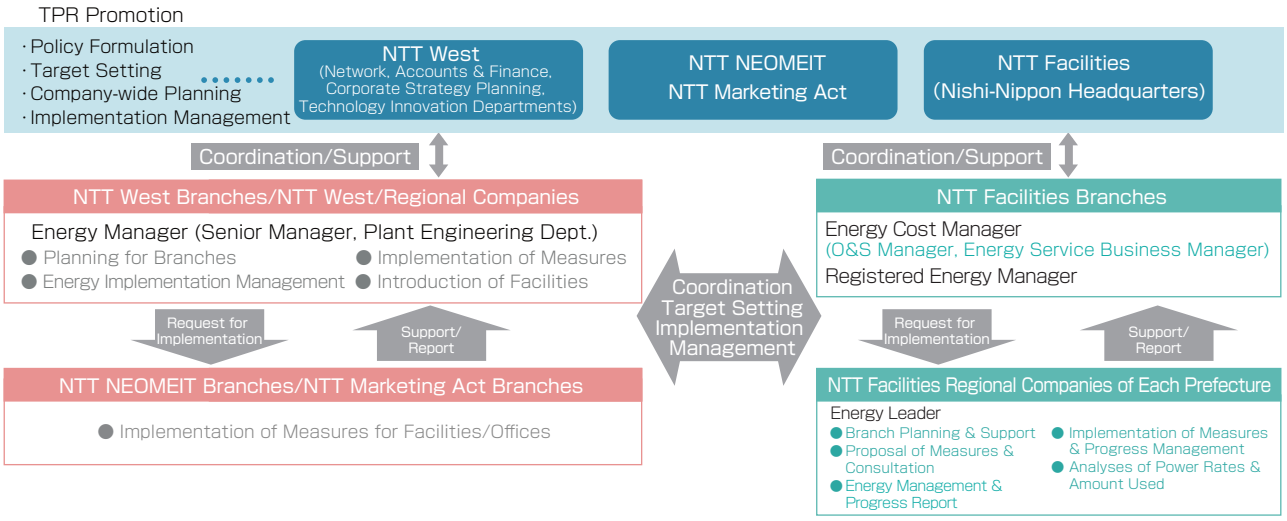
TPR Campaign

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 2011

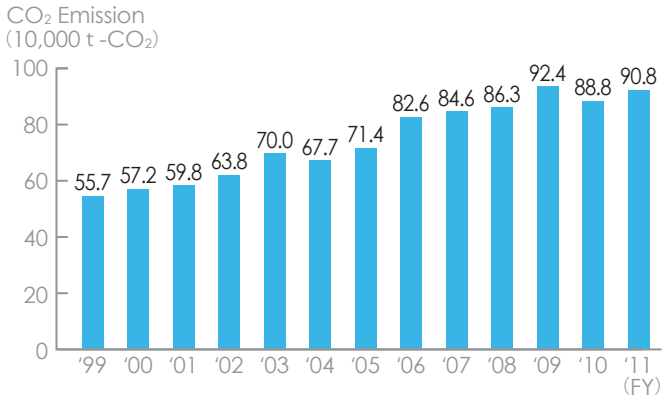


Performance in FY 2011

In FY 2011, while the scale of our optical IP services grew, our TPR activities contributed to reducing power use by 8 million kWh. With a higher emission coefficient, our CO_2 emission increased by 20,000 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 telecommunication 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 2011, 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 telecommunication facilities and power supply systems, as well as rationalizing the number of the units and packages.

Improving Air-conditioning Efficiency

For proper application of telecommunication 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 telecommunication facilities. These efforts make it possible for us to further reduce electricity consumption by the air-conditioning system, while maintaining the stability of the telecommunication services. As a result, we were able to achieve a reduction in power use by 0.5 million kWh in FY 2011.

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 2011 to be equivalent to a reduction in power use by about 35 million kWh.

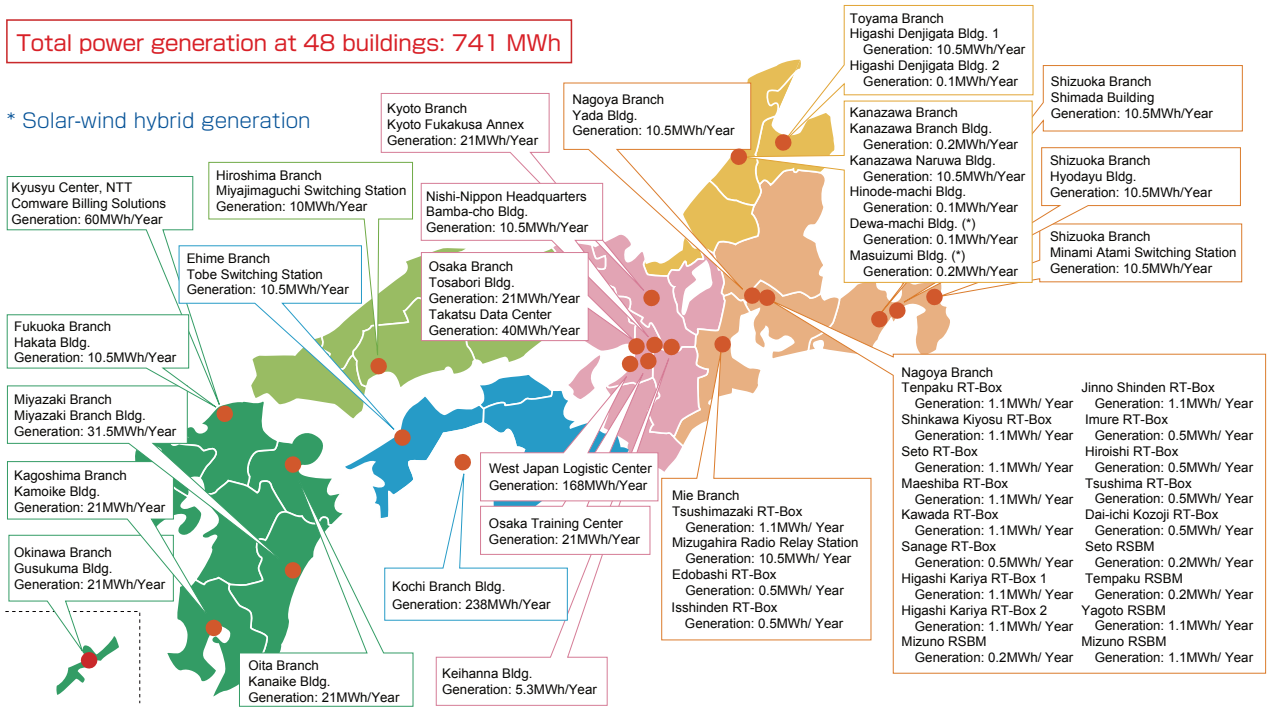
Introduction of Clean Energy Systems

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 FY 2009, as our first step of “Green NTT.”

In 2011, we established a solar power generation system with a generation capacity of 60 kW at Kyusyu Center, NTT Comware Billing Solutions.

Now, there are 48 facilities that have been introduced with a solar power generation system, and the amount of electricity generated yearly in FY 2011 was about 741 MWh. (Figure 4)

Figure 4: Solar Power Generation (as of 31 March 2012)



Solar Power Generation Systems

West Japan Logistic Center

Kochi Branch Building

Fukakusa Annex, Kyoto Branch

Bamba-cho Building, Nishi-Nippon Headquarters

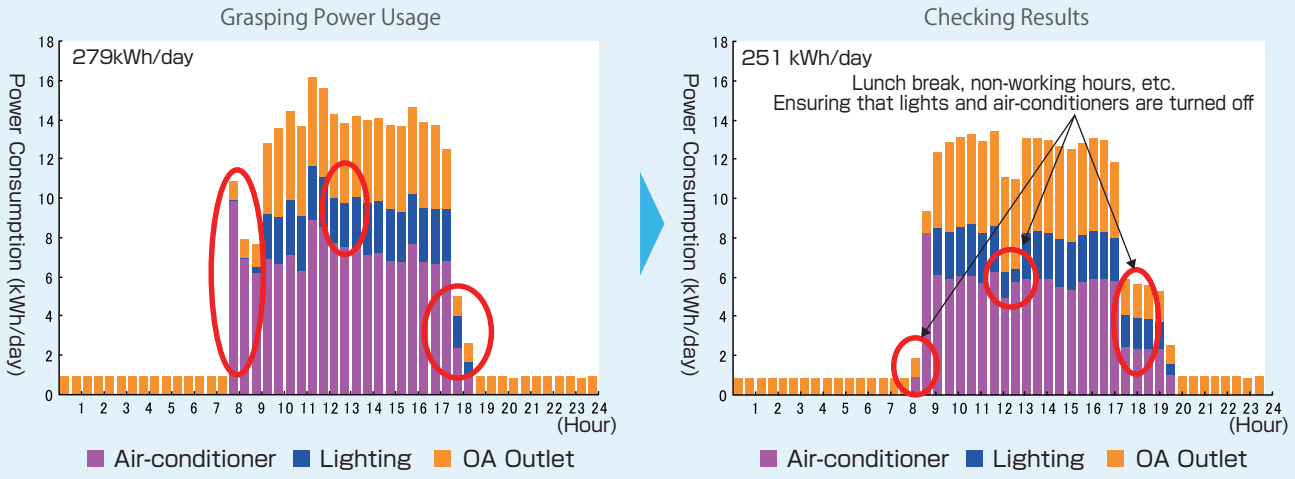
Mie RT-Box

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 9%. 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	○ PC monitor’s energy-saving settings ○ Unplug PC cables from outlet before going home ○ Turn off main power of photocopier/ printer before going home	○ Settings to switch PC to standby mode ○ Clearly define rules for energy-saving modes of photocopier/ printer ○ Limit the number of sheets to print/copy	○ Change brightness of PC monitor ○ Consolidate printers (limit the number of printers according to the number of users) ○ Limit the number of OA equipment based on the primary unit
Lighting Equipment	○ Turn off lights during lunch break	○ Turn off unnecessary lights	○ Clearly define rules for turning on lights before working hours ○ Limit the number of elevator lobby lights to be turned on in the day
Air-conditioning Equipment	○ Turn off air-conditioner during lunch break	○ Turn off unnecessary ventilation fans (night, non-working days, etc.)	
Others	○ Limit use of elevators ○ Cut standby power of pots	○ Turn off toilet seat heater during warm seasons ○ Review operation schedule of ice thermal storage unit	○ Cut unnecessary power at dining hall during non-peak hours

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 2011)

Awareness Poster (Winter 2011)

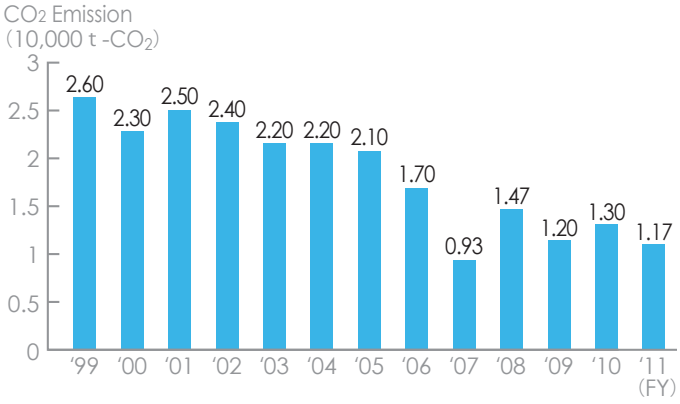
Reduction of Gas & Oil Fuel Consumption

Performance in FY 2011

In FY 2011, 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 11,700 t-CO_2 (compared to about 13,000 t-CO_2 in the previous fiscal year). The CO_2 emission amount from fuel consumption increase by 1,300 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 2011

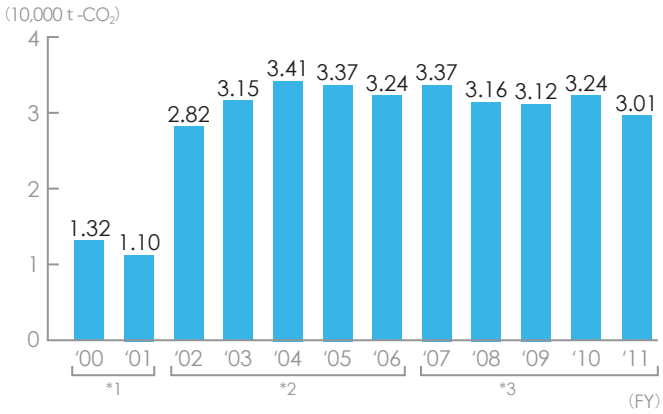
In order to bring down the amount of CO_2 emission from the company vehicles, NTT West Group has launched an “Eco Drive” as described below. We are also taking the initiative to rationalize the number of vehicles and introduce fuel-efficient and low-emission vehicles. In FY 2011, the amount of CO_2 emission from our company vehicles was 30,100 t-CO_2 (Figure 6).

*1 NTT West up to 2001

*2 NTT NEOMEIT and NTT Marketing Act included from FY 2002

*3 39 NTT West Group companies and NTT BUSINESS ASSOCIE Co.,Ltd from FY 2007

Figure 6: CO_2 Emission from Company Vehicles



Eco Drive

NTT West Group owns about 14,000 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 2011, 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 telecommunication 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 addition to setting a mid-to-long term target "to achieve a final disposal rate of 1.0% (zero emission*) by FY 2020," NTT West Group has been making efforts toward the following targets for FY 2011.

(1) To reduce the final disposal rate for dismantled telecommunication facilities to 0.1% and below

(2) To reduce the final disposal rate for civil engineering projects to 1.2% and below

(3) To reduce the final disposal rate for construction projects to 2.1% and below

(4) To reduce the final disposal rate for office work to 1.4% and below

(5) To reduce the total final disposal rate for FY 2011 to 1.4% and below

* 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.

Performance in FY 2011

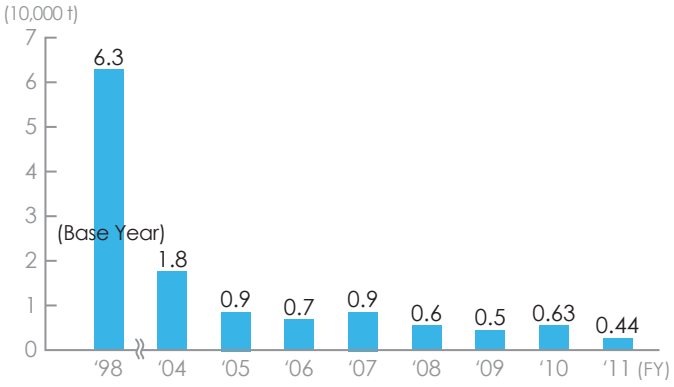
Our performance in FY 2011 toward meeting the target set for the year was steady, achieving a reduction of 2,000 tons (Figure 1) compared to the previous year, and a final disposal rate of 1.2% against our target of 1.5%.

In particular, there was a significant improvement in construction projects, as the amount of sludge, which is inherently difficult to dispose of, was lower than we had expected.

We will continue to coordinate with our branches, regional companies and construction contractors for further reduction of our final disposal rate.

* Industrial wastes include wastes generated from dismantled telecommunication 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 2011

Though the telecommunication facilities dismantled in FY 2011 amounted to as much as 133,500 tons, 133,400 tons of which was recycled, leaving a final disposal amount of 100 tons (Figure 2 and Figure 3 on Page 30).

Thanks to the thorough instructions provided by our branches and regional companies to the waste disposal companies as well as the effort of the disposal companies, an overall recycling rate of 99.9% was achieved. Meanwhile, the recycling rate for plastic materials from terminal equipment was 99.7% (Figure 6 on Page 32). We will make more effort to improve the slightly lower rate for plastic wastes so as to maintain the zero emission rate.

Figure 2:
Final Total Amount of Wastes from Dismantled Facilities

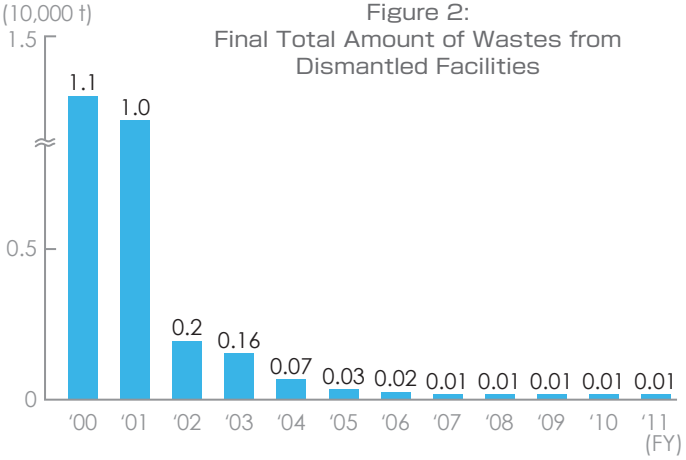
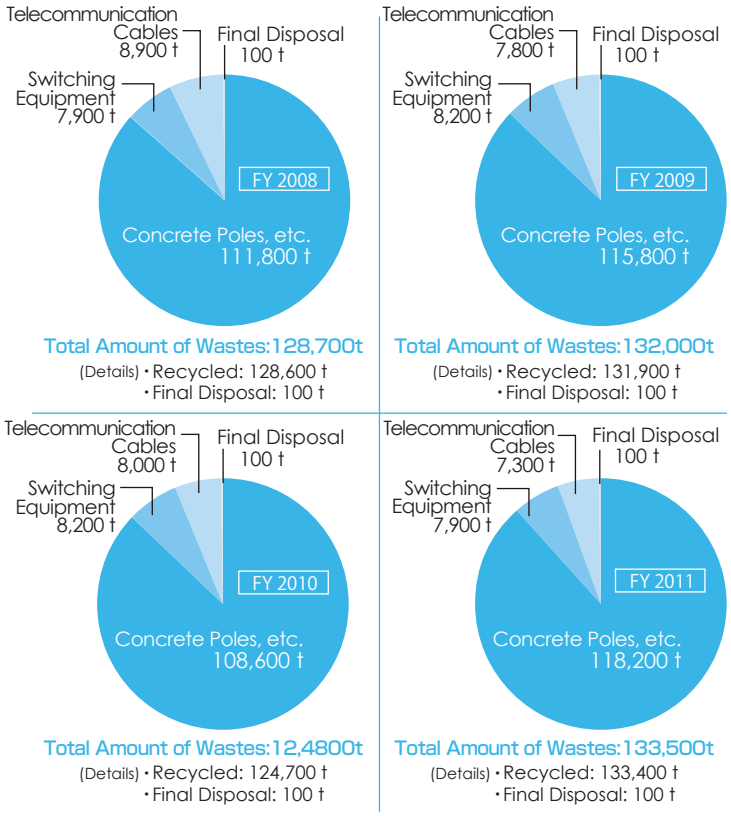
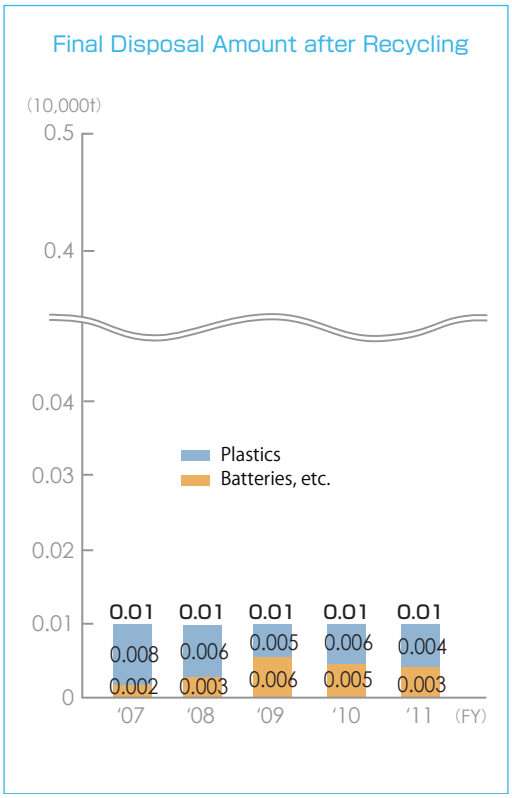


Figure 3: Total Amount of Wastes from Dismantled Facilities and Final Disposal Amount





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 2011 was 3,577.7 t, recycling of the lead polar plates and plastic housings helped to reduce the final disposal amount to 31.9 t.

* The Waste Disposal Law defines "explosive, toxic or infectious wastes that may cause damage to people's health or the living environment" as general and industrial wastes subject to special control, and sets forth required disposal standards to regulate these wastes more strictly than other types of wastes.

Proper Processing of Wastes from Dismantled Facilities

In order to offer telecommunication services, we make use of many kinds of facilities and equipment, including telecommunication 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 on Page 31).

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

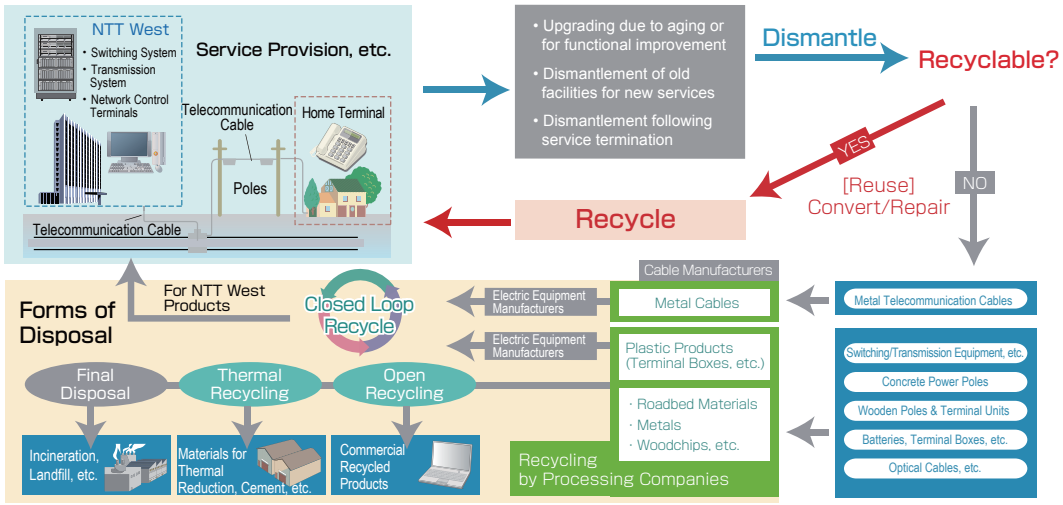
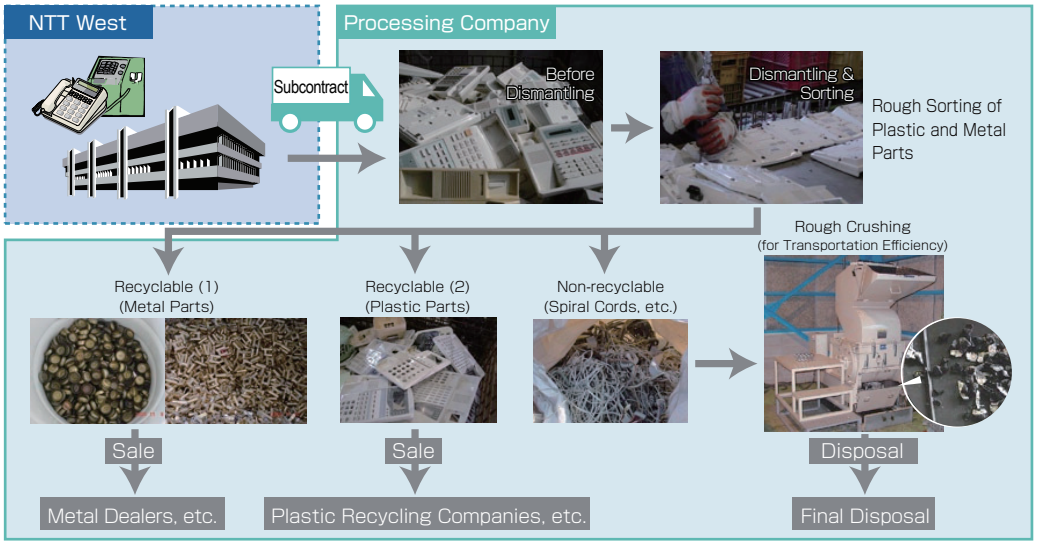


Figure 5: Processing Flow of Terminal Units (Telephones, etc.)



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 NTT West employees who are responsible for the disposal of dismantled telecommunication facilities 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 2011.

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*1 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 telecommunication 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 (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).

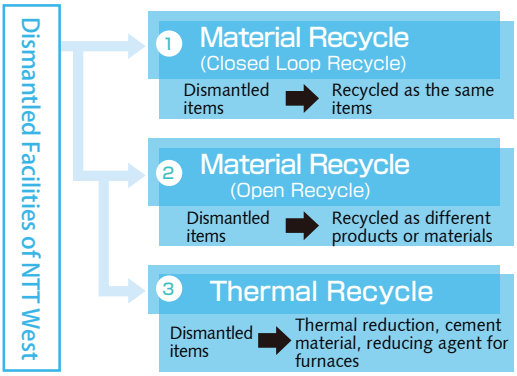
*1 Material recycle
Reusing of wastes as materials. Specifically, it refers to collecting used products or wastes generated from manufacturing processes, and processing them into readily usable forms, so that they can be utilized as materials for new products.

Figure 6: Recycling of Dismantled Facilities

Waste Item		Main Use after Recycling	Recycling Rate*2
Telecommunication Cable	Metal Cable	Recycled Metal Cable Jacket for Recycled Optical Cable	100.0%
	Optical Cable	Imitation Wood, Construction Material, Cement Material, Fuel	98.23%
Indoor Facilities (Switching Equipment, 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	99.7%
Battery		Recycled Battery	99.1%
Total			99.9%

*2 Estimate

Figure 7: Recycling Method Prioritization

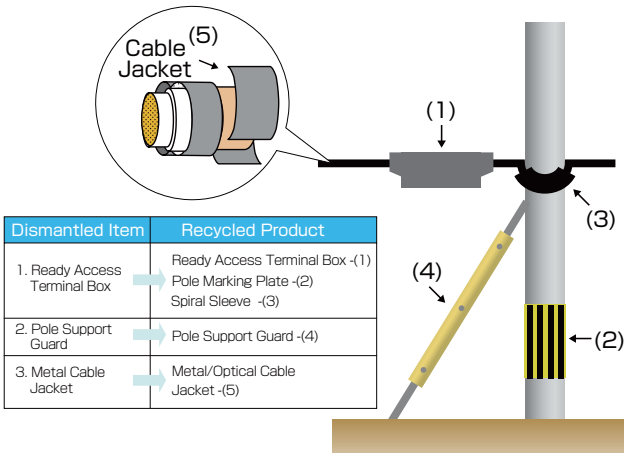


Efforts for Closed Loop Recycle of Facilities

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



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 telecommunication cables. Our pioneering effort as a telecom carrier was highly rated at the 5th International Conference on EcoBalance[*1].

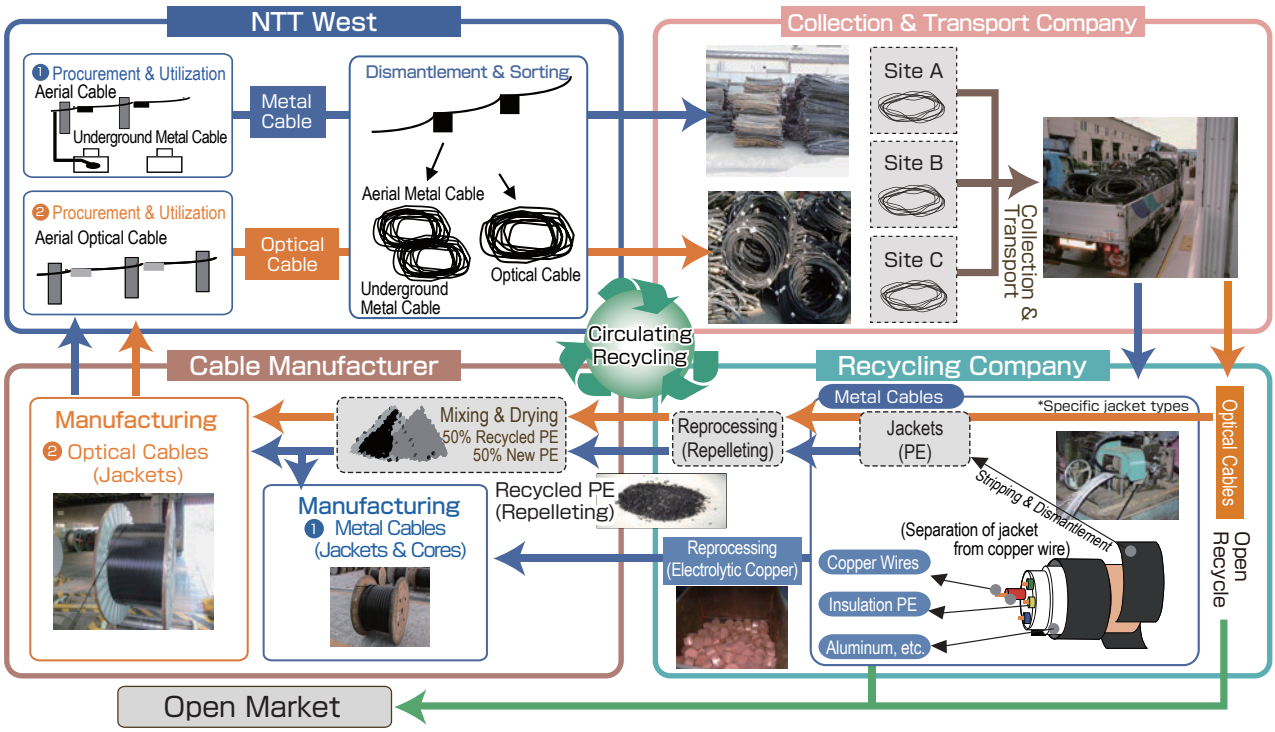
By using this know-how, we succeeded in FY 2005 in the reuse of jackets for metal cables as those for optical-fiber cables, establishing a closed loop recycling system of metal cable jackets (Figure 9).

Our recycling performance in FY 2011 was 146 t. This is equivalent to a saving of oil resources totaling the amount of 2,510 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 LCA Life Cycle Assessment
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.

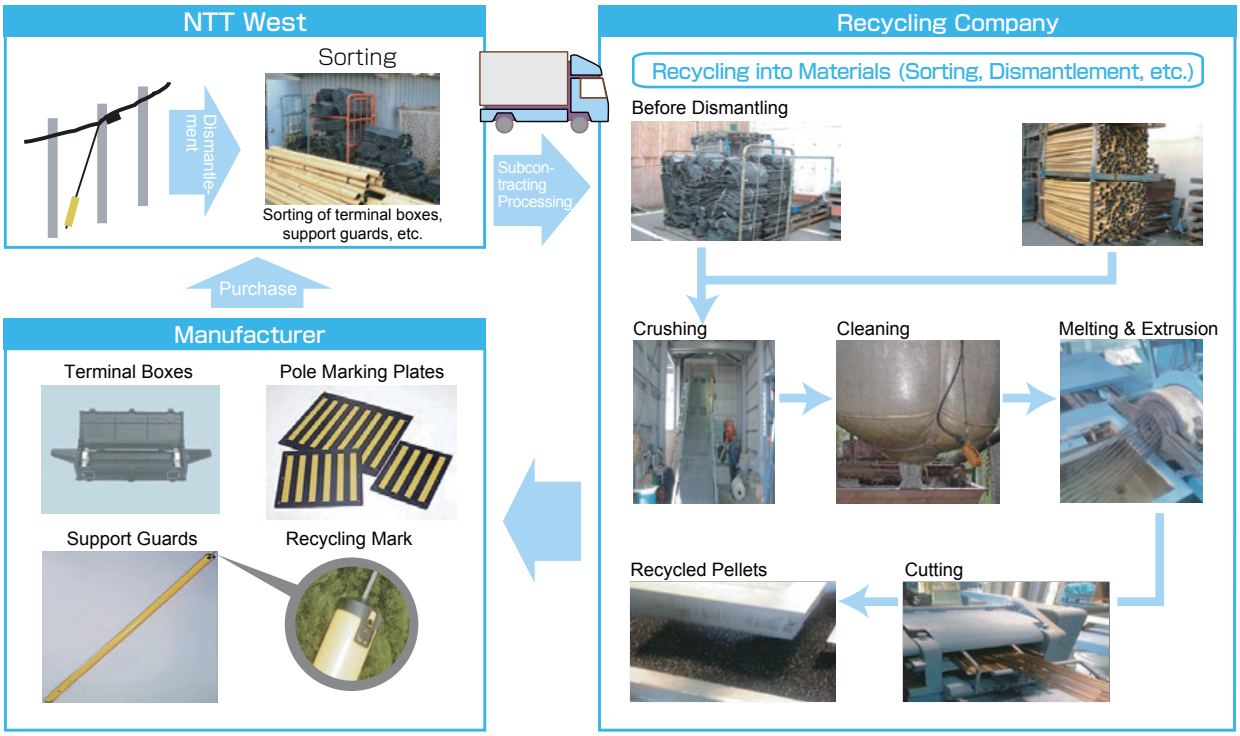
Previously, we had been cooperating with the manufacturers to implement the open recycling of wastes from dismantled optical fiber cables according to each type of material. Currently, however, we are studying the potential of establishing a circulating recycling system in which the plastic parts of 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 4,329 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

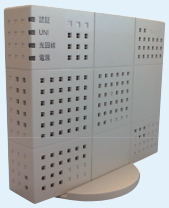
The network services that NTT West offers require different information equipment (including ONUs, CTUs, VoIP adapters, home gateways and ADSL modems) to be installed at the customers' premises (Figure 11). Following the spread of broadband services, the number of such equipment has increased greatly. 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 type1of 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 2011, about 1.2 million equipment were reused (Figure 13). We will continue to advance our efforts toward protecting the environment.

Figure 11: Main Equipment

ADSL



ONU

Integrated ONU/ Optical IP Telephony Unit

Figure 13: Reuse Quantity of Customers' Equipment

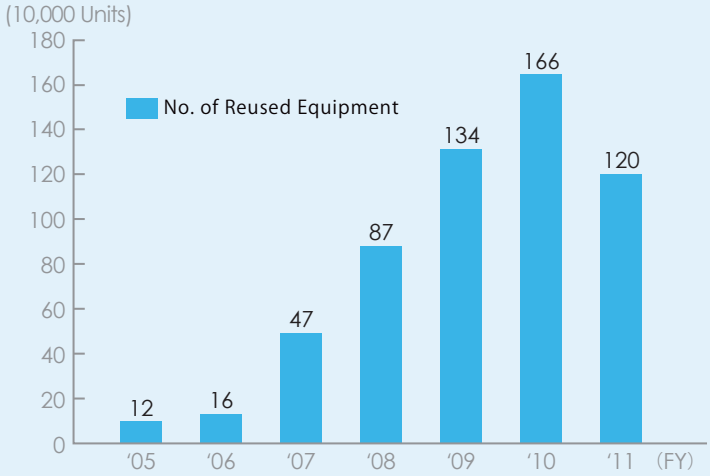
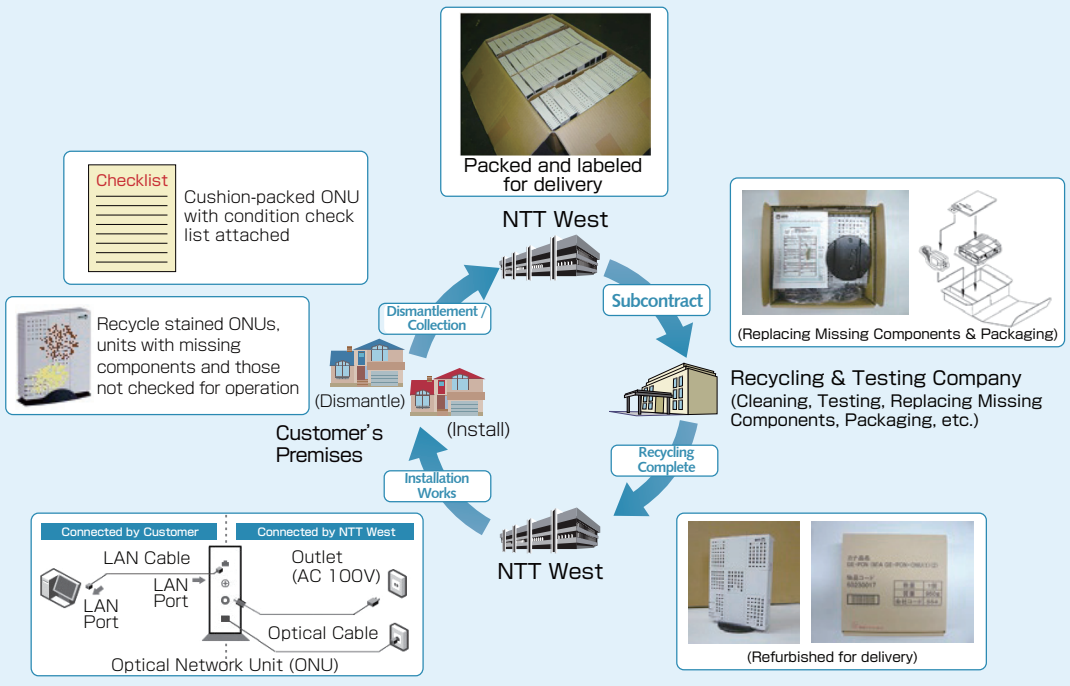


Figure 12: Reuse of Terminal Units for "Flet's Hikari Premium" Services



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 2011, we collected a total of 200,000 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).

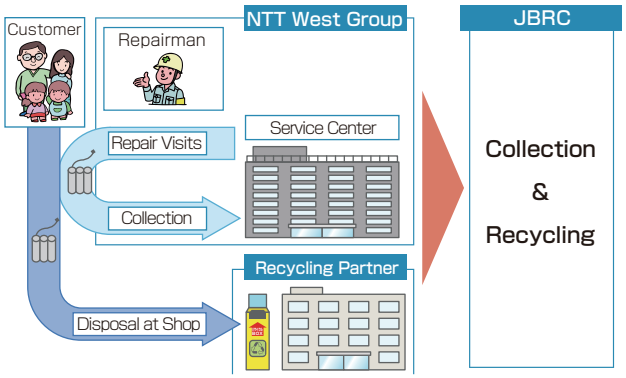
For details of NTT West Group's collection activities to promote recycling of resources used in information equipment, please visit the following websites.

"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.

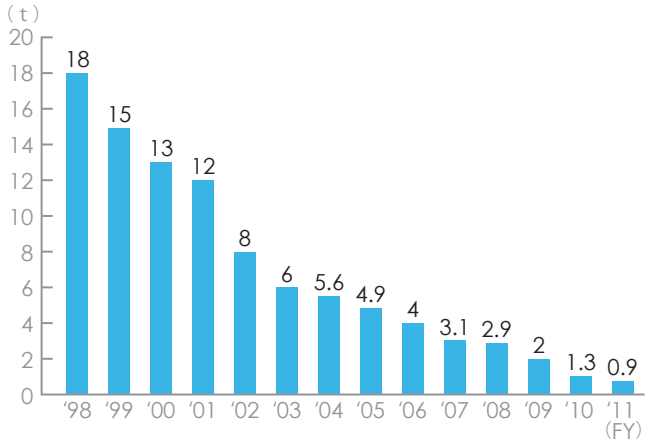
At the same time, for large products such as office-use fax machines and telephone switches, as well as precision equipment, for which there is no alternative that has the same strength as polystyrene foam, we have been reducing the amount of use, for example, by thinning the foam.

Currently, out of about 1,800 items we have on the market, approximately 98% of them do not make use of polystyrene foam packaging. In FY 2011, we have reduced its use to 0.9 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 1.19 million units in FY 2011), 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 2011

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

Due to a decrease in the number of installation and relocation works for conduits in FY 2011 compared to the previous year, the disposal amount was 1,100 tons, a reduction of 500 tons from 1,600 tons in FY 2010 (Figure 16). Active recycling efforts were made to leverage intermediate processing in the basic wastes disposal flow (Figure 17), thereby improving the recycling rate by 0.2% to 98.4% (98.2% in FY 2010).

In FY 2012, we will continue our endeavor to reduce wastes so as to improve the recycling rate further.

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

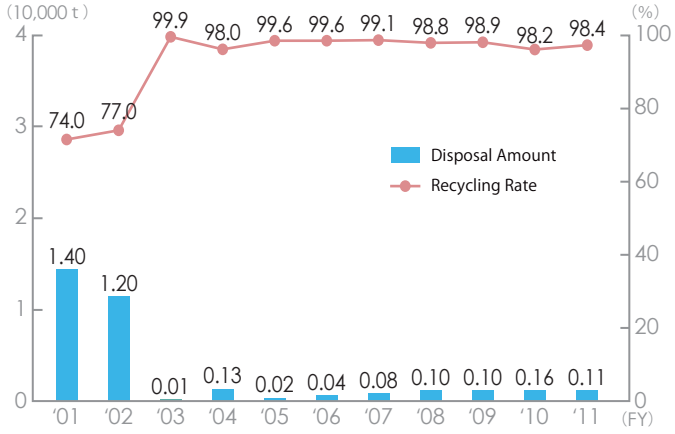
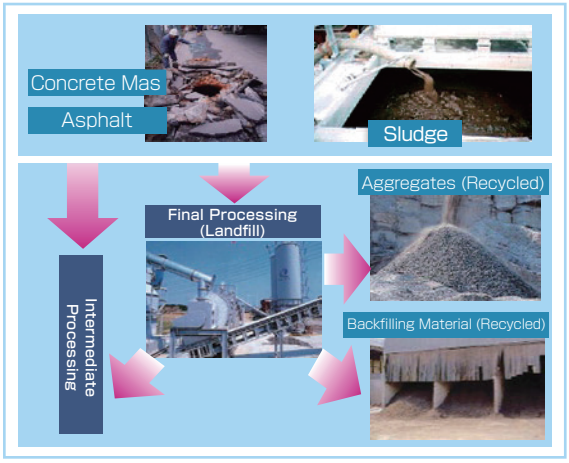


Figure 17:
Flow of Industrial Waste Disposal in Civil Engineering Works



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 2011, 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 are also making 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.

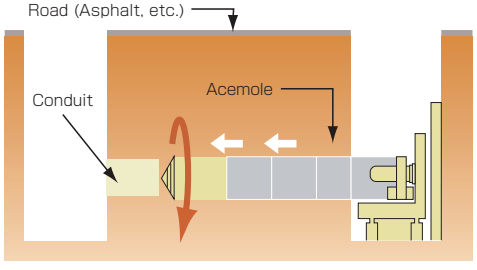
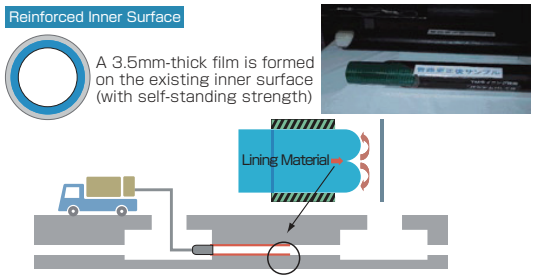


Figure 19:
TM Lining Method (Schematic Diagram)

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

Keiichi Matsubara, Civil Engineering Division, Civil Engineering Department, Solcom Co., Ltd.

At Solcom, we recognize the importance of corporate social responsibility, and are advancing an environment management system with objectives such as saving resources and energy, reducing wastes and promoting recycling, so as to contribute to regional development through environmental conservation efforts.

For civil engineering work, the Ministry of Land, Infrastructure, Transport and Tourism has been promoting proper disposal of byproducts generated from construction projects. Workers at the construction sites have a strong awareness, and we are also promoting the use of recycled materials for paving roadbeds and asphalt roads as well as the recycling of industrial wastes.

As for efforts to reduce the amount of byproducts from construction work, a pillar of the environment management system, the designers and those responsible for actual construction discuss with each other and also with our clients on subjects such as how to improve work efficiency. For example, for manholes, ordinary work requires the replacement of aged manholes with new ones. By adopting a method that reinforces them from within, however, road excavation is no longer necessary, and this leads to a reduced amount of byproducts. Also, instead of the conventional approach that employs both square and round cover cutters for metal cover works, we are actively using the round type for our National Route works, which is also recommended by the Land Ministry, as it helps to reduce the pavement area to be fragmented by about 60% compared to the square type. Even though the amount that can be reduced at each location is small, I am confident that reducing byproducts is possible, given that there is a certain amount of maintenance work needed for metal covers every year.

I will continue to engage actively in reducing construction byproducts and promoting recycling to contribute to the environment management system.

Reduction and Recycling of Wastes Generated from Construction Works

Performance in FY 2011

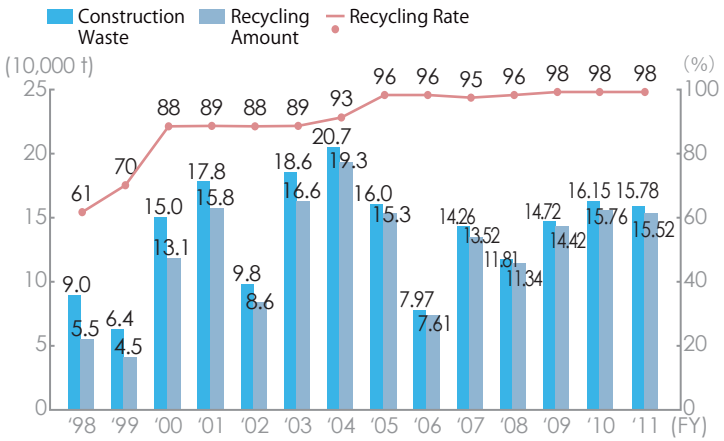
As NTT West Group owns many structures including telecommunication facilities and offices, wastes are generated during their demolition, such as when the lands are sold off.

In FY 2011, the total amount of wastes from construction works decreased by 3,700 tons to 157,800 tons (161,500 tons in the previous fiscal year). We also achieved the annual recycling rate target of 98% which is the same as in previous fiscal year (Figure 20).

The amount of soil generated from construction projects was reduced by 1,790 tons from 3,020 tons in the previous year to 1,230 tons. At the same time, we maintained a high recycling rate of 97% (98% in the previous fiscal year).

We will continue our effort for a better recycling rate in FY 2012 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 2011

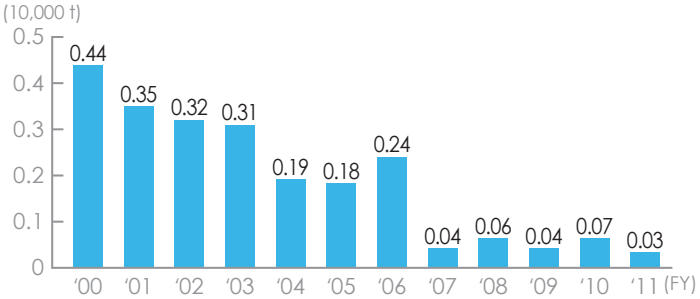
Promoting the reuse and recycling of unnecessary office computers and furniture such as desks, chairs, and bookshelves, NTT West Group aims at reducing the amount of industrial wastes generated at our offices.

In FY 2011, our thorough efforts on reusing and recycling have reduced the amount to 300 tons (Figure 21).

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 FY 2011, we will continue to advance our efforts to reduce wastes in FY 2012 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

Yoshio Matsumoto, General Affairs Subgroup (Office/Welfare), General Affairs Section, General Affairs Department.

Thanks to the recycling effort and increased awareness toward reusing, the amount of industrial wastes generated from our offices has been decreasing. However, this area is attracting much concern in the society, and I foresee that further reduction will be required under the new regulations in future.

To achieve further improvements, I will work toward creating an environment that allows each of us to think about what we can do, followed by putting them into action.

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.

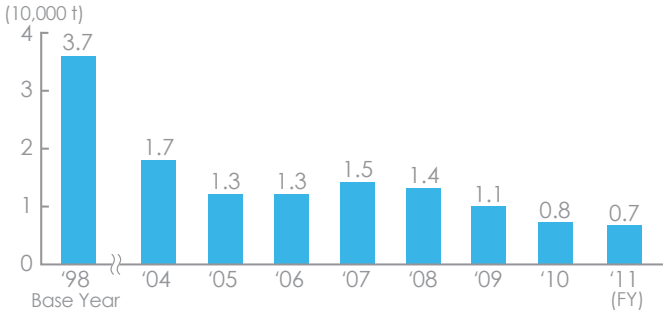
NTT West, as a PCB-storage company, has formulated a storage guideline on the functions of the required facilities and the storage procedures to ensure appropriate storage of PCB wastes. Among the items that we store, those over 10kg were registered at an early stage with our contractor, Japan Environmental 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 in FY 2010 and 64 capacitors in FY 2011 were detoxified at the Osaka Plant and Kita-kyushu Plant.

In FY 2012, 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.

Total Amount of Pure Pulp Consumption



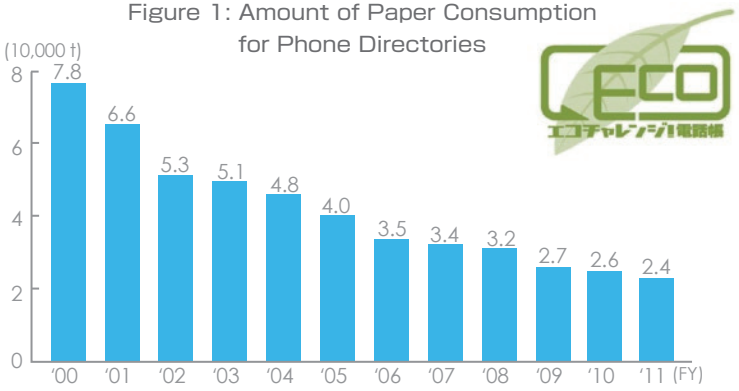
Use of Recycled Paper for Phone Directories

NTT West publishes about 46.16 million copies of phone directories with an approximate paper quantity of 24,000 t (Figure 1).

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"* website.

* "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.ntt-tp.co.jp

Figure 1: Amount of Paper Consumption for Phone Directories



Reduction of Pure Pulp Use

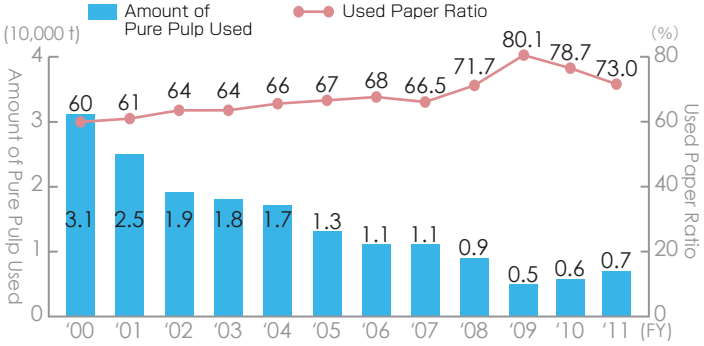
Aiming at reducing the amount of pure pulp consumption, we have taken various measures over the past years in publishing telephone directories.

The pages of phone directories are made with a blend of pure woodchip pulp* and paper pulp recovered from used directories. For the procurement of paper materials for our directories, we have set clear requirements for blending recovered pulp. Also, by encouraging paper manufacturers to formulate their own effort, we are committed to reducing the use of pure pulp, therefore increasing the content of recovered pulp. Because of our effort, we have, since FY 2002, exceeded the standard set by the Japan Paper Association "to increase the recovered pulp content to over 64% by 2015." Today, we continue to maintain a high standard (Figure 2).

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 selective distribution to subscribers who need a copy based on prior check of their demands for residential directories.

In FY 2012, we will continue to advance our efforts toward reducing paper use to 7,000 t or lower, which was the result of FY 2011.

Figure 2:
Amount of Pure Pulp Used and Ratio of Used Paper



* 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 recyclesystem for phone directories," in which old directories are reprocessed into new ones (Figure 3).

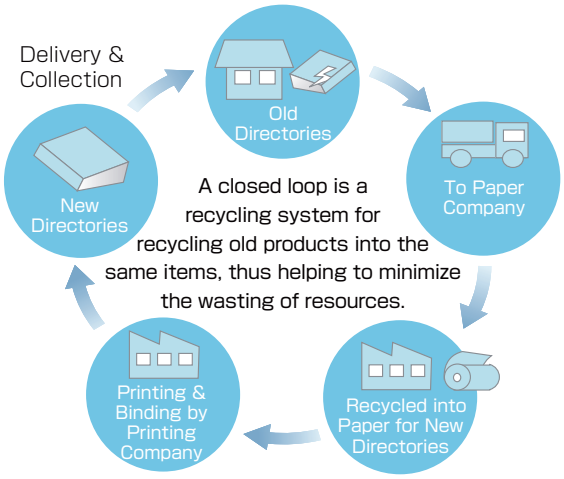
A closed loop is a system for recycling old products into the same items, and is said to help minimize the wasting of resources. At NTT West, we are recycling old directories that we have collected into new ones.

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. 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 3:
Closed Loop Recycle System for Directories



*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 2012, 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 2011, we handled as many as 6.1 million telegrams (out of 11.45 million nationwide), and the amount of paper used for the package paper was 503 tons. 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.

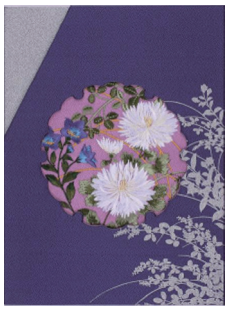
By paying attention to the paper materials used for our products, we achived the target of the total amount of pure paper consumption in FY 2011 which was 3 tons while the target was set 3 tons. Also, the ratio of used paper to the total amount of paper consumption was maintained at 69% and kept the same level compared to the previous year (63%).

To address the needs of our customers further, we have plans to launch new products in FY 2012. 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,” “Winnie the Pooh Denpo” and "Stitch 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)



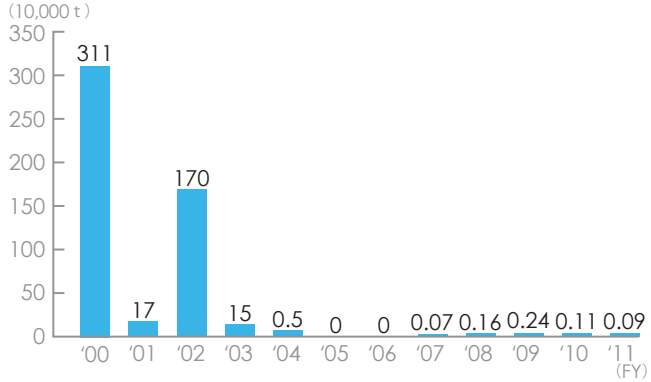
Embroidery Telegram
“Shochikubai”
(Congratulatory)

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 4). As we have been classifying eco-friendly pulp* as pure pulp since FY 2008, the amount consumed has increased. We will continue our efforts to reduce the consumption of pure pulp.

* 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 4:
Amount of Pure Pulp Used as Office Supplies



Reduction of Paper Use for Bills, etc.

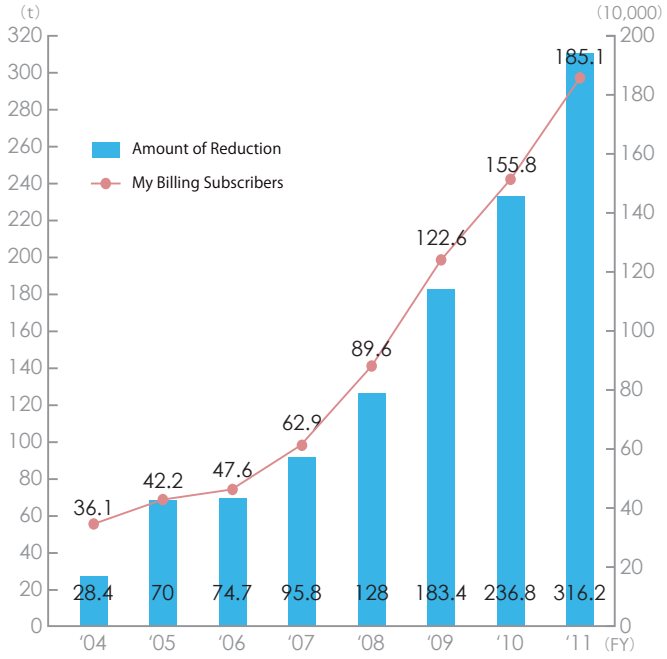
For NTT West customers who settle their bills by credit card or account transfer, we are recommending them to use our Web-based system, “My Billing*” (membership service), which allows subscribers to check the service charges on the Internet, instead of sending out printed bills to them.

Our attempt to cut down paper resources for printed bills and envelopes has resulted in a reduction of 316.2 tons in FY 2011, while the number of subscribers for the “My Billing” service has increased to 1.851 million (Figure 5).

* 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 5 :
Number of “My Billing” Subscribers and Accompanying Reduction in Paper Use



Removal of Asbestos

Removal of Asbestos from Bridge Facilities and Telecommunication 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(Figure 2), which excels in fire resistance and economic efficiency, and have since then been active in promoting the upgrading our fire-protection facilities.

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 telecommunication 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

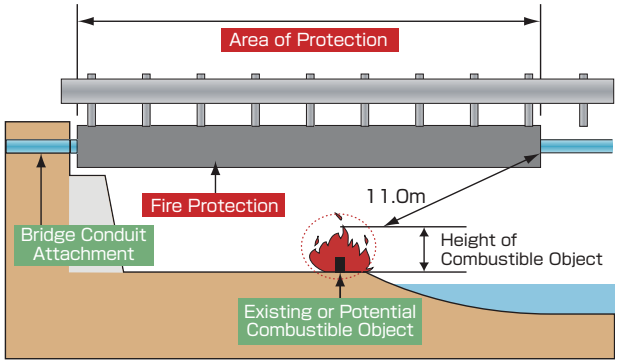
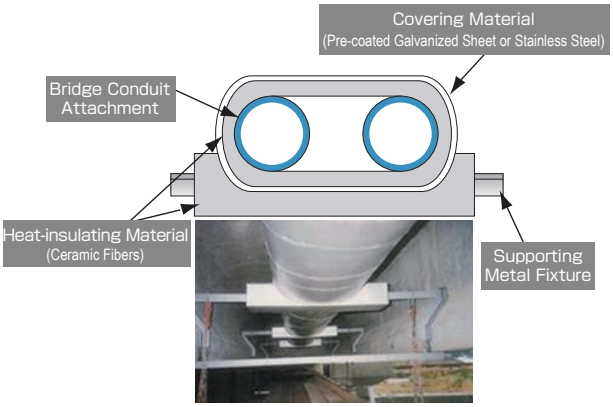


Figure 2: Precast Construction Method



Removal of Spraying Material with Architectural Asbestos

NTT West had about 120,000 m^2 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 m^2 were newly found, and we removed about 500 m^2 in FY 2008, about 1,200 m^2 in FY 2009 and 5,800 m^2 in FY 2010. 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 2012, 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 fireextinguishing 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 fireextinguishing 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 2012, we will continue to implement the necessary measures.

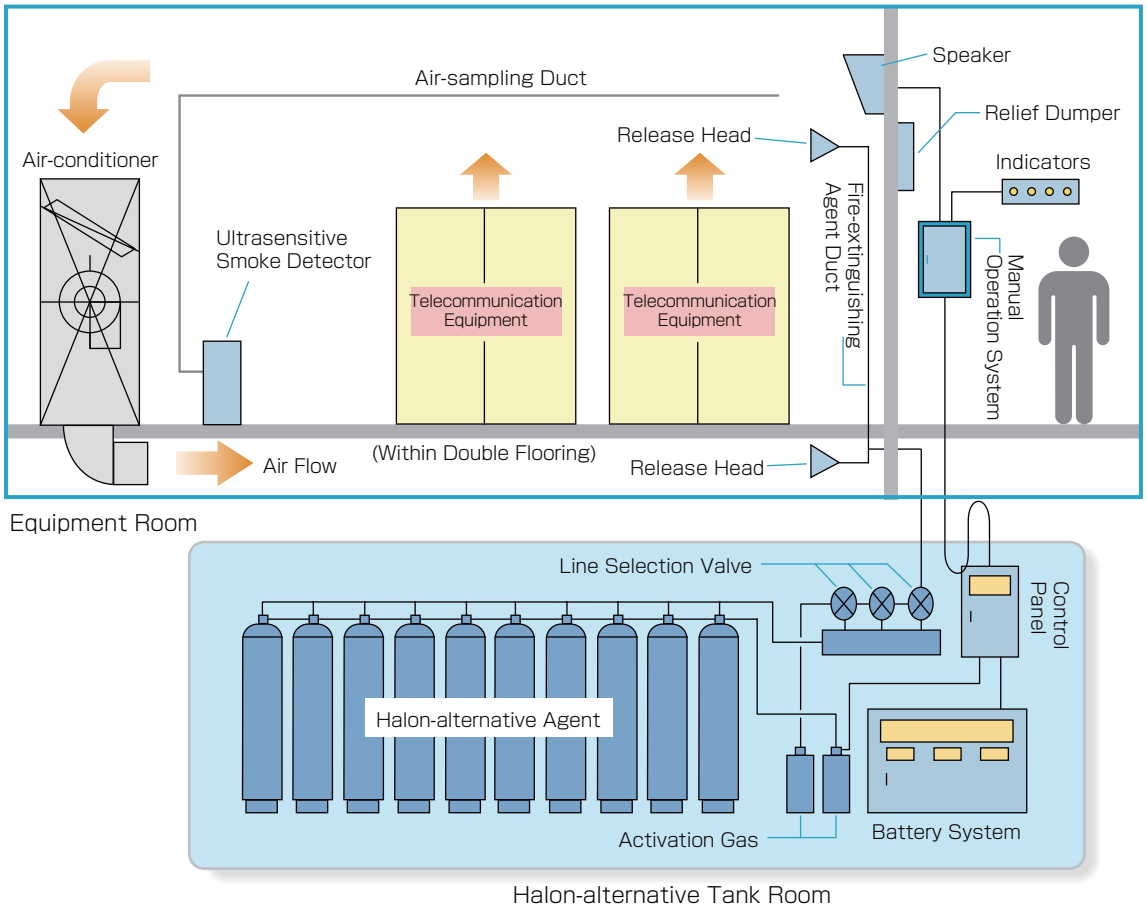
*1 The agent is any of the three substances, NN100*2, Inergen*3 or FM200*4. The most appropriate substance is selected for each building based on comprehensive consideration of issues such as construction costs.

*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

Amatsu Soranaru
© Hinoto Mori/NTT Solmare

Ichiban Nagai Yoru wo Yoroshiku
© Yoko Takyu/NTT Solmare

Kodasan wo Shinjicha Ikenai
© Natsuharu/NTT Solmare

Environmental Solutions

Environmental 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 2).

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 2: Environmental Solution Examples Offered by NTT West

Video-conferencing System

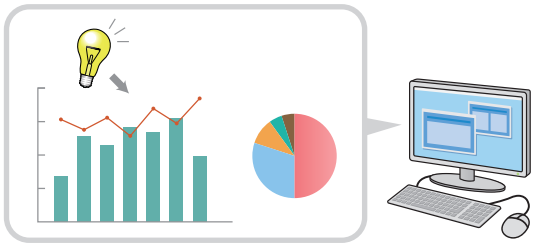
Overview

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

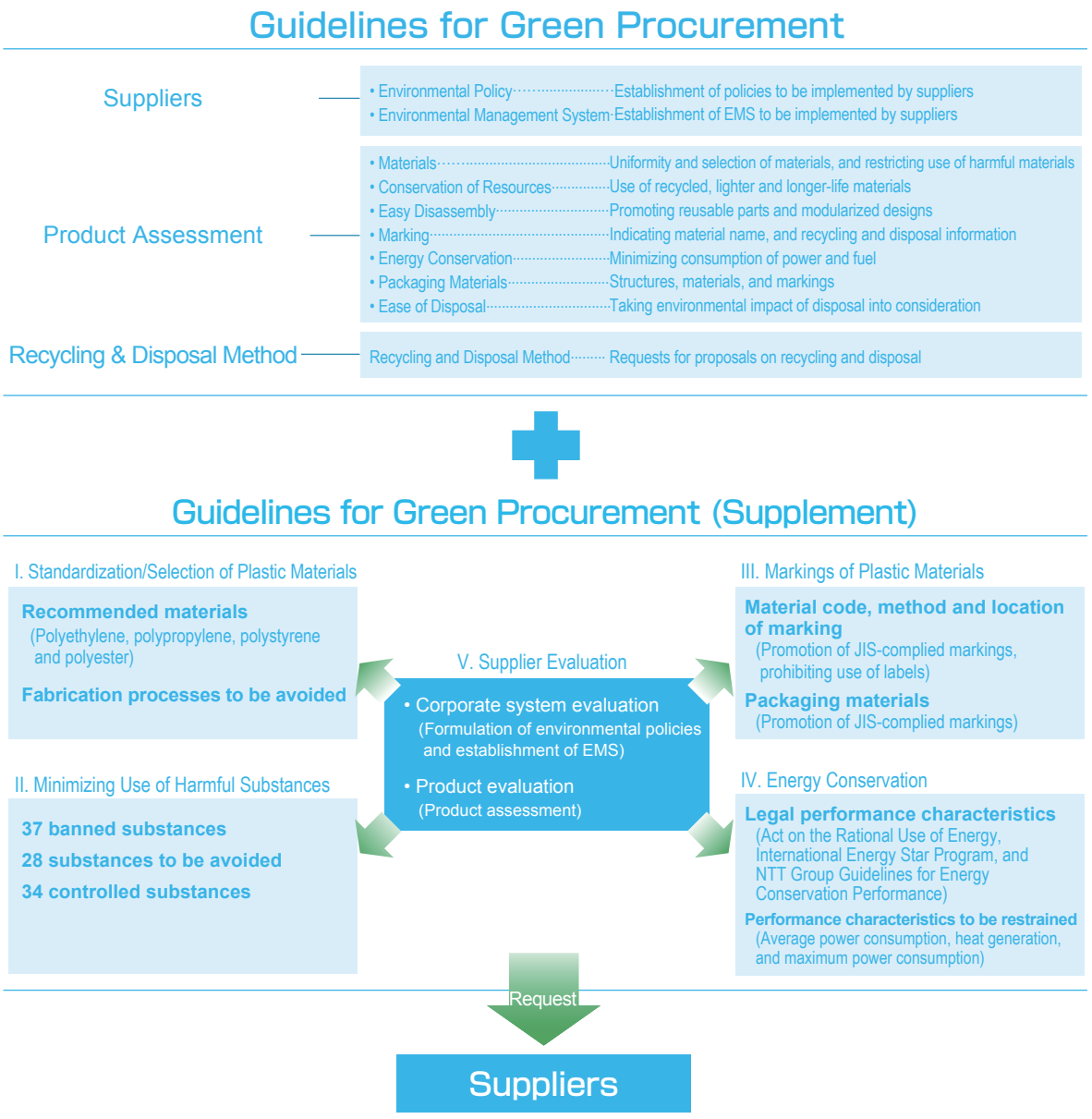
By obtaining a detailed grasp of the amount of energy consumed, conservation plans and reports can be created more efficiently.

Green Procurement at Telecommunication Facilities

While constructing telecommunication 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 2011, we evaluated 8 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.

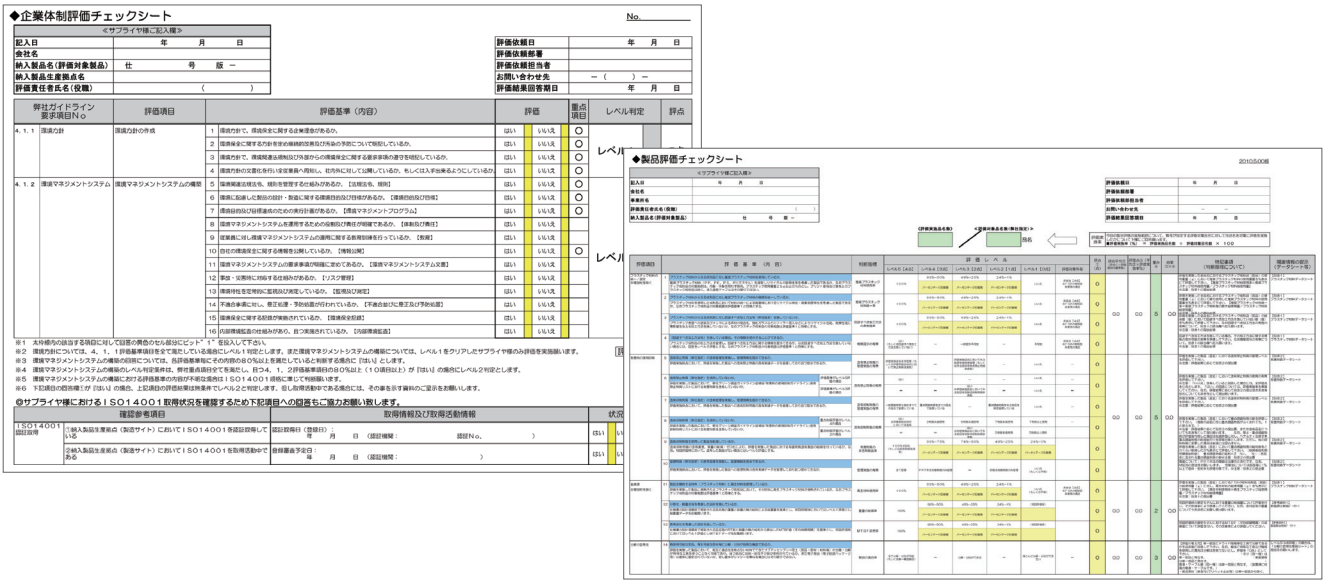
(2) Product Evaluation

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 to ward 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. This is called "Environmental Value Analysis (VA) Proposals" In FY 2011, 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 the protection of global environment 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 promoting 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 proactive 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.

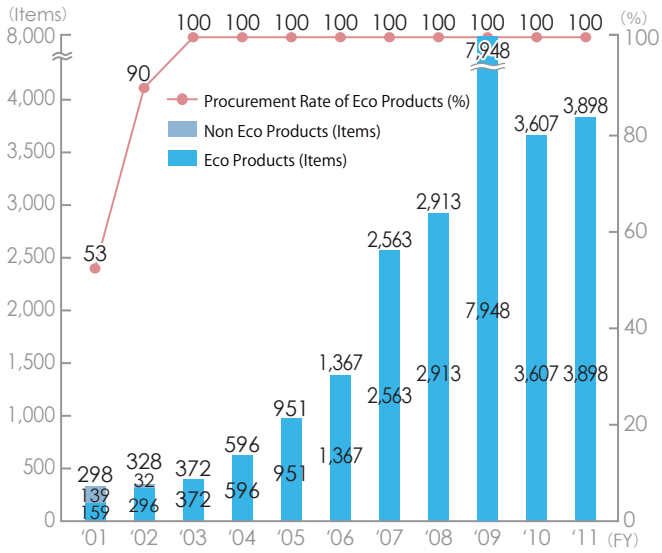
After selecting items, 3,898 office items with a low environmental load have been introduced at the end of FY 2011 into the group-wide accounting system*2 (Figure 3).

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

*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 23 March 2012, there is a total of 2,577 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.

Figure 3: Green Procurement of Office Supplies



Development of Eco-friendly Information Equipment

For the information equipment that 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 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 ozone-depleting substances.

<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 2011, we have certified eleven 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 Care Phone for the Aged/Disabled
"Silver Phone Fureai S II"
(Telecommunication Device)

Certified VoIP Adapter
"Netcommunity OG400Xa"
(Telecommunication Device)

Certified Products since FY 2009 (Reference)

Certified in FY 2009

- Emergency Call Device: SL-10 BOX, Silver Phone Anshin SV
- Home Use Fax Machine: Den-emon 268SDw

Certified in FY 2010

- IP Video Phone: Hikari Flet's Phone VP3000
- Business Use Phone: Netcommunity SYSTEM BX II
- Business Fax Machine: OFISTAR B4100

Certified in FY 2011

- Care Phone for the Aged/Disabled : Silver Phone Fureai S II, Silver Phone Hibiki S III
- VoIP Adapter : Netcommunity OG400Xa, Netcommunity OG400Xi Netcommunity OG800Xa, Netcommunity OG800Xi

System Products for Corporate Users

It is an important requirement to offer eco-friendly products when we construct the information and 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.

Battery Recycling

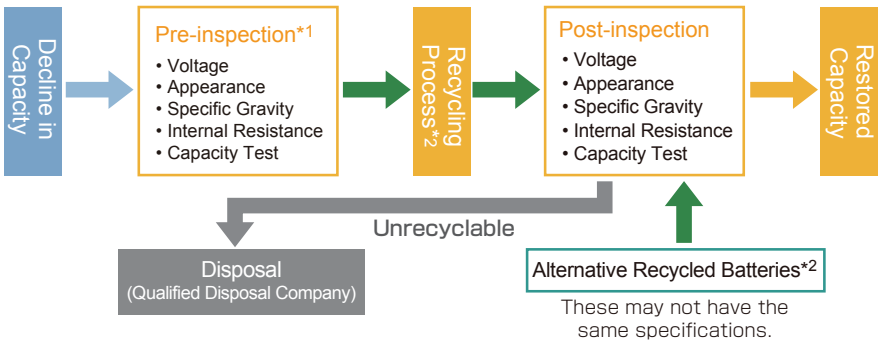
Based on the "3Rs + CO_2" concept, which adds "CO_2 reduction" to the "environmental 3Rs (Reduce, Reuse and Recycle)," Telwel West Nippon is providing support to advanced measures by eco-minded companies. From the viewpoint of "Reduce," Telwel West Nippon has built a battery recycling plant to engage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

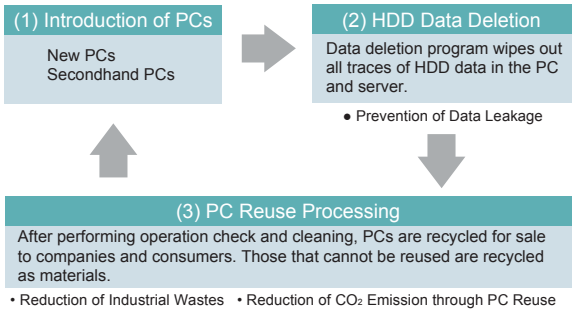
Employing the technology for deleting data stored in hard disk drives (HDD), NTT NEOMEIT contributes to the reuse and recycling of PCs, while ensuring proper disposal of old PCs that are no longer used in NTT Group.

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 1).

We believe that disassembling and recycling old computers, which are not reused as secondhand ones, will contribute positively to reducing the environmental load.

While promoting the reuse and recycling of old computers, one of the indispensable services we provide is to ensure complete deletion of HDD data to prevent leakage of personal or corporate information.

Figure 1: Flow of PC Reuse



Generally, formatting a HDD does not delete data completely. The data can be restored easily using some data recovery 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. The guideline 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).

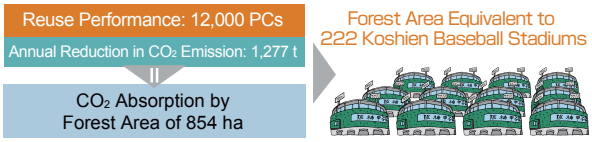
Table 1: HDD Data Deletion Methods

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

Since 2002, NTT NEOMEIT has been offering its proprietary data deletion service, “Neodelete.” NTT Group also reuses its old computers or sells them to recycling companies after deleting the HDD data.

On the basis of the FY 2011 performance of NTT NEOMEIT, and using the quantitative evaluation formulated by the Refurbished (Reuse) & Recycle Information Technology Equipment Association (RITEA), we believe that the effect for mitigating environmental load is equivalent to 1,277 tons of CO_2, with a total of about 12,000 recycled PCs (out of the total collected number of about 17,000 sets and excluding those used for material recycling) (Figure 2).

Figure 2:
Environmental Load Reduction Based on PC Reuse in FY 2011
(Including Recycle by Subcontractors)



Excerpt from “RITEA’s Quantitative Evaluation of CO_2 Emission Reduction Effect (No. C-001, 2010-2011)”

On July 1, 2012, our HDD data deletion service was transferred to NTT HOMETECHNO. From the perspective of information security, as well as to address the needs of customers who do not wish to bring their old computers out of the office with data remaining inside, or those who wish to reduce the cost incurred for transporting their computers to a data deletion center, NTT HOMETECHNO is considering the provision of on-site data deletion services to help contribute to CO_2 reduction.

Main Activities in FY 2011

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 2011, a total of 53,000 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

Toyohira Donguri Village Cleanup

On November 13, 2011 (Sun), NTT West Group employees and their families, together with members of NTT West Hiroshima Soft Tennis Club, participated in the cleanup work at “Toyohira Donguri Village” in Kita-Hiroshima-cho.

This is the third year we are holding this volunteer cleanup work as a token of appreciation to and friendship with the Village, which has been supportive to the Soft Tennis Club.

We were blessed with a fine weather from the morning and as many as 150 participated.

Zero Litter Clean Walk

On June 5, 2011 (Sun), the annual “Zero Litter Clean Walk” was held to raise the awareness as a corporate citizen toward environmental cleanup, as well as to educate the people and taking actual actions to keep the City of Hiroshima litter-free.

The participants started the Clean Walk from various parts of the city center, and walked toward the Central Park, picking up litter along the way. 147 volunteers from NTT West Hiroshima Branch, NTT West – Chugoku, and the “Denyu-kai” retired employees’ association took part in the event.

Support for Hiroshima Men’ s Ekiden and Cleanup Activity

On January 22, 2011 (Sun), we held the annual volunteer cleanup activity mainly along Peace Boulevard, and cheered on the runners of “Hiroshima Men’s Ekiden.”

Jointly organized by the participating companies and groups of a social contribution committee, this volunteer activity aims at contributing to the local community by cleaning up the areas along the ekiden course as well as showing support for the ekiden event.

Many employees and their families from NTT West Hiroshima branch and NTT West – Chugoku participated in the event to clean up Peach Boulevard and cheer for the runners.

Environmental Green Operation
Post summer vacation activities to clean up Nagara River and Gifu Park

In 1994, employees of NTT West Gifu Group founded an NTT volunteer group, “Himawari-kai.” The group has been holding cleanup activities yearly as part of its local environmental conservation efforts. These activities have been gaining recognition with a growing number of participants including temporary and contract employees.

In FY 2011, three events were planned, with two environmental green operations for Nagara River in August and September respectively, and a cleanup activity in March for Gifu Park, a symbol of the city. Though the events in August and March were rained out, for the September event, 129 participants including NTT West Gifu Group employees, their families and retired employees gathered. We will, as good corporate citizens, keep up our activities to contribute to the local community.

Environmental Green Operation: Full of Flowers Activity

At NTT West Miyazaki Group, about 100 employees take part in the community-organized Miyazaki City mass cleanup operation held every November. Starting in the morning, participants are divided into three groups to clean up about two kilometers of the pavement from areas around our office to Miyazaki Station.

For local people's enjoyment, we also plant seasonal flowers in the flower beds at the Hiroshima Building (South) where our Miyazaki Branch office is located. These flower beds used to be in a bad condition and littered with garbage. Since we started planting flowers every season, no litter has been found, and we have received words of appreciation from people in the local community, who "look forward to seeing many blooming flowers."

Akogiura Beach Cleanup Activity

NTT West Mie Group participates in the "Akogiura Beach Cleanup Activity." Organized by the Mie Federation of Fisheries Cooperative Associations, the City of Tsu and others, this activity is held on an early Saturday morning every July before or after the day of beach opening. Together with the local community and companies based in the city, we pick up each piece of drift wood and cans that have been swept up to keep the beach clean.

In FY 2011, the activity was held on July 16 (Sat). A total of 120 participants, including retired NTT employees, worked hard at this early morning cleanup activity.

Local Cleanup Activity

As part of our efforts to contribute to the local community, NTT West Kagoshima Branch holds volunteer activities every year, where Group employees and their families gather to clean up the area. In FY 2011, the mass cleanup operation was held in autumn (October) at the Tenmonkan area, Kagoshima City's main shopping belt. With the participation of about 280 people, it was also an opportunity for us to deepen our relationship with local people. Through voluntary participation of the employees, Kagoshima Branch will continue its endeavors in community-based social contribution activities.

Local Environmental Conservation Activity

As part of our conservation activities, NTT West Shizuoka Group participates in cleanup and beautification activities in areas of Shizuoka.

In FY 2011, we participated in the Lake Hamana Cleanup Operation in June and the River Abe Driftwood Cleanup Festival in November. Working with participants from the community, civic groups and other companies, 241 participants, including Shizuoka Group employees, families and retired employees, worked hard to clean up litter.

*Photo: Lake Hamana Cleanup Operation

*The annual Mount Fuji Mass Cleanup in August was rained out.

2011 Fujimae Higata Wetland Mass Cleanup Operation

NTT West Nagoya Branch and NTT West – Tokai established a "Team NTT Smile Nagoya" for NTT's social contribution activities. With the "Supporters for Social Contribution" as leaders, we are involved in a diverse range of activities for environmental conservation.

In FY 2011, 84 of us, including the Supporters, employees of the Group companies in Nagoya and their families, participated in the 2011 Spring Mass Cleanup Operation for the Ramsar Convention-registered Fujimae Higata Wetland located in Minato-ku, Nagoya on May 14 (Sat).

Under the crisp weather of May, we cleaned up the area thoroughly, collecting 180 bags of litter.

After the cleanup activity, we visited the Nanyo Waste Disposal Facility. It was a good opportunity for us to think about environmental issues in general and waste disposal in particular.

Mineyama Park Cleanup Operation

Starting at 9:30 am on November 12, 2011 (Sat), NTT West Kagawa Branch held the "2011 NTT West Environmental Cleanup Operation" at Mineyama Park, Takamatsu City.

This operation is one of the social contribution activities that are organized by the NTT West Group companies in the City, and the 2011 event was its 20th operation (15th for Mineyama Park). Under the blessing sunshine, about 250 employees from 15 Group companies, including their families and retired employees, participated in the event.

Working steadily and not wasting a moment, the park was cleaned up in one hour as planned.

Lake Shinji & Nakaumi Mass Cleanup Operation

With cooperation from residents of the seven coastal cities and towns of Shimane and Tottori Prefectures, this cleanup operation was held on June 13 (Mon) during the Environment Month for Lake Shinji and Nakaumi, registered sites under the Ramsar Convention.

On the day of the event, 60 employees of NTT West Shimane Branch and NTT West Group companies participated to collect litter found around the area from Shirakata Park to Shimane Art Museum.

Volunteer Sculpture Cleaning Activity

On March 20, 2012 (Tue), many employees of NTT West Yamaguchi Group participated in the sculpture cleaning activity in Ube City, known as the city of sculptures.

On this public holiday, we cleaned three sculpture works, one of which was four meters tall. We used a vehicle for high-altitude work to reach the highest part, and polished it carefully with scrubbers and rugs. The cleaning helped to remind us of the artistic value of the sculptures.

This cleaning activity is held annually on the Vernal Equinox Day and the Autumnal Equinox Day. We will continue to take part in it and share the joy of the activity with people of the local community.

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 2012

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/2012/

Awards for Global Protection Activities

In the 15th 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 (telecommunication 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
10-Year Award for ISO 14001	Japan Audit and Certification Organization for Environment and Quality (JACO), which grants the ISO 14001 certification, awarded us for our 10 years of continuous effort.	Hiroshima Branch Building	NTT WEST-CHUGOKU
Award for Excellence, Promotion Council for Environmental Beautification, Takamatsu City	We were awarded by Takamatsu City for our significant contribution through activities to promote beautification of the local environment.	Kagawa Branch Building	NTT West Kagawa Branch
Participation Prize, Green Curtain Competition	Saga City awarded us the participation prize for the design of our green curtain made of vines for global warming prevention.	Saga Branch Building	NTT West Saga Branch
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.	Higashi-Yodogawa Building	NTT WEST - HOMETECHNO KANSAI* *As was known when awarded
Award for Excellence (Business Division), Green Curtain Competition	Presented with an excellence award (Business Division) by Yamaguchi City for creating a green curtain as an effort to prevent global warming.	Yamaguchi Branch Building	NTT West Yamaguchi Branch

Environmental Accounting in FY 2011

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.

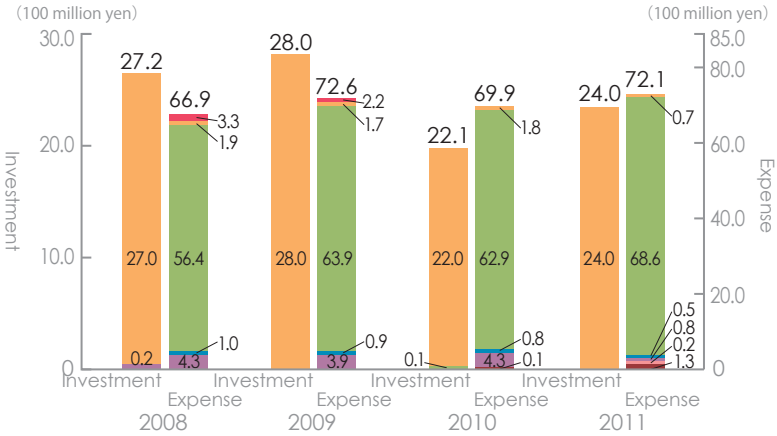
* Environmental conservation effects (economic) refer to the economic effects on corporate management, including reduction in cost of disposal and gains from the sale of valuable resources, as a result of promoting environmental conservation.
Environmental conservation effects (economic) include items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

Environmental Conservation Costs

As the number of renewed telephone switches exceeded that of the previous year, the investment for FY 2011 increased to 2.40 billion yen from 2.21 billion yen in FY 2010.

The cost for FY 2011 increased to 7.21 billion yen from 6.99 billion yen in FY 2010 due to a larger disposal cost for dismantled telecommunication facilities.

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)

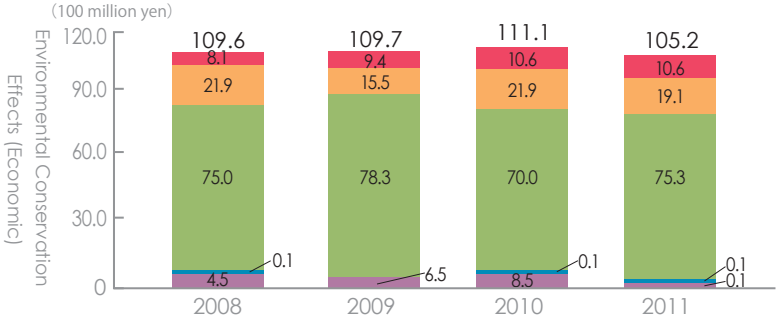


Environmental Conservation Effects (Economic)

Environmental conservation (economic) effects for FY 2011 were 10.52 billion yen, a slightly lower amount than 11.11 billion yen in FY 2010.

The decline is attributable mainly to a smaller reduction of postage expenses through online correspondence. However, cost reduction derived from promoting the reuse of telecommunication devices amounted to 7.53 billion yen, an increase from 7.00 billion yen in FY 2010.

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



1. Target Companies
   ・39 companies of NTT West Group and NTT BUSINESS ASSOCIE Co.,Ltd.
2. Applicable Period
   ・FY 2011 data: from 1 April 2011 to 31 March 2012, 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 2012," which is in compliance with the "Environmental Accounting Guidelines 2012" issued by the Ministry of the Environment.

NTT West Group Environmental Report 2011 Data Sheet

			Unit	Performance										
				2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
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	90.8
			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	21.03
			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	0.04
			No. of Equipment Introduced	Sets	42	43	46	48	48	49	51	63	61	61	50
		Clean Energy System	(Breakdown) Solar-generated Electricity, etc	Sets	40	41	44	46	48	47	49	61	59	59	48
			Fuel Batteries	Sets	2	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	74.1
		Company Car	CO_2 Emission	10,000t-CO_2				0.93	3.37	3.24	3.37	3.16	3.1	3.24	3.01
			No. of Low Emission Vehicle	Cars	105	244	252	248	252	250	224	213	171	202	219
			(Breakdown) Electric Vehicle	Cars	3	0	0	0	0	0	0	0	0	0	0
			Natural Gas Vehicle	Cars	56	168	172	170	167	160	132	106	77	69	53
			Hybrid Vehicle	Cars	46	76	80	78	85	90	92	99	94	133	166
		Fuel	CO_2 Emission	10,000t-CO_2				0.61	0.58	1.73	0.93	1.47	1.40	1.3	1.3
	Waste Reduction Measures	Telecommunications Facility	Disposal Quantity	10,000t	1	0.2	0.16	0.07	0.03	0.02	0.01	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	13.35
			Recycled Quantity	10,000t	13.3	103	9.6	11.88	12.35	11.9	12.73	12.86	13.19	12.46	13.34
			(Breakdown) Telecommunication Cables	10,000t	3.2	1	0.9	1.58	0.75	0.76	1.18	1	0.88	0.89	0.85
			Switching Equipment	10,000t	0.7	0.6	0.8	0.85	0.9	0.76	0.76	0.79	0.84	0.82	0.79
			Concrete Poles	10,000t	9	7.8	6.9	9.44	10.01	9.67	10.14	10.46	10.54	10	11.1
			Others	10,000t	0.4	0.8	1	0	0.64	0.7	0.65	0.61	0.93	0.75	0.6
			Disposal Quantity of Waste Batteries (Industrial Wastes Subject to Special Control)	t	924	525	500	184	45	15	4	30	58	185	32
			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	3,578
			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	3,546
		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	0.11
			Quantity Generated	10,000t	5.6	5.2	7.9	6.4	2	4	9.06	8.52	9.57	9.07	7.02
			Recycled Quantity	10,000t	4.2	4	7.8	6.27	1.98	3.96	8.98	8.42	9.47	8.9	6.91
			Recycle Rate	%	75	77	99.9	98	99	99	99.1	99.8	98.9	98.2	98.4
		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	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	15.8
			Recycled Quantity	10,000t	15.8	8.6	16.6	19.3	15.3	7.61	13.52	11.34	14.4	15.6	15.5
			Recycle Rate	%	89	88	89	93	96	95.6	94.8	96.0	97.9	97.76	98.4
		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	0.05
		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	438
			[Reposted] Disposal Quantity of Infectious Wastes (Industrial Wastes Subject to Special Control)	t	281	274	278	311	326	335	389	360	369	388	47
	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	0.7
			Usage Rate of Old Paper	%	61.4	63.5	64.1	65.5	67.2	67.6	66.5	71.7	80	78.7	73.0
			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	2.4
			Quantity Collected	10,000t	3.3	3.3	3.1	2.8	2.6	2.1	1.8	1.9	1.5	1.4	0.9
		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	0.03
		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	0.09
Resource Recycle Management		Telecommunications Facility	Repelleting Quantity of Dismantled Facilities (Plastic)	t	208	567	462	303	272	292	428.9	189	157	159	146
			Recycled Quantity of Optical Cables	t	207	331	716	725	224	796.5	883.3	1024.0	86.0	89	101
		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	28.3
			Recycled Quantity	10,000t	8.9	12.3	27.5	21.2	22.9	28.67	33.2	34.8	30.6	18	27.2
			Recycle Rate	%	29	52	75	67	94	94	95	97.9	92.7	97	96
		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	0.13
			Recycled Quantity	10,000t	0.48	0.05	0.28	0.1	0.06	6.52	0.03	0.005	0.07	0.29	0.12
			Recycle Rate	%	100	100	100	100	100	99.8	100	69.2	26	98.4	97
		Secondary Small Cells	Quantity Collected	10,000	15	13	10	9	6.8	75.6	63.5	4.75	4.79	5.53	2.22
			Collection Rate	%	71.1	71.6	64.9	67	51.9	80.6	36.7	27.0	27.7	27.7	11.1
		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	0.9
Proper Disposal & Management of Wastes		Asbestos	Quantity of Remaining Construction Asbestos	10,000t	0	0	0	0	6.12	6.8	5.93	6.62	6.61	6.04	6.65
			Quantity of Remaining Bridge Asbestos	t	11	2	42	19	13.7	0	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	0
Implementation Status			No. of ISO14001 Certified Organizations	Organizations	14	22	33	42	45	33Br. +2Org.	43Br. +2Org.	42Br. +2Org.	42Br. +2Org.	42Br. +2Org.	42Br. +3Org.
			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	53,000
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	5,300
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	15,379

* Starting from FY 2002, the targets of control have been expanded to the performance of NTT Marketing Act and NTT NEOMEIT group companies.
* Target organizations: 39 NTT West Group companies and NTT BUSINESS ASSOCIE Co.,Ltd

CO_2 Emission (Achieved)

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	875,000 t-CO_2
FY 2007 Performance	889,000 t-CO_2
FY 2008 Performance	910,000 t-CO_2
FY 2009 Performance	967,000 t-CO_2
FY 2010 Performance	933,000 t-CO_2
FY 2011 Performance	951,200 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 Enforcement Ordinance on Promotion of Countermeasure against Global Warming" are used (0.378 kg-CO_2/kWh in FY 2004, 0.555 kg-CO_2/kWh in FY 2005).

Final Industrial Waste Disposal (Achieved)

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
FY 2011 Performance	4,000 t

Professor
Katsuhiko Kokubu
Graduate School of
Business Administration,
Kobe University

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).

CSR of a Major Energy Consuming Company

As President Kazutoshi Murao mentioned in his message at the beginning of this report, "as a major energy user… to deal even more actively with power-saving and environmental issues," NTT West Group is pressing forward its programs based on the "Green NTT West Strategy." Especially notable is that NTT West Group, with an appropriate understanding of the relationship between business and the environment, is practicing systematic programs for environmental conservation and disclosing information about them. This clearly demonstrates that their material flow is analyzed in detail and its evaluation is linked to the conservation programs. Such an attitude is highly commendable not only from the viewpoint of implementing conservation activities, but also from the perspective of information disclosure on their environmental endeavors.

KPIs for Environmental Targets

In the "Environmental Grand Design," NTT West Group provided detailed descriptions on the overall performance and individual activities for three areas, namely global warming prevention, cutback on paper use and waste disposal reduction, in order to achieve the targets set for FY 2020. I think highly of their effort to disclose information on each of the programs in addition to the overall results. The targets they set for FY 2020 are quite challenging, and I believe that if they took a further step to describe their action plans for the following fiscal year, it would make the information disclosure even more effective. Also, mainly in Europe in recent years, companies are disclosing key performance indicators (KPIs) for their environmental programs in the annual reports (integrated reporting). I believe that, considering the highly public nature of its business, it is about time for NTT West Group to adopt integrated reporting by placing equal importance on environmental and financial indicators in the company's KPIs.

Involvement by Stakeholders in Programs

Comments from employees of NTT West and partner companies were included in the environmental report, showing that efforts were made to reflect their opinions. While this is a good endeavor, I suggest that opportunities be created for exchange of views by a wider group of concerned parties (stakeholders). Considering NTT West Group's public identity, almost every citizen is a customer in one way or the other. I believe, therefore, that it is very important to adopt an attitude to create shared values with the society by exchanging opinions on the environment and social responsibilities with a wide range of people and seeking understanding of the public. I look forward to seeing further developments in the programs.

Response to Third Party Opinions

Together with the public and our customers, NTT West Group has been making efforts that contribute to the realization of a sustainable society. In order for us to move forward, we sincerely accept the opinions of Dr. Kokubu, and will take appropriate actions so that we can reflect them in our report in the next fiscal year.

With regard to the KPIs for the environmental targets highlighted by Dr. Kokubu, our stance is that the targets we aim to achieve by FY 2020 are a set of KPIs. However, as he has correctly pointed out, we have not been publishing the targets for each year and action plans for the following year. We will consider including as many plans as we can in the next report.

As for the second suggestion on activities that involve a wider range of stakeholders, we will deepen our communication with the local communities while gaining their cooperation such as by promoting community-based biodiversity activities through our Biodiversity Conversation Activities named "Midori Ippai Project." At the same time, we will strive to create shared values with the society through the NTT West website and other web-based tools such as social network services.

Under our new "Green NTT West Strategy," and recognizing that every aspect of our business imposes load on the environment, we, NTT West Group, understand that it is our corporate social responsibility to lead efforts that contribute to the realization of a sustainable, environment-friendly society. We will strive to engage in more active efforts than before.

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