# **DNP**

# **DNP Group Environmental Report** 2014



# DNP Group Environmental Report 2014



# **Editorial Policy**

- The DNP Group Environmental Report 2014 was created to announce all of the environmental activities of the DNP Group, and is based on the Environmental Reporting Guidelines (2012 edition) issued by Japan's Ministry of the Environment
- The DNP Group Environmental Report 2014 is published in a page format designed to be easy to read on the Web.
- We have interspersed columns throughout, covering specific topics.
- The information in this report was subjected to a third-party review conducted by Ernst & Young ShinNihon LLC and received the Environmental Report Assurance and Registration Mark from the Japanese Association of Assurance Organizations for Sustainability Information (http://www.jsus.org/index.html) for compliance with its standards.

### Period covered by this report

This report focuses on activities carried out in the period of April 1, 2013 to March 31, 2014. It may also include reporting on important items not occurring within this period. The report also covers activities carried out at some overseas business locations in the period of January 1, 2013 to December 31, 2013.

### Scope of environmental data

Environmental accounting was applied to DNP and to all domestic companies in the Group that are subject to consolidated financial accounting. Thirty-two domestic manufacturing companies plus one distribution company (see pp. 44, 45), the non-manufacturing sites (two development centers, office buildings, sales offices, etc.) of all domestic Group companies, and our overseas manufacturing companies (see p. 42) were included in the scope.

### Standards for Calculating Environmental Performance Data

The standards used for calculating environmental performance data are published separately on the Web.

http://www.dnp.co.jp/csr/index02.html

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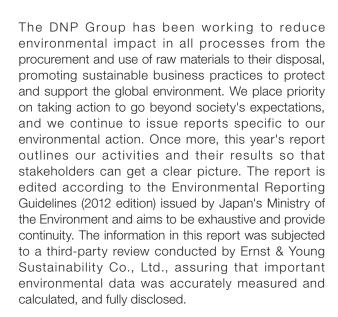
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# **Message from the Director in Charge** of the Environment

# Going Beyond Society's **Expectations**

hairman of the DNP Group Environmental Committee Satoru Inoue Chairman of the DNP Group



# Efforts in Fiscal 2013

Environmental targets for fiscal 2013 and a record of actions taken are presented in this report. The DNP



Group has set and achieved its 2013 targets for reducing the total amount of its greenhouse gas emissions; this year we also worked through energy conservation subcommittees to promote group-wide energy-saving measures. In fiscal 2014 we have begun to expand such reduction targets at our overseas operations. In conjunction with these efforts we implemented action at our key overseas bases to calculate and reduce greenhouse gas emissions across our entire supply chain. Figures have been calculated for fiscal years 2011 to 2013, based on which we are working to discover areas with high potential for reducing emissions and to then promote effective reduction measures.

Ahead of the establishment of Japan's domestic fiscal 2015 targets for reducing atmospheric emissions of volatile organic compounds (VOCs), we have already achieved our own target values. Outside of Japan, one of the measures we have implemented is the introduction of a VOC treatment facility at our newly built plant in Malaysia. We have thus started and will continue to expand efforts to reduce emissions

internationally. With regard to lowering industrial waste, we have reached zero emissions group-wide through actions taken, achieving a less than 0.5% landfill rate.

Two key themes related to protecting biodiversity upon which the DNP Group has taken action since last year that are closely tied to our business activities are: examining the procurement of raw materials and creating green areas on the premises of our business sites. Paper is one of the key raw materials that are essential to the business continuity of the DNP Group. Based on our guidelines set in 2012 for the procurement of printing paper and converting paper, we conducted a survey of our main suppliers and will use the results to ascertain the current reality and make improvements aimed at the effective and sustainable utilization of forest resources. Another initiative has been the creation of green areas as natural habitats. regarding which we have been expanding the promotion of employee participation in the Ichigaya district (Tokyo), at our Okayama Plant, and at DNP Chubu, to Sagami Yoki (Odawara), the Kashiwa Plant, and other locations. We have also held seminars and events for citizens, welcoming our neighbors in the Ichigaya district, to deepen overall understanding of biodiversity.

### **Future efforts**

The DNP Group will continue to implement sustainable business practices to steadily expand our measures to reduce environmental impact worldwide. It is also critical that our entire supply chain has the same level of awareness in their activities as we do in ours. Especially with regard to our global warming measures, in our Scope 3 estimates, we have looked closely at emissions related to purchased goods and services, which account for over 60% of our overall business, and will be pursuing reductions in cooperation with our suppliers. For the future we plan to deepen communication with our diverse stakeholders and take action as we build deeper trust. Through these activities we aim to be consistently worthy of a high degree of trust from society.

# Outline of the DNP Group

### **DNP Corporate Profile** (as of March 31, 2014)

Company Name Dai Nippon Printing Co., Ltd.

**Head Office** 1-1, Ichigaya Kagacho 1-chome,

Shinjuku-ku, Tokyo 162-8001, Japan

Tel: +81-3-3266-2111

URL http://www.dnp.co.jp/

**Established** October 1876 Incorporated January 1894 Paid in Capital ¥114.464 billion

Number of 10,827 (Non-consolidated) 39,524 (Consolidated) **Employees** Sales Offices 48 locations in Japan

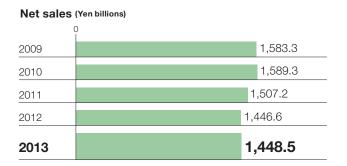
26 locations overseas (including local affiliates)

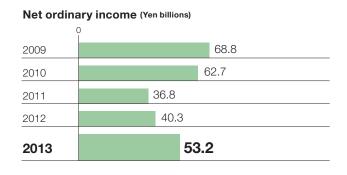
**Main Plants** 68 domestic plants

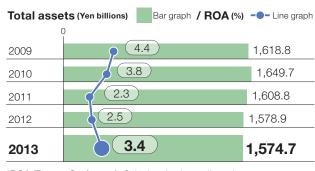
11 overseas plants (including affiliates)

**R&D Facilities** 11 locations in Japan

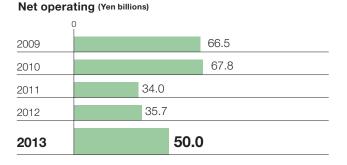
# FY2013 Financial Data (FY ending March 2014)

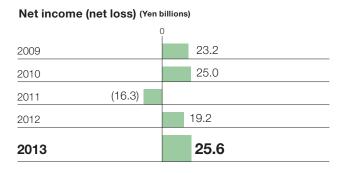


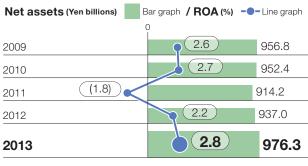




\*ROA (Return On Assets): Calculated using ordinary income.







<sup>\*</sup>ROE (Return On Equity): Calculated using net income.

# The DNP Group's Fields of Business

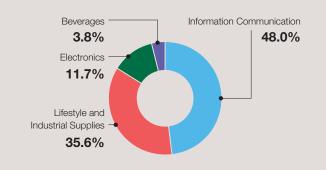
The business of the DNP Group is made up of our Printing Operations and Beverages Operations.

**Printing:** We are developing our printing business across a broad range of applications.

These include the Information Communication segment, made up of operations such as publishing/commercial printing, smart cards, and network businesses; the Lifestyle and Industrial Supplies segment, which includes packaging, lifestyle materials, and industrial supplies; and the Electronics segment, which includes display products and electronics devices.

Beverages: We produce and market carbonated beverages, coffee, tea, and other beverage products, mainly through Hokkaido Coca-Cola Bottling.

# Sales distribution (FY ending March 2014)



# **Printing**

### **Information Communication**

Publication printing

Magazines, books, e-books, e-publishing 1, etc.

Commercial printing

Catalogs, pamphlets, posters, flyers, POP, digital signage 2, etc.

**Business forms** 

Passbooks 3, smart cards 4, IPS (services for printing and dispatching mail to individuals based on input data), etc.









# **Beverages**

Production and marketing of beverages 13 through Hokkaido Coca-Cola Bottling.

**Beverages** 



# Lifestyle and Industrial Supplies

**Packaging** 

Container packaging materials 5 and sterile filling systems for food, beverages, confectioneries, daily necessities, medical, and other products

Lifestyle materials Exterior and interior finishing materials 6 (flooring, decorative sheet metal, etc.) for home, office, rail cars, etc.

Industrial supplies

"PrintRush" self-service printing systems 7, ink ribbons, softpacks for lithium ion batteries 8, etc.









### **Electronics**

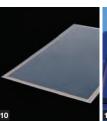
**Display** components

LCD color filters 9, touch panel sensors 10, etc.

**Electronic** devices

Semiconductor photomasks 11, lead frames, electronic modules 12, MEMS products, etc.







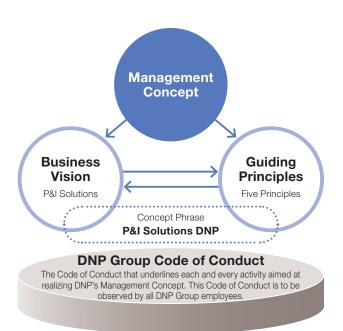


# DNP Group Vision for the 21st Century

The DNP Group Vision for the 21st Century consists of our Management Concept, Business Vision, and Guiding Principles, and is an expression of our basic philosophy of co-existence and co-development with society and the environment.

Our Management Concept is the DNP Group's social mission, and is an expression of the most important value held by all DNP employees. Our Business Vision and Guiding Principles provide direction for the business and employee conduct that will enable us to make our Management Concept a reality.

The DNP Group Code of Conduct establishes the behavioral standards for all activities undertaken in realizing our Management Concept. The Code is intended to ensure that all employees conduct themselves with integrity at all times.



### **Management Concept**

The DNP Group will contribute to the emergently evolving society of the 21st century.

#### **Business Vision**

# **P&I Solutions**

We will identify and solve the problems and issues that consumers and corporate clients face within the emergently evolving society by fusing our Printing Technologies (PT) and Information Technologies (IT).

### **Guiding Principles**

### 1. Engage in TAIWA (Japanese for "dialogue") with all persons concerned

Through TAIWA, we can identify the hopes and dreams of consumers and corporate clients, as well as uncover our own problems of which we had been unaware. By pursuing TAIWA on the identified problems and issues with various members of the company as well as people outside the company, we will be able to find solutions to these problems and issues.

### 2. Work with an independent and collaborative mind-set in order to solve problems

Acquiring specialized knowledge and skills, thereby becoming independent, allows us to sharpen our sensitivity for perceiving the problems and issues that surface within TA/WA. We should collaborate on these issues with other members while recognizing one another's sense of values and roles in order to propose solutions that will meet the satisfaction of our clients.

# 3. Challenge courageously, even in the face of difficult issues

As professionals, the expectation and confidence entrusted upon us are proportionate to the level of difficulty of a problem or issue. Therefore, we should approach problems and issues with a spirit of challenge and courage, which will enhance our professional skills all the more.

# 4. Act with integrity, fairness, and impartiality, at all times

We are, of course, obliged to abide by the law and conform to social codes. At the same time, we should also be considerate of others, speak honestly, and act with integrity. By conducting ourselves in this manner, we will be able to win the sympathy and trust of society, which will in turn augment the 'value' that we provide to society.

# 5. Be responsible for your own decisions and conduct

Each of us should be responsible for our own decisions and conduct. A strong sense of responsibility will not only lead to our colleagues' greater trust in us, but will also enable us to make objective and appropriate evaluations of our own work processes, which will assist us in making greater strides at our next opportunity.

# DNP Group Code of Conduct

The DNP Group has established the DNP Group Code of Conduct as the set of principles upon which our efforts toward realizing our Management Concept are based. The Code of Conduct is founded upon strong ethical principles in accordance with our own rules as well as the law of the land, and is built around themes we consider to be of mutual importance to both the DNP Group and society as a whole.

The conduct of business with integrity at all times in accordance with this Code of Conduct is the foundation of our CSR activities.

1.	Contributing to the development of society	We shall contribute to the development of society by offering new values through our business.
2.	Social contribution as a good corporate citizen	We, as good corporate citizens living in harmony with society, shall deepen our ties with society and make social contributions through our solutions to various social issues and through our cultural activities.
3.	Compliance with the law and social ethics	We shall contribute to the sustainable development of free and orderly market competition while assuming a fair and honest attitude at all times, in compliance with the law and social ethics.
4.	Respect for human dignity and diversity	The dignity of humanity is of supreme importance to us. We shall respect diversity in the culture, nationality, creed, race, ethnicity, language, religion, gender, age, and ways of thinking of all persons, and conduct ourselves in a disciplined manner.
5.	Environmental conservation and the realization of a sustainable society	We are contributing to building a sustainable society so as to pass on the rich blessings of the Earth to future generations.
6.	Realization of a 'universal society'	We shall work on the development and diffusion of easy-to-use functional products, services and systems so that everyone can live in safety and comfort, and thus contribute to the realization of a "universal society" in which all kinds of people can lead pleasant lives.
7.	Ensuring the safety and quality of our products and services	We shall strive to win over the satisfaction and trust of consumers in general and of our corporate clients by ensuring the safety and quality of our products and services.
8.	Ensuring information security	We shall strive to ensure thorough security measures to protect information assets entrusted to us by our clients as well as those retained by the DNP Group itself (industrial secrets, personal information, intellectual property, etc.).
9.	Proper disclosure of information	We shall take the initiative to disclose information in a timely and appropriate manner so as to have our own business and activities properly understood by our various stakeholders with the goal of maintaining a high degree of transparency.
10	.Realization of a safe and vibrant workplace	We shall exert ourselves for the maintenance and improvement of the safe and hygienic conditions of our workplace and shall always endeavor to seek ways to implement new improvements. At the same time, we shall respect working styles suited to the diversity of our employees and make efforts to create a safe, healthy and vibrant working environment.

# DNP Group Environmental Policy

Rapid economic progress and a rising global population are bound to continue through the twenty-first century, so we must do what we can to protect biodiversity and prevent further degradation of the environment. Different groups and organizations work to protect the global environment in different ways; we all must do what we can to pass on a healthy planet to future generations.

We follow the DNP Group Code of Conduct, which guides us toward environmental conservation and the realization of a sustainable society. The DNP Group Environmental Policy links this code to specific activities that take the environment into consideration within the scope of our various business activities.

The DNP Group seeks to minimize the impact our businesses have on the environment and supports biodiversity, first by complying with environmental laws and regulations and also by recognizing the relationship that each of our business activities has with the environment. In this way we hope to create a sustainable society in a world with limited resources.

- 1. Each member of the DNP Group establishes and periodically reviews its own environmental policies and environmental targets, and puts into effect continuous improvement of its activities and the prevention of environmental pollution.
- 2. For all construction projects, and before designing and commissioning new facilities, we carry out a full and detailed environmental survey to assess the impact that the project will have on the environment to make proper efforts to protect the environment. We shall also make aggressive efforts to use renewable energy.
- 3. When carrying out research, development, design, manufacture, and sales of a new product, we consider the impact of the product on the environment throughout its lifecycle, including materials procurement, production, distribution, use, and disposal, especially in terms of energy conservation, resource conservation, and reducing the use of harmful chemicals.
- 4. When purchasing raw materials, stationery, and equipment, we choose items that are ecologicallyfriendly and easy to recycle.
- 5. In manufacturing a product, we aim to comply with environmental laws and regulations, and moreover we set up more stringent standards to reduce the emissions of pollutants into the air, watershed, and soil, and to prevent unpleasant odors, noise, vibration, and land subsidence. We are constantly improving facilities, techniques, and manufacturing processes to promote the targets of energy conservation, resource conservation, and the reduction of industrial waste.
- 6. When generating waste from business operations, we strive to achieve zero emissions by separating and recycling waste as much as possible.

DNP Environmental Committee (March 21, 2000, revised March 16, 2010)

The DNP Group is a signatory of the United Nations Global Compact and a "promotion partner" of the Nippon Keidanren's 2009 Declaration on Biodiversity.

# Environmental Management Structure

All companies in the DNP Group are striving to build an environmentally sustainable world through the efficient use of resources and various efforts—to prevent global warming, protect the environment, and preserve biodiversity.

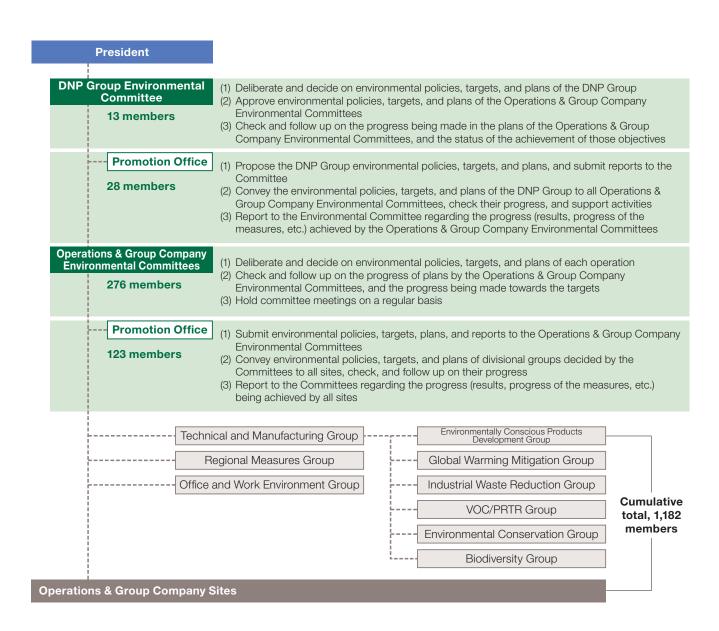
The DNP Group Environmental Committee was established to coordinate group-wide environmental activities, while Operations & Group Company Environmental Committees preside over domestic and overseas activities within each business area. Each committee has its own promotion office.

### DNP Group Environmental Committee

This is made up of the directors of the basic organizations at company headquarters, who are responsible for the environment. The Committee deliberates and makes decisions concerning the environmental policies, objectives, and plans of the entire Group, and monitors the progress of the plans and the status of the achievement of those objectives.

### Operations & Group Company Environmental Committees

We carry out such activities based on decisions made by the DNP Group Environmental Committee and the characteristics of different business areas, including activities at our locations outside of Japan.

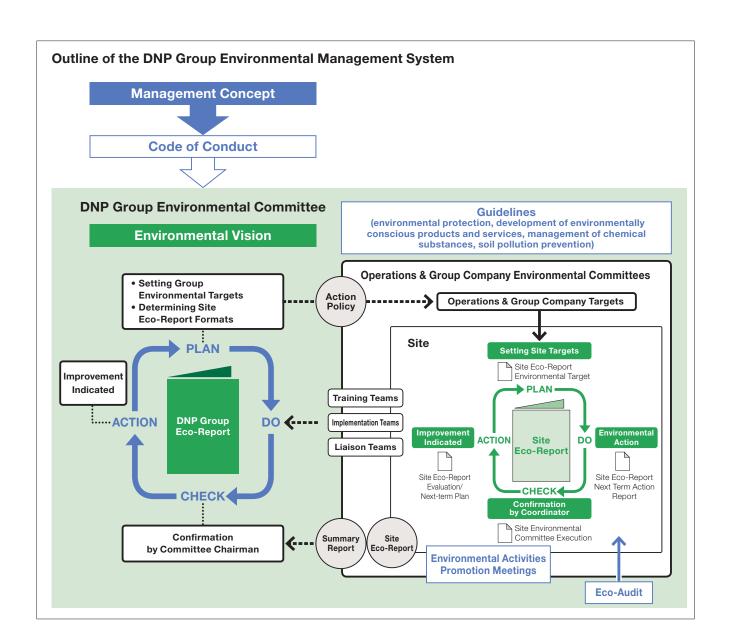


# Environmental Management System

The DNP Group created its own environmental management system (EMS) in 1993, prior to the publication of ISO14001. Our EMS uses the twin tools of Eco-Reports and Site Eco-Reports set up by the DNP Group Environmental Committee Promotion Office as a framework. We also execute the "Plan-Do-Check-Action" cycle every six months.

The Eco-Reports cover trends in environmental issues and changes in applicable laws, our courses of action, and how well the DNP Group overall has achieved its targets. The Eco-Reports are distributed to the Operations & Group Company Environmental Committees and to every business site. The Site Eco-Reports document each site's targets, plans, and status of activities. The Operations & Group Company Environmental Committees use the Site Eco-Reports to gain an understanding of the situation at each site and submit a summary report to the DNP Group Environmental Committee.

The DNP Group Environmental Committee and the Operations & Group Company Environmental Committees carry out continuous improvement activities through training teams, implementation teams, liaison teams, etc. Progress is checked through periodic environmental activities promotion meetings.



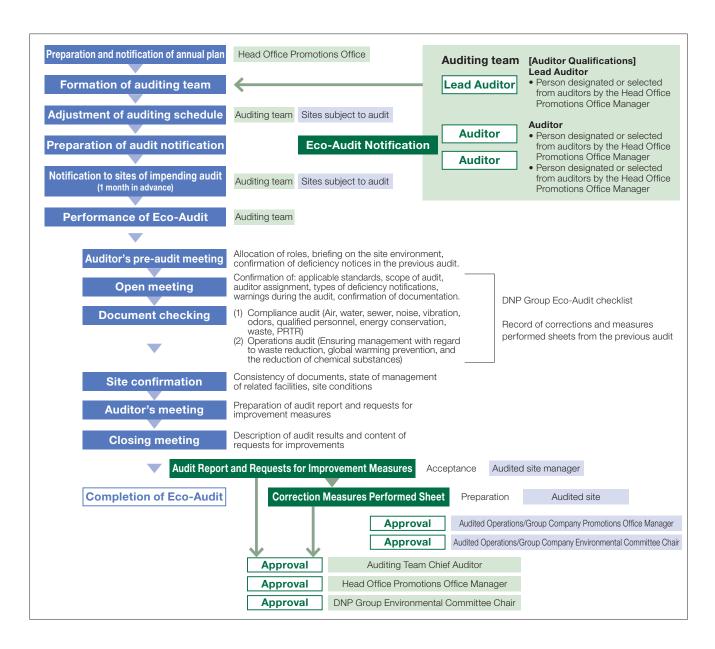
# **Eco-Audit Content and Flow**

We began implementing "Eco-Audits" in 1996, so as to make our Environmental Management System (EMS) more effective.

Eco-Audits have the following features.

- (1) Because auditors are DNP employees from sites not being audited, they have specialized knowledge about the products and processes and are able to maintain an independent perspective, which produces meaningful, objective results from the audit.
- (2) In the Eco-Audit we place importance on on-site confirmation of actual items. In addition, we point out factors for which danger is projected and request preventive action when needed.
- (3) In addition to confirmation of compliance, we confirm the status of continuous improvements and corrections being made towards the achievement of the environmental targets. When necessary, we require audited sites to review plans.

Under this system, when an audit reveals that corrective measures are needed at a site, a "corrective action request" is issued in writing and such actions as necessary are managed by the DNP Group Environmental Committee.



# **Eco-Audit Performance**

Number of sites audited	69 sites
Number of attendees at sites	523 persons
Cumulative auditor numbers	136 persons
Cumulative auditing hours	373 hours

# Notification level and improvements required

Improvement required	Submission of a written description of correction measures performed or improvement plans
Improvement consideration ⇒ & examination	Submission as necessary of a written description of results of consideration/ examination or improvement plans

Indications of "improvement required" included items such as insufficient reporting by qualified personnel and at specific sites and other legal violations, but we confirmed that the necessary improvement measures were being taken in each case.

The areas indicated as requiring improvement are analyzed and follow-up Eco-Audits will be carried out in FY2014.

### **Eco-Audit Content**

### **Compliance Audit**

### (1) Document Audit

- Site location
- Type and number of legally-designated facilities
- Types of waste
- Energy consumption
- Exhaust and wastewater channels
- Changes in facilities, production processes since the last audit
- Applicable laws and their range
- State of improvement of notifications of deficiencies in previous audit
- State of submission of and changes to legal notifications and reports
- Frequency of measurement, validity and traceability of measured data
- Changes in management personnel due to internal transfers

# (2) On-site Inspections

- Site location and relationship with surrounding sites
- Conformity to statutory facility document audit (type, number, scale, etc.)
- State of management of individual facilities and equipment, existence of abnormalities
- Emergency containment in case of abnormality or emergency
- Site picture-taking
- Appropriateness of actual work performed

### **Operations Audit**

### **PLAN**

# Validity of Policy, Targets and Action Plans

- Consistency with DNP Group policies and targets
- Consistency with action plans and targets
- Implementation system and schedule
- Awareness level of employees

### DO

# Confirm status of plan implementation and target achievement

- Progress status of plan
- Achievement of targets

### CHECK

# Status of progress management of plan

- Holding of environment-related meetings
- Content of environment-related meetings

### **ACTION**

# Status of reviews by term

• Review of previous term results and reflection in plan

# Environmental Risk Management

The DNP Group publishes regular Eco-Reports which cover trends in environmental regulations, and also conducts Eco-Audits to ensure full compliance with all laws and regulations. Our compliance efforts also include the establishment of and strict adherence to our own voluntary standards (air, water, noise, vibration, odor) and voluntary guidelines (chemical substance management, soil contamination measures), which exceed what is legally required.

The DNP Group handles many chemicals in its production processes. We have drawn up a Chemical Substance Management Guide for chemical substance handling, and have set up levees and emergency shutoff systems to prevent liquids from overflowing and installed two-tier holding tanks for the prevention of accidents at plants handling chemicals. We also stock up on materials that can be used during emergencies and hold emergency response drills to ensure the proper response in the event of an occurrence.

#### Soil and Groundwater Contamination

The DNP Group conducts soil inspections based upon our voluntary management guidelines. When soil contamination is discovered, we file a report with the office of the governor or mayor in charge of that prefecture or city, and upon receiving instructions from the local authorities, we implement appropriate measures for removing the contamination.

In addition to continuing the purification of pump water at one site in FY2013, we also inspected tanks, waste storage sites, and areas for storing equipment that handles waste PCBs to prevent soil contamination.

### PCB Storage

PCBs are currently in storage at 19 sites, with 145 condensers and 29 transformers; a total of 174 units. The PCBs are contained in electrical equipment formerly used in substation facilities at our plants. Fluorescent lighting ballasts containing PCBs have also been placed in storage. Storage consists of special containers in designated storage rooms at each site, managed under the strictest conditions in accordance with applicable regulations to ensure there is no leakage or loss. The PCBs in storage will gradually be disposed of as required by law according to the disposal plans for each region.

### Status of Legal Compliance

While we make all efforts to comply with environmental laws and regulations, over the past three years we have experienced three incidents in which air or water quality standards were exceeded. There are no ongoing legal disputes involving environmental issues. We have unfortunately had some complaints from areas neighboring our plants concerning noise and odors. Whenever we receive such complaints, we respond promptly by launching a thorough investigation into the cause of the problem and by working to make improvements and prevent recurrence.







Improving inspections of activated carbon conveyance piping

### Occurrences (causes, improvements, and recurrence prevention measures)

### September 8, 2011 Chikugo Plant, DNP Nishi Nippon\*

**Governmental water analysis** → pH and BOD measurement values exceeded regulatory standards, so an improvement report was submitted.

The cause of excessive pH levels was a broken CO<sub>2</sub> vaporizer in the boiler drain water neutralizing apparatus. To prevent recurrence, inspections will be improved. The cause of excessive BOD was the use of too much boiler corrosion inhibitor. To prevent recurrence, the type of corrosion inhibitor was changed and the amount for injection was revised downward.

### March 4, 2013 Kyoto Plant, DNP Technopack Governmental measurement of concentration of

volatile organic compounds (VOCs) in exhaust air → Values for VOC concentration exceeded the legal limit, so an improvement report was submitted.

The cause of the problem was found in the equipment that collects VOCs. One of the four pipes carrying activated carbon for adsorbing VOCs was not functioning properly. To prevent a recurrence, inspections will be improved to check that the activated carbon is flowing properly.

#### February 24, 2014 Tanabe Plant, DNP Technopack

Governmental water analysis → pH measurement values exceeded regulatory standards for draining systems, so an improvement report was submitted.

The cause of excessive pH levels was the pH level of a special detergent used for an automatic dishwasher in the kitchen. The detergent was switched to a type that meets water quality standards and pH levels are being monitored on an ongoing basis to ensure that standard values are met.

\* At the time of occurrence, the company name was Chikugo Plant, DNP Technopack.

# Certification Acquisition Status

The DNP Group has established an independent environmental management system and is pursuing the acquisition of ISO 14001 certification at specific sites, depending on the type of work performed at those sites. (DNP organization names are as of June 30, 2014)

### ISO14001 Certificates

Site	Date Registered *1	Organization
Okayama Plant, Imaging Communications Operations	Nov. 1997	JIA-QA
Mihara Plant, Fine Electronics Operations	Jul. 1998	DNV
Okayama Plant, Lifestyle Materials Operations	Jul. 2000	JIA-QA
DT Fine Electronics *2	Mar. 1997	JACO
Sayama Plant No.1, DNP Technopack	Dec. 2001	DNV
Kobe Plant, Lifestyle Materials Operations	Jan. 2002	JIA-QA
Tokyo Plant, DNP Fine Chemicals	Jan. 2002	JCQA
Ushiku Plant, Information Solutions Operations	Mar. 2002	DNV
Tokai Plant, DNP Technopack	Mar. 2002	JCQA
Tien Wah Press (Singapore)	May 2002	PSB
Chikugo Plant, DNP Technopack	Jun. 2002	DNV
Sayama Plant, Imaging Communications Operations	Oct. 2002	JIA-QA
Kurosaki Plant No.2, DNP Fine Electronics	Jan. 2004	DNV
Tokyo Plant, Lifestyle Materials Operations	Jan. 2004	JIA-QA
Kamifukuoka Plant, Fine Electronics Operations	Mar. 2004	AJA
Fukuoka Plant, DNP Nishi Nippon	Jun. 2004	DNV
Itabashi Area, Sales Division 1, DNP Logistics	Oct. 2004	AJA
Tokyo Plant, DNP Ellio	Jan. 2005	LRQA
Osaka Plant, DNP Ellio	Jan. 2005	LRQA
Warabi Plant, Information Solutions Operations	Mar. 2005	DNV
Nara Plant, DNP Data Techno Kansai	Jun. 2005	DNV
Tien Wah Press (Johor Bahru)	Nov. 2005	PSB
Kashiwa Plant (incl. Utsunomiya Site), DNP Technopack	Mar. 2006	JACO
Neyagawa Plant (incl. Tanabe Site), DNP Technopack	Mar. 2006	JACO
DNP Photomask Europe S.p.A.	Apr. 2006	CISQ

Site	Date Registered *1	Organization
DNP Fine Chemicals Utsunomiya	Mar. 1997	JCQA
Akabane Area, DNP Logistics	Dec. 2006	AJA
Izumizaki Plant, DNP Energy Systems	Mar. 2007	DNV
Yokohama Plant, DNP Technopack	Dec. 2007	JIA-QA
Izumizaki Plant, DNP Technopack	Aug. 2008	DNV
Kasaoka Plant, DNP Fine Chemicals	Jan. 2009	JCQA
Mihara Plant, Advanced Optics Operations	May 2009	DNV
Okayama Plant, Advanced Optics Operations	May 2009	DNV
DNP Indonesia (Pulogadung/Karawang)	Aug. 2009	AJA
Hokkaido Coca-Cola Bottling	Feb. 2010	SGS
Sayama Plant No.2, DNP Technopack	Dec. 2011	JIA-QA
Odawara Plant, Imaging Communications Operations	Jun. 2012	JIA-QA
Kyoto Plant, DNP Data Techno Kansai	Dec. 2013	DNV

### **Eco Action 21 Certificates**

Site		jistered *1	Organization	
Tokyo Head Office, DNP Trading	Jan.	2006	IGES	

# **Green Key Certification Status**

Site	Date Registered *1	Organization
Hakone Training Center 2	May 2010	FEE

# Status of Eco Stage (Stage 1) Achievement

Site	Date Registered *1	Organization	
DNP Chubu	Feb. 2012	Ecostage Institute	

# Organization

#### JIA-QA

Japan Gas Appliances Inspection Association, QA Center

#### DNV

Det Norske Veritas AS (Norway)

#### **JACO**

Japan Audit and Certification Organization for Environment and Quality

#### **JCQA**

Japan Chemical Quality Assurance Ltd.

### **PSB**

PSB Certification Pte Ltd. (Singapore)

### AJA

Anglo Japanese American Registrars Ltd.

### **LRQA**

Lloyd's Register Quality Assurance Ltd.

Federazione Certificazione Italiana dei Sistemi Qualità Aziendali (Italy)

#### SGS

SGS Japan

#### **IGES**

The Institute for Global Environmental Strategies

Foundation for Environmental Education

<sup>\*1</sup> Indicates the first registration date.

<sup>\*2</sup> DT Fine Electronics registered as part of Toshiba Corporation (Semiconductor Company) (Kawasaki City, Kanagawa Pref.)

# **Environmental Education**

The DNP Group conducts environmental education programs according to level, working group, and function concerning the DNP Group's environmental conservation efforts, environmental knowledge, environmental laws, and domestic and overseas trends concerning environmental issues. Our goal is for employees to gain the knowledge and management know-how necessary to improving employee environmental conservation consciousness and achieving our environmental goals.

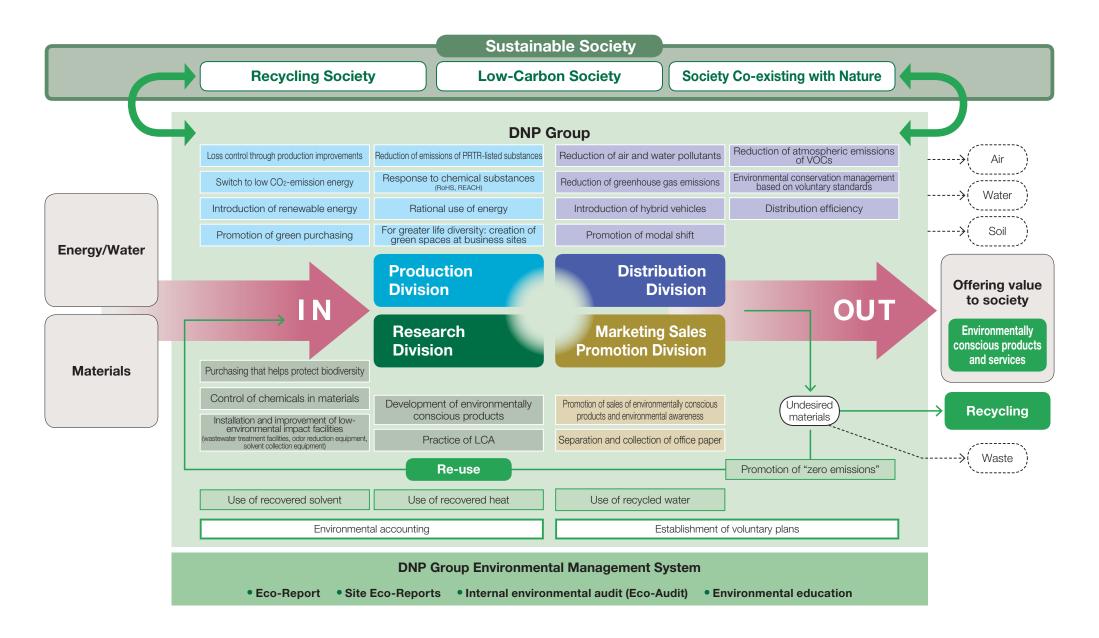
A correspondence course is held twice a year for everyone in the DNP Group on ISO14001, lifecycle assessment (LCA), and other topics.

### New Awards System Instituted

In fiscal 2012 we introduced an awards system. The awards are presented once a year and are reserved for plants that have made a special contribution through their environmental activities. Such contributions include a notable achievement of DNP Group environmental targets, biodiversity protection activities, renewable energy utilization, etc. The system aims to further boost environmental protection efforts within the company. Winners are selected not only for specific accomplishments, but also in light of their compliance with internal environmental audits and meeting of voluntary standards for environmental conservation (additional to legal requirements for air and water quality).

Type of Training	Course Name/Description	First Held	Eligik	oility	Time of Year
Education for New Recruits	Environmental Activity Overall (required) Basic environmental knowledge and conservation efforts of the DNP Group	1994	All new recruits	Total Attendance 7,112 people	When joining the company
Technical Seminar	Environment/Chemicals (optional) Environmental laws and regulations	1999	Technicians	Total Attendance 919 people	Once yearly
Network Learning	Biodiversity	2010	All employees of the DNP Group		At irregular intervals
Eco-Report Training	Environmental Issues of the Group (required)  Domestic and international trends in environmental issues, revisions in environmental laws, degree of achievement of environmental targets, new targets, issues concerning specific sites	1993	Environmental Committee Promotion Office members and site members		Twice yearly on issue of Eco-Report

# The DNP Group's Business and Environmental Activities



# Table: Environmental Activity Targets and Results

Evaluation criteria: Target exceeded by a wide margin Target achieved or making steady progress toward target Adking active efforts but target not achieved X Efforts insufficient

Topic	Reference page	Targets through 2015 * Targets relating to global warming prevention and reducing environmental impact are for FY2020.	2013 results		Evaluation	
Global warming	P 20 - 21	To reduce GHG emissions 10% from the 2005 levels by FY2020.	Emissions in 2005: 1.120 million tons	4.8% decrease from that in	$\circ$	
prevention	F 20 - 21	(Includes overseas locations)	Emissions in 2013: 1.066 million tons	2005		
Reduction of environmental impact	P 22	To reduce per-unit fuel use for transport (amount of fuel used/sales)	Per unit in 2010: 1.61 kl/100 million yen	3.1% increase		
incurred during transport		by 1% per annum and 10% by FY2020 compared to FY2010.	Per unit in 2013: 1.66 kl/100 million yen	from that in 2010		
		To reduce emissions of VOCs (except for methane) by 20%	Emissions in 2010: 6,729 tons	27.9% decrease		
VOCs	P 23	compared to 2010 by FY2015.	Emissions in 2013: 4,849 tons	from that in 2010		
Voos	1 20	Overseas, based on local laws and regulations, we plan to reduce atmospheric emissions of VOCs to the greatest extent possible through introduction of technologies and other measures.  Installed equipment for VOC treatment and collection at the newly built plant in Malaysia		lection at the	$\circ$	
		To reduce per-unit waste emissions (waste emissions/production)	Per unit in 2010: 0.424 tons/10 million yen	10.1% decrease		
Reduction of industrial	P 26 - 27	by 15% from the 2010 level by FY2015. (Includes overseas locations)	Per unit in 2013: 0.381 tons/10 million yen	from that in 2010		
waste		To achieve zero emissions for the entire DNP Group by FY2015.	Landfill waste rate in 2012: 0.54%	0.40 point decrease from that in 2012		
		To achieve zero emissions for the entire DNF Group by F12013.	Landfill waste rate in 2013: 0.14%			
Development and sales of environmentally conscious	P 30 - 31	Development and sales of environmentally conscious products and	Sales of 355.7 billion yen in 2012	4.0% increase		
products and services	1 00 01	services to achieve 400 billion yen by FY2015.	Sales of 369.8 billion yen in 2013	from that in 2012		
			To increase the rate of materials purchased according to the DNP	45.0% green purchasing rate for materials in 2012	2.4 point increase from	
Green purchasing	P 29	green purchasing standards to 50% by FY2015.	47.4% green purchasing rate for materials in 2013	that in 2012		
arcen purenasing	1 20	To increase the purchase rate of environmentally certified products, such as those labeled with the Eco-Mark, of the total supplies	65.8% green purchasing rate for materials in 2012	6.7 point increase from		
		(office supplies and equipment) to 85% by FY2015.	72.5% green purchasing rate for materials in 2013	that in 2012		
		To keep the maximum concentration of air emissions subject to emissions regulations at 70% of the required standard or less.	97% achievement rate of targets for 2013 (voluntary target)		0	
Fording		To keep the maximum concentration of water emissions subject to wastewater regulations at 70% of the required standard or less.	97% achievement rate of targets for 2013 (voluntary target)		0	
Environmental conservation	P 12	To keep the maximum concentration of odors at our site perimeters at 70% of the required standard or less.	95% achievement rate of targets for 2013 (voluntary target)		0	
	To keep the maximum level of noise at our site poof the required standard or less.	·	89% achievement rate of targets for 2013 (voluntary target)		0	
		To keep the maximum level of vibration at our site perimeters at 70% of the required standard or less.  100% achievement rate of targets for 2013 (voluntary target)		untary target)	0	
Office environment	P 28	To increase the rate of the fractional recovery of waste paper to 70% of that for general waste.	78% recovery of waste paper in 2013		0	

# Current Status of Environmental Impact

### Main materials (Unit: 1,000 tons)

	2012	2013
Paper	1,775.0	<b>1,818.1</b> (2.4% increase)
Film	158.8	<b>165.1</b> (4.0% increase)
Plastic	111.6	<b>114.7</b> (2.8% increase)
Metal	53.6	<b>46.0</b> (14.2% decrease)
Ink	98.9	<b>106.5</b> (7.7% increase)
Others	92.7	<b>99.1</b> (6.9% increase)

### Main secondary materials (Unit: 1,000 tons)★

	2012	2013	
Solvent	24.8	27.7	(11.7% increase)
Acid and alkaline	8.0	9.5	(18.8% increase)

### **Utilities**

	2012	2013	
Electricity (million kWh)	1,688.2	1,679.9	(0.5% decrease)
City gas (million Nm³)	99.0	86.6	(12.5% decrease)
LNG (million kg)	19.0	18.6	(2.1% decrease)
LPG (million kg)	6.9	6.3	(8.7% decrease)
Fuel oil (kl)	700	600	(14.3% decrease)
Steam (TJ)	540	530	(1.9% decrease)
Kerosene (kl)	1,300	1,400	(7.7% increase)
Water (million m³)	15.8	14.5	(8.2% decrease)

# **Product Manufacturing Process**

# Information Communication

Books and periodicals, commercial printing, business forms

### **Lifestyle and Industrial Supplies**

Packaging, decorative materials, industrial supplies

### **Electronics**

Displays, electronic devices

### Other

Ink, beverages, etc.

# **Current Status of Recycling in the DNP Group**★

	2012	2013
Recycled solvent (1,000 tons)	5.9	6.3
Usage ratio*1	1.2	1.2
Recycled acid and alkaline (1,000 tons)	2.7	4.6
Usage ratio	1.3	1.5
Recycled water (million m³)	455.5	435.4
Usage ratio	30.8	32.2
Vapor generated from waste heat recovery (tons)	178,200	189,800

- \*1 Usage Ratio: This is a calculation of (input+recovery and recycling)/ input. It does not include vapor or solvent in ink.
- \*2 GHG: Greenhouse Gases
- Emissions from the use of electricity were recalculated to include past years using the FEPC's FY2005 coefficient.
- \*3 Water discharge channels to which the Water Pollution Control Act
- ★ Scope limited to within Japan only

# **Emissions into the air**

	2012	2013	
GHG*2 emissions (1,000 tons-CO2)	1,098	1,066	(2.9% decrease)
NOx emissions (tons)★	706	683	(3.3% decrease)
SOx emissions (tons)★	10	10	( – )
Atmospheric emissions of VOCs (tons)	17,616	17,458	(0.9% decrease)

### **Emissions into bodies of water**

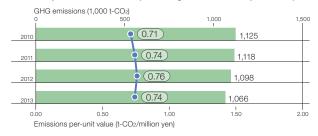
	2012	2013
Water discharged (million m³)	13.8	<b>12.4</b> (10.1% decrease)
COD emissions (tons)	39.0	<b>36.2</b> (7.2% decrease)
Nitrogen *3 emissions (tons)	11.9	<b>11.2</b> (5.9% decrease)
Phosphoric emissions (tons)	0.4	<b>0.6</b> (50% increase)

### **Undesired materials generated** (Unit: 1,000 tons)

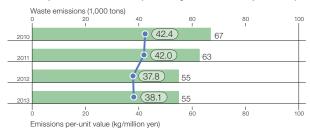
	2012	2013	
Total amount of undesired materials	357.1	357.4	(0.1% increase)
Waste emissions	54.7	55.2	(0.9% increase)
Landfill waste amount	4.4	3.4	(22.7% decrease)

# Environmental Impact and Environmental Efficiency

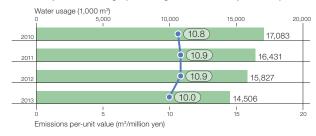
#### DNP Group's GHG emissions (including international operations)



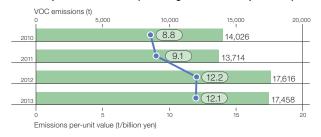
#### DNP Group's waste emissions (including international operations)



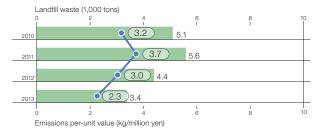
#### DNP Group's water usage (including international operations)



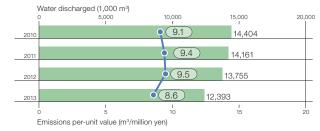
DNP Group's VOC emissions (including international operations)



DNP Group's landfill waste (including international operations)



DNP Group's water discharged (including international operations)



# Targets set to reduce water usage

Global water shortages are a serious concern as the human population grows rapidly and large amounts of water are consumed in advanced countries. Under these circumstances DNP has set targets and begun taking action to reduce usage.

Target: 1% annual reduction in water volume used per unit of sales

# Efforts to Reduce GHG Emissions Across the Entire DNP Group Supply Chain

Greenhouse gas (GHG) emissions are one cause of global warming. The DNP Group is taking active steps to reduce GHG emissions on a global scale.

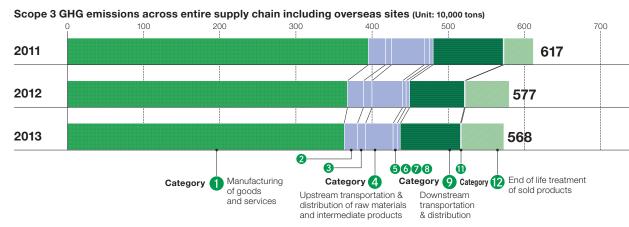
In developing environmentally conscious products, we consider it vital to understand GHG emissions in the overall lifecycle of a product. We have therefore calculated GHG emissions across our entire supply chain including main overseas sites (for FY2011 to FY2013) (Scope 3), not only at the stage of manufacturing but also including indirect emissions.

The Scope 3 emissions for FY2013 broke down as follows: "Manufacturing of goods and services" (Category 1) at 65%, which accounted for the largest portion; "Downstream transportation and distribution (finished products)" (Category 9) at 12%: "Upstream transportation and distribution (raw materials and intermediate products)" (Category 4) at 9%; and "End of life treatment of sold products" (Category 12), also at 9%. These four categories together accounted for 95% of the total.

We will continue to promote the reduction of emissions across our entire supply chain in the future based on these results.

#### Scope 3 Fuel and energy-related activities not included in Scope 1 or 2 Capital goods 2 0~900 Scope 2 Indirect emissions from use Transportation of naw materials of electrical power and steam Upstream transportation & distribution Manufacturing **DNP Group** of materials Manufacturing of goods 1 Scope 1 Waste generated and services Direct emissions from in operations fuel combustion, etc. **Processing** of sold products Upstream leased assets 8 67 Business travel and 田田 employee commuting \*\* **End of life treatment** Use of sold products of sold products 12 End of life treatment 9 Downstream 11 Use of sold products transportation & distribution of sold products

Management of greenhouse gas emissions across the entire supply chain



#### **Calculation Method**

The Ministry of Economy, Trade and Industry (METI) and the Ministry of the Environment (MOE) formulated and released the "General Guidelines on Supply Chain GHG Emission Accounting, Ver 1.0"\*1 the standards of which our calculations\*2 are based upon. (Calculated using the 11 categories concerning DNP of the 15 Scope 3 categories. Three categories were not applicable, so were excluded from the calculation.)

- \*1 These guidelines were drawn up for the purpose of providing calculation methods, etc., that are easy to use for Japanese companies based on the Scope 3 Standard, an international standard from the GHG Protocol.
- \*2 All DNP business sites in Japan were set as the scope of calculations (excluding Hokkaido Coca-Cola Products and the Bookstore Group), in addition to key overseas sites (PT DNP Indonesia, DNP IMS America, and Tien Wah Press (Pte.) Ltd.).

In addition, the unit values database used for our calculations can be viewed on the MOE's Green Value Chain Platform. (http://www.gvc.go.jp/business/estimate.html)

### Supplier seminar (September 2013)



DNP explained its environmental initiatives to suppliers and called on them to reduce GHG emissions throughout the supply chain.

DNP also made individual visits to major suppliers of raw materials and began joint efforts at reductions.

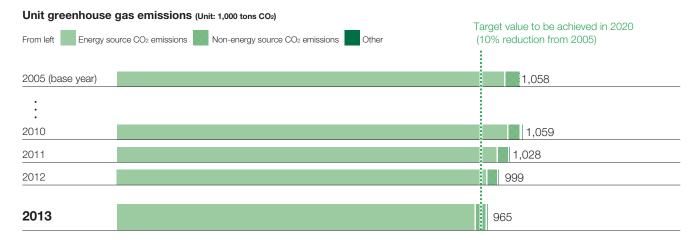
# Greenhouse Gas Emissions Reduction

Important steps that the DNP Group has taken leading to a low-carbon society include reducing the consumption of forms of energy that generate CO2 (energy conservation), switching to low CO<sub>2</sub>-emission fuels, and introducing renewable energy sources.

### Reducing Consumption of CO<sub>2</sub>-Generating Energy

The DNP Group's overall greenhouse gas emissions in FY2013 totaled 965,000 tons. This breaks down as follows: energy source CO<sub>2</sub> emissions, 938,900 tons; non-energy source CO<sub>2</sub> emissions, 25,300 tons; methane converted to CO<sub>2</sub> emissions equivalent, 30 tons; N2O emissions, 560 tons. There were 10 tons of emissions of perfluorocarbons (PFCs) and 240 tons of sulfur hexafluoride (SF6), but no emissions of hydrofluorocarbons (HFCs).

In FY2013, our main efforts to reduce CO2 emissions included conserving energy used for air conditioning and power, improving production line operations, efficient heating units, etc. Energy conservation subcommittees adapted to the characteristics of each business area were also formed. In FY2014, we will continue our aggressive efforts to limit greenhouse gas emissions by continuing with the switch to low CO<sub>2</sub>-emission fuels, introducing energy-saving equipment such as inverters, efficient air conditioners, and heating units, and improving production efficiency.



Greenhouse gas emissions volume The calculation of greenhouse gas emissions at domestic production sites due to electricity use, fuel use/ combustion, burning of waste, and atmospheric emissions of HFCs/PFCs/SF6 is performed according to type of energy. For city gas, the computation is performed according to the quantity of heat in Appendix 4. "List of City Gas Suppliers and Supplied Quantity of Heat" (revised April 15, 2013) of the Requirements for Filling Out Periodic Reports Based on Articles 15 and 19-2 of the Act on the Rational Use of Energy.

For other types of energy, the calculation is performed using the calorific value and emission factors contained in the revised Act on Promotion Global Warning Countermeasures (an enforcement ordinance published March 31, 2010 by the Ministry of the Environment and Ministry of Economy, Trade and Industry). Additionally, for electricity emission factors, the FEPC's 2005 point-of-use CO2 emissions unit value of 0.423 (kg-CO2/kWh) was used uniformly. Also, the Guideline for Greenhouse Gas Emissions Calculation for Businesses (Draft Ver. 1.6) (July 28, 2005, partially revised; Ministry of the Environment) is used for recalculating the base year greenhouse gas emissions due to the change in our aggregate accounting range resulting from M&As. The 2005 (base year) figure in the graph above is the sum of 2005 domestic production site emissions and 2009 non-production site emissions.

### **Energy Conservation Subcommittees**

In FY2013, DNP promoted energy conservation subcommittee activities adapted to the characteristics of each business area, crucially addressing manufacturing processes that consume high quantities of energy. At Information Communication plants, offset rotary press drying and deodorizing settings were optimized to reduce gas usage; at Electronics plants clean room air conditioning was optimized to reduce power consumption; and at Lifestyle and Industrial Supplies plants efforts were begun to optimize equipment settings and introduce equipment to improve the efficiency of photogravure press driers and offset sheet-fed press UV driers. Additionally, DNP developed a system to promote the use of unutilized energy that takes the waste heat from solvent combustion equipment and uses it for a dry laminator dryer. The system's efficacy is now being tested. Recognized for such company-wide energy-saving activities, DNP was awarded the Energy Conservation Grand Prize for Energy Conservation in the Workplace (Special Award from Judging Committee) by the Energy Conservation Center, Japan.



Awards ceremony for the Energy Conservation Grand Prize for Energy Conservation in the Workplace



Award certificate

# Switching to Low CO<sub>2</sub>-Emission Fuels

### • Shift to Energy with Lower CO<sub>2</sub> Emissions

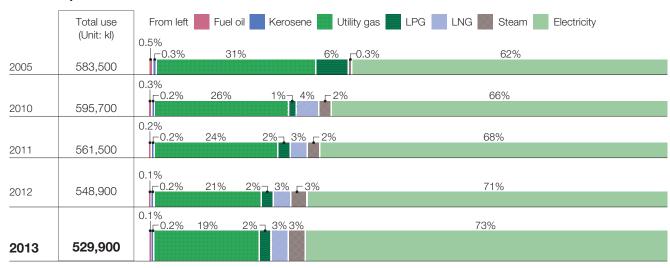
The DNP Group is making progress in the switch to low CO2-emission fuels to reduce emissions of greenhouse gases.

We have been making the switch from diesel, kerosene, and similar high CO2-emission petroleum fuels into low CO2-emission utility gas, LPG (liquefied petroleum gas), and LNG (liquefied natural gas) since before 1990, and plan to continue to do so.

We are also moving ahead with renewable energy. DNP Energy Systems' Izumizaki Plant installed a solar power generation system in 2009, while in FY2011 DNP Technopack Tanabe Plant and Ichigava Area South Facility both installed solar systems that have capacities of 30 kW and 30.95 kW, respectively. Furthermore a 10 kW solar system was installed to the Ichigayatamachi Building.

In FY2013 these solar power facilities produced a total of 119,400 kWh of power. We also currently purchase 1.46 million kWh of Renewable Energy Certificates annually to cover part of the power consumption used by manufacturing processes within the group (for printing, bookbinding and processing), the showroom of the Ichigayatamachi Building and other facilities.

### **Fuel composition**



Note: Gasoline and diesel fuel for automobile use are also used (less than 0.2%) in addition to these fuels above.

# Chikugo Plant, DNP Technopack

### System Introduced to Utilize Waste Heat from Deodorizing Equipment

Hideo Kaniyama, Technical Engineering Division, Chikugo Plant, Packaging Operations

DNP Technopack's Chikugo Plant prints on and processes both flexible packaging and containers made of ordinary paper. At the flexible packaging plant, a deodorizer was installed to eliminate volatile organic compounds (VOCs), and the

excess heat energy generated in the combustion process was used to power steam boilers. However, exhaust steam at a relatively low temperature of 100°C was being released into the atmosphere.

From that point forward, we introduced a system to recycle waste heat for use in drying-heat generated by the dry laminator, which draws a lot of power in the process of manufacturing flexible materials. The system was developed jointly by DNP's Integrated Manufacturing Technology Laboratory and DNK Co., Ltd. Air is pumped into the dryer unit and heated, reducing the amount of power normally required to raise the temperature. The system is predicted to cut 30% off energy used by the dryer unit.

We plan to take further initiatives in saving energy and achieve our targets to help prevent global warming.



Waste heat recycling system

# Anti-Global Warming Measures in Transport and at Our Offices

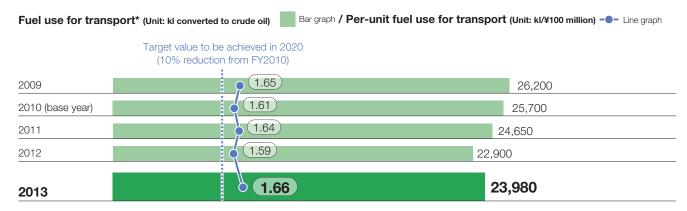
### • Efforts in Transport

In FY2013, the group's overall transport volume (at domestic manufacturing sites) was 356 million ton-kilometers. 23,980 kiloliters of energy (converted to crude oil) was used in shipping, producing 61,200 tons of CO<sub>2</sub> emissions. The per-unit fuel use for transport (amount of fuel used/sales) was 1.66 kl/¥100 million, an increase of 3.1% from 2010.

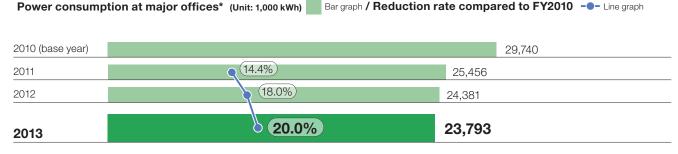
We will continue to implement distribution-related environmental impact reduction measures such as the optimization of vehicle distribution and transport routes, improved efficiency through the installation of digital tachometers, an idling-stop campaign, a modal shift to rail transport, and the introduction of hybrid vehicles.

### Global Warming Measures for Offices and Homes

The DNP Group has been engaged in efforts to reduce CO2 emissions both for offices and homes since 2005. In FY2013, we worked toward our target of a 20% reduction in power consumed at our offices throughout Japan relative to FY2010. Specific actions that we implemented and will continue implementing, beyond regular energy-saving measures, include completely revising the number of lighting fixtures and level of illumination needed, extending the "cool biz" dress code period, reviewing how air conditioning is run, and expanding the use of LED lighting.



\*Amount used for domestic cargo transport



<sup>\*40</sup> major offices in Japan

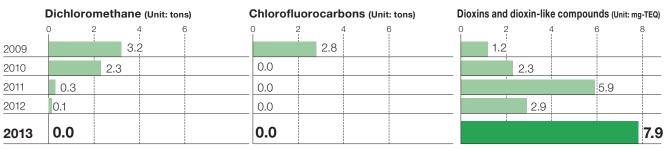
# Reducing Air Pollutants

The Air Pollution Control Act regulates substances such as toxic air pollutants and ozone depleting substances, including sulfur oxide (SOx) and nitrogen oxide (NOx), as well as volatile organic compounds (VOCs). These substances have an impact on health and the global environment, causing problems such as photochemical smog and ozone layer depletion. We at the DNP Group are working hard to monitor and reduce emissions of such substances.

### Reducing VOC Emissions

Inks, solvents, adhesives, and cleaning solutions used in the printing process contain toluene and other VOCs (volatile organic compounds). The DNP Group's anti-VOC measures not only seek to regulate concentrations as required under the Air Pollution Control Act, but also to reduce emissions overall. We have been switching to substitute products with a lower environmental impact and installing equipment for VOC treatment and collection. These efforts have resulted in FY2013 in a 27.9% reduction in VOC emissions to 4.849 tons, in comparison with 2010 (base year).

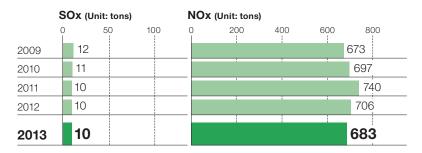
### Air pollutant emissions



Dichloromethane is mainly used for washing in the printing process. Due to the switch to water-based cleaners, our atmospheric emissions have fallen from 53 tons in FY2001 to zero tons in FY2013.

The ozone-depleting chemical HCFC-141b (1.1-dichloro-1-fluoroethane) is used as a cleaner, but our switch to substitutes in FY2010 caused emissions to drop to nearly zero.

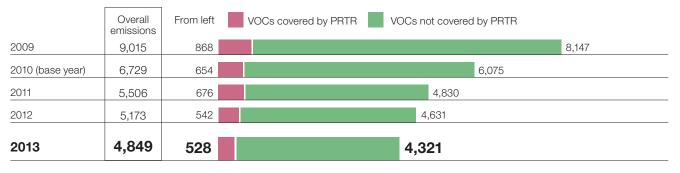
We totally eliminated small furnaces, for which burning control is difficult, and currently have five large-scale furnaces in operation, which are compliant with 2002 regulations. Atmospheric emissions in FY2013 amounted to 7.9 mg-TEQ.



Sulfur oxide is emitted through burning high-sulfur fuel oil and kerosene. We have continued to shut down boilers, and are reducing sulfuric acid emissions.

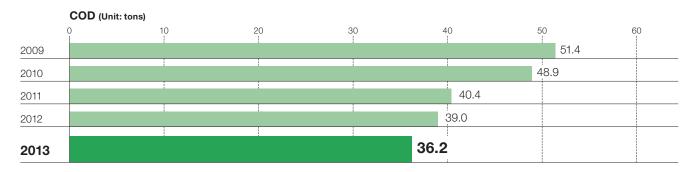
Nitrogen oxide is emitted when fuel is burned in production processes or when electric power is consumed. We have been working to reduce nitrogen oxide emissions by installing low NOx burners. NOx emissions in FY2013 amounted to 683

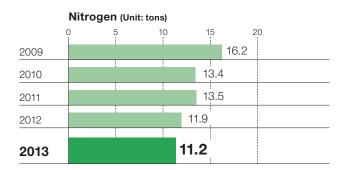
### Atmospheric emissions of VOCs (Unit: tons)

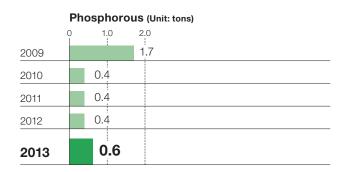


We detoxify and reduce the pollution load of the wastewater from our industrial processes and dining halls by using purification tanks and wastewater treatment equipment. We continued to conduct measures in FY2013, such as changing out the filtration membranes and absorbent materials in wastewater processing equipment, improving wastewater treatment in our kitchens, and reducing COD (chemical oxygen demand) and nitrogen emissions, but there was an increase in emissions of phosphorus.

### Water pollutant emissions







# Chemical Substances Subject to the PRTR Law

Annual amounts of chemical substances handled at each plant above the defined reporting levels set by the PRTR Law are listed here (amounts listed to 3 significant figures, or to the nearest 0.1 kg for figures under 10 kg).

(Unit: kg/mg, dioxin and dioxin-like compounds only-TEQ)

Substance	11	0	Removed/	Recycled	Emissions Volume		Transfer Volume		
Substance	Handled	Consumed	Consumed		Atmosphere	Public Waterways	Soil	Sewer	Off-site
Acetonitrile	2,890	-	621	_	165		-	-	2,100
2-aminoethanol	39,400	-	_	_	_	-	_	28,300	11,100
Indium and its compounds	23,600	6,000	_	16,900	_	-	_	-	714
Ethylbenzene	178,000	1,450	122,000	50,700	2,610	-	_	-	1,050
Ferric chloride	2,180,000	386,000	710,000	1,000,000	-	-	_	-	79,700
Epsilon-caprolactam	6,990	3,560	2,280	_	133	-	_	-	1,030
Xylene	163,000	1,690	112,000	46,000	2,070	-	_	-	1,480
Silver and its water soluble compounds	4,420	3,980	_	442	-	-	_	0.2	_
Chromium and chromium(III) compounds	51,800	20,900	6.1	11,300	-	-	_	2.1	19,600
Hexavalent chromium compounds	15,700	7,050	8,430	5.7	_	-	_	-	183
Inorganic cyanide compounds (except complex salts and cyanate)	2,580	_	292	-	498	-	_	-	1,790
Dichloromethane	2,690	-	_	_	-	-	_	-	2,690
N,N-dimethylformamide	4,210	1,380	2,710	_	70.9	-	_	-	53.6
Dioxins and dioxin-like compounds	-	-	-	_	7.9	-	_	-	209
Water soluble copper salts (except complex salts)	283,000	46,300	25,600	210,000	-	-	_	1.2	1,310
Sodium dodecyl sulfate	1,660	1,560	_	_	-	-	_	-	97.0
Triethylamine	1,460	-	19.0	_	1.3	-	_	-	1,440
1,2,4-trimethylbenzene	18,500	-	6,930	11,200	349	-	_	-	_
1,3,5-trimethylbenzene	8,040	_	4,930	2,810	110	-	_	-	183
Toluene	10,900,000	1,370,000	6,240,000	2,110,000	519,000	-	_	-	656,000
Naphthalene	10,700	_	10,500	2.0	53.0	-	-	-	130
Nickel	44,500	31,300	1,960	11,300	_	-	-	-	_
Nickel compounds	14,900	1,600	_	1,480	-	-	-	-	11,900
Bis(2-ethylhexyl)phthalate	5,170	3,140	1,200	_	71.0	-	-	-	755
N-hexane	10,300	_	3,330	785	295	-	-	-	5,840
1,2,4-benzenetricarboxylic acid 1,2-anhydride	4,440	3,900	-	_	_	-	_	-	533
Poly(oxyethylene) alkyl ether *	1,700	1,660	-	_	-	-	_	-	35.3
Formaldehyde	2,230	_	_	_	2,230	-	_	-	_
Manganese and its compounds	3,620	2,000	-	436	-	-	_	47.0	1,130
Methacrylic acid	13,100	7,660	4,810	_	536	-	-	-	115
Methacrylic acid 2,3-epoxypropyl	3,760	3,690	5.7	_	2.5	-	_	-	66.1
Methylenebis(4,1-phenylene) diisocyanate	2,750	2,750		_	-	-	_	-	
Morpholine	1,920	-	1,590	_	47.0	-	_	-	280
Tritolyl phosphate	3,380	3,210	-	169	_	-	-	-	_
PRTR-listed substances	14,000,000	1,910,000	7,250,000	3,480,000	528,000	-	_	28,300	802,000

<sup>\*</sup> Limited to alkyls of carbon 12 through 15 or their compounds

# Reducing Waste Products in Manufacturing Processes

To help build recycling into society we are engaged in efforts to improve resource productivity and increase the recycling of undesired material. These efforts are premised on the waste-free use of raw materials that go into manufacturing processes. Undesired material is recycled as much as possible to utilize limited resources efficiently.

Due to the integration of the packaging division that took place in FY2012, emissions decreased in other divisions in 2013 while they increased in the Lifestyle and Industrial Supplies division.

### Odawara Plant, Sagami Yoki Co., Ltd.

Kazumi Nakamura, General Affairs Dept.

Sagami Yoki manufactures the laminated tubes used in people's daily lives for toothpaste, food containers, and other items.

The employees of Sagami Yoki are working together to help preserve and pass on the beautiful green area of Odawara to coming generations. Based on compliance with environmental laws and regulations we engage in activities that help to protect biodiversity and reduce environmental impact.

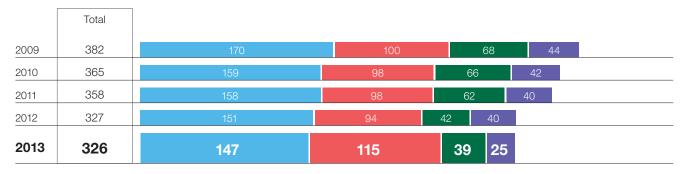
We began taking action in earnest to reduce waste in FY2010. We focused particularly on separating the waste that came out of the manufacturing process in order to reutilize substances of value. Both full-time and part-time employees received instruction on how to separate waste. Daily management of the waste holding area was bolstered, and we also shared information with other plants. These activities have been ongoing, and in FY2013 our emissions per-unit value was 44% less than the previous year, representing a 70% reduction from the FY2010 level.

Looking ahead, we aim to build on these activities and strengthen cooperation to keep total waste down, promote recycling, and continue to maintain a record of zero emissions established in FY2010.

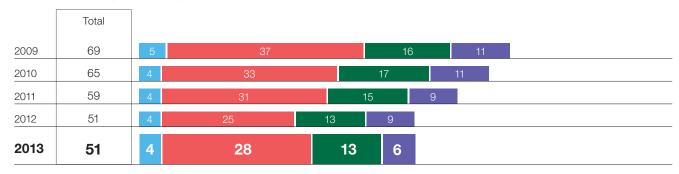




#### Undesired material generation (Unit: 1,000 tons)



#### Waste emissions (Unit: 1,000 tons)



# **Building a Recycling Society**

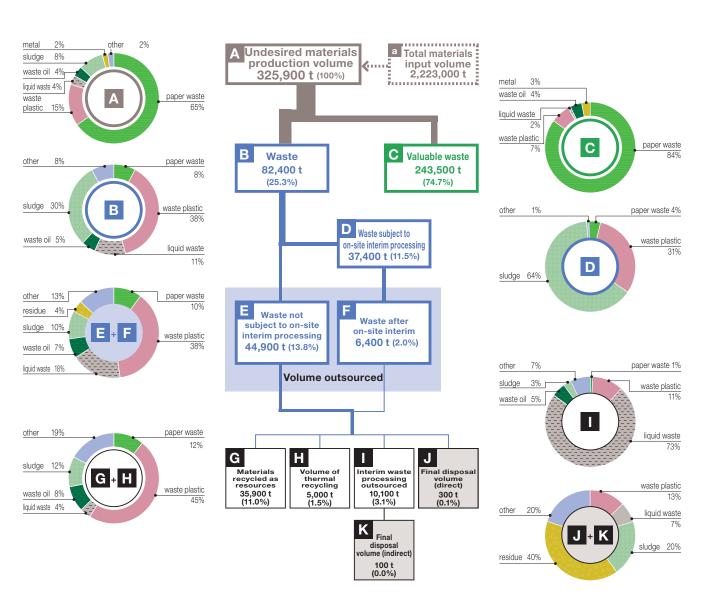
# Breakdown of Generated Waste Volume

We use waste per unit of production (waste emissions (F + F)/production volume) as a productivity indicator. In FY2013 waste per unit of production was 0.416 t/¥10 million, which is an improvement over 0.468 t/¥10 million in FY2010. This reduction was achieved in part thanks to productivity gains made by implementing the Production 21 Activities, which set out to create a resilient production system in terms of quality, cost, delivery, and other factors. It was also the result of a reduction in waste volume through the extraction of valuable materials such as waste plastic and waste oil.

We use "zero emissions" as the indicator for the promotion of recycling undesired materials. Zero emissions represents an effort to reduce the landfill waste amount ( + K)/undesired materials production volume A to 0.5% or less; the rate for the group overall in FY2013 was 0.14%, an improvement from 0.54% in the previous year. At present, 68 of our 70 domestic manufacturing sites have achieved zero emissions.

#### Q Production 21 Activities

We are working together as a group to strengthen our production capabilities and improve responsiveness to marketplace changes in order to realize the DNP Group Vision for the 21st Century. We are creating a manufacturing structure capable of constant improvement with sustainable strength to improve profitability and asset efficiencies in manufacturing.



# Use of Recycled Resources

### Office Paper Recycling

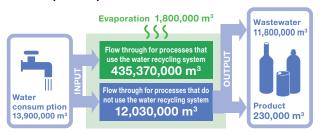
The business of the DNP Group is closely connected to paper, and we have been separating and collecting paper at our offices for some time. In FY2013, waste paper was collected at 58 of 178 eligible offices. primarily large-scale offices, for a recycling rate of 78.1%, exceeding our target of 70%.

### • Use of Recycled Water

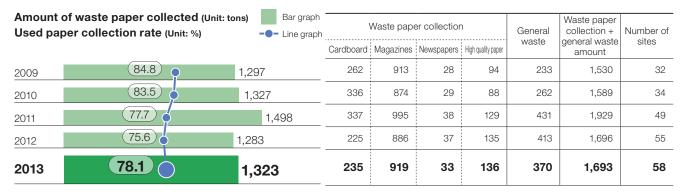
We are working hard to conserve water resources by promoting a closed-loop system in which water is recycled and reused instead of released. In this way we have been able to cut down on the high volume of water required for cleaning our products, air conditioning, and heating and cooling production machinery. We used 435.4 million cubic meters of recycled water in FY2013, about 32.2 times the amount of pipe water we used.

We are also making effective use of rainwater in our office buildings and other sites. In FY2013 we used 9,500 cubic meters of rainwater for toilet flushing and the watering of grounds.

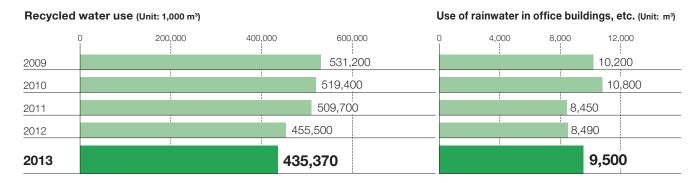
#### **Water Input-Output**



Note: Hokkaido Coca-Cola Bottling and DNP Fine Chemicals use water in products.



Waste paper collection: Waste paper collection/{waste paper collection + general waste amount (excluding cans, bottles, and garbage)} × 100



Recycled water: The total volume of water that flows through the heat exchange or cleaning equipment in our closed-cycle system in one year.

# Environmentally Conscious Materials Procurement and Products

### Promoting Green Purchasing

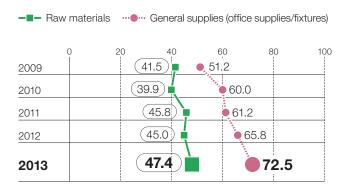
We carry out "green purchasing" to reduce the environmental impact of DNP's product manufacturing processes. Green purchasing involves selecting and buying the most environmentally conscious materials, parts, equipment, office supplies, and other items-from the upstream production processes forward. We also give priority in materials and equipment purchasing to suppliers that take an aggressive approach to environmental conservation.

### Management of Chemical Substances in **Products and Materials**

The RoHS Directive and REACH Regulations adopted by the EU are examples of tougher regulations on chemical substances in products that call upon companies to properly ascertain and control the substances contained in raw materials and products throughout the entire supply chain.

To meet these strict regulations, DNP significantly revised in-house guidelines previously known as the DNP Group Management Criteria for Chemicals, creating the new DNP Green Purchasing Standards regarding Chemical Substances, which went into effect in April. The key revisions made were to use the common formats of MSDSplus and AIS developed by JAMP for transmitting chemical information. DNP put into operation this management system in accordance with the Management of Chemical Substances in Products-Principles and Guidelines issued by JIS, along with the Guidelines for the Management of Chemical Substances in Products from JAMP.

We will continue to work in conjunction with clients and suppliers to strengthen management of chemicals in products.



Note: Aggregate calculation of data for 45 sites under the direction of the DNP Purchasing Division.

#### Q. RoHS Directive

Directive on the restriction of the use of certain hazardous substances in computers, communications equipment, home electronics, and other electrical and electronic equipment.

#### Q REACH Regulations

Regulations for managing chemical substances and their use designed to protect people's health and the environment.

#### Q JAMP (Joint Article Management Promotion-consortium)

This organization promotes cross-industry action aimed at creating and spreading the use of a framework for properly managing information on chemicals contained in products and for easily disclosing and transmitting that information through supply chains.

# Environmentally Conscious Products and Services



At DNP we have created the Environmentally Conscious Products and Services Development Guidelines to direct from the design stage the creation of environmentally conscious products, so as to reduce the environmental impact of our products throughout their lifecycle.

In 2013 we applied an in-house point rating system to products and services, according to which products might earn designations as "Super Eco-Products" or "Eco-Products."

We aim to increase sales of environmentally conscious products and services and expand the number of Super Eco-Products we offer, as well as further reducing the environmental impact of our products and services in the future.

# **Super Eco-Product Case Study** A World First! Plant-Derived Vapor-Deposited Innovative **Transparent Barrier Film Developed!**

DNP is actively developing a wide range of packaging materials that are eco-friendly, sustainable, and considerate of biodiversity.

Our Biomatech® PET Film uses less petroleum, which is a diminishing resource, and incorporates renewable plant-based materials. We recently upgraded this product to create a new product, Biomatech® IB-PET Film, which is the world's first product to use transparent vapor deposition technology to enhance its barrier properties.

This material is currently being used in the UD Ecopouch (Biomass Spec), a standing pouch container for products from J-Oil Mills, Inc., an Ajinomoto Group company.



# Development and Sales of Environmentally **Conscious Products and Services**

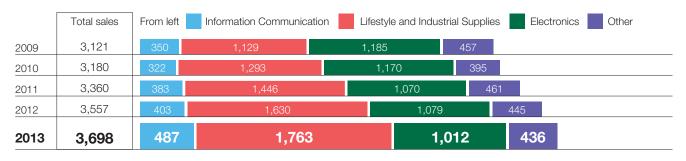
Sales of environmentally conscious products and services reached 369.8 billion yen in FY2013 and are moving in a positive direction to meet FY2015 targets.

Ten products have so far been designated as Super Eco-Products as of March 2014. DNP intends to continue developing more of such environmentally conscious products and services.

#### Q Lifecycle

This covers every aspect of the lifetime of a product or service, from the point where the material resources that go into its manufacture are extracted from the Earth through production, distribution, use, and finally to when any waste is returned to the Earth.

### Sales of environmentally conscious products and services (Unit: billion yen)



# Guidelines for Developing Environmentally Conscious Products and Services with Example Products

# Reduction of environmental pollutants

Elimination of ozone laver-damaging substances, heavy metals, volatile organic compounds, and prevention of release into the environment of nitrous oxides and other substances.

### Example product BM Color Filters



These are color filters using a black matrix (BM) made of resin instead of metal. Development of this product has resulted in reduced environmental impact and cost.

# Recyclability

Are the materials used in the product easy to recycle? Does the design allow for easy breakdown, disassembly, and separation of materials? Is there a collection and recycling system that is easy for the purchaser to use?

### Example product • Environmentally Conscious Calendars



These calendars are made with recycled paper and low environmental impact ink. No metal or plastic need be removed post-use, because neither is used in their production.

### Resource and energy conservation, reduction of GHG emissions

Reduce the use of metals and fossil fuels. Promote energy-conserving products and systems.

#### Example product • Elbow Pouch



Our Elbow Pouch is a refill-use pouch with improved opening and pouring features. It is useful in saving bottle resources, and post-refilling volume is reduced.

# Use of recycled materials, etc.

Use as many collected and recycled materials and parts as possible.

### Example product Magazines and **Pamphlets Using Recycled Paper**



These are printed materials that use composites of used paper, such as used magazines and newspapers. Not only do they require fewer paper resources, but the use

of low environmental impact sov ink and non-VOC ink is increasing.

# Sustainable use of resources

Utilize natural resources in a sustainable wav.

### **Example product**

### Biomatech PET and PE



These film products are made partially from plant-based materials. production and use will help reduce emissions of CO2, a greenhouse gas, and the use of petroleum, a depleting natural resource.

# 8 Ease of treatment and disposal

Attempt to place as little burden as possible on incinerator facilities and landfill sites.

# **Example product**

#### ● IB (Innovative Barrier) Film



This is a packaging-use clear cling film which cuts dioxin use because it is non-PVC. It is widely used in the packaging of food, toiletries, or daily items requiring a barrier.

# Long-term usability

Consider the ease of repair and parts replacement, length of maintenance and repair service, and the expandability of functions.

#### Example product • Safmalle



Safmalle is our line of olefin-based decorative sheets for construction or decorative use, which meet the need for healthy, hygienic, and safe living space creation.

### Making environmental burden visible and taking into consideration biodiversity

Making visible any burden that should be reduced, and aiming to protect biodiversity.

#### Example product Beaubel Cup Air



The lightest injection-molded cup in the industry. The Carbon Footprint (CFP) Mark was acquired for the cup as an intermediate product. The lightened weight directly conveys the reduced use of resin.

### Reusability

In the case of sites and parts. considerations regarding disassembly, cleaning, and refilling; establishment of a collection and reuse system that is easy for the purchaser to use.

### **Example product Peel-off Shipping Labels**



These are shipping labels that are easily peeled off of packing paper or cardboard. The labels are one-ply, saving paper, and they make the recycling of cardboard and other packaging easy because they peel off cleanly.

### Supporting and promoting environment education and awareness

Helping to create a sustainable society.

### Example product Smartphone App "Setsudenkei" (Electric Meter)



This smartphone app helps you to check the use of electricity in your home to raise awareness of saving electricity.

# Use of LCA and Efforts to Reduce Our Carbon Footprint

# Assessment and Development of Products Using LCA

The DNP Group has introduced Lifecycle Assessment (LCA) for evaluating the environmental impact of each product over its entire lifecycle with the objective of making improvements; LCA methodology has also been incorporated into new product and service development.

Recently, we have been conducting efforts toward the mitigation of global warming and reduction of water use based on detailed data on environmental impact obtained through LCA methods.

### Carbon Footprint

DNP began participating in the Japanese government's "carbon footprint of product" (CFP) pilot project in FY2008. We established product category rules (PCRs) for publications and commercially printed matter as well as containers and packaging, for example, and reviewed verification schemes. We continue to display the CFP mark primarily on printed matter for advertising and publicity released by DNP.

### Creation of International Carbon Footprint Standards for Printed Matter

The International Organization for Standardization (ISO)/TC130 began discussing international CFP standards for printed matter in 2009 and issued an international standard in July 2013. The standardization was originally proposed by Great Britain. DNP began participating in the discussions as vice-chair, encouraging the organization to incorporate Japan's CFP calculation rules, already an advanced system. These standards specify the basic rules for calculating CFP for printed matter, allowing the global communication of calculation results using Japan's existing rules.

### Efforts to Draft PCRs for Electronic Media

DNP also actively participated in efforts to draft Product Category Rules (PCRs), which are rules for calculating CFP. DNP joined a working group for drawing up rules for electronic media, which were then adopted as PCRs as of June 4, 2013.

### Water Footprint Initiative

ISO 14046 is the new standard for <u>water footprinting</u>. The international standard is scheduled to be published as early as February 2015 and is highly anticipated in the area of environmental assessments. Calculations will require the collection of data that takes regionality into consideration, and also require the assessment of environmental impact on water quality in addition to volume of water used.

To clarify calculation methods proposed by the ISO 14046 standard and its calculation objectives, Japan's Ministry of the Environment launched a study group on calculating water footprints, at which academic experts and corporate representatives could exchange ideas. DNP participated in the study group as a corporate representative, submitting opinions and examining cases. A collection of calculation examples expected to be issued during FY2014 will cover water footprint concepts, various calculation methods, and a list of examples of calculations from various companies.

DNP also continues to participate in the Water Footprint Jissenjuku, an implementation study group headed by Dr. Norihiro Itsubo of Tokyo City University. By gaining knowledge about water footprinting and gaining experience with calculation examples, it will be possible to improve calculation accuracy.

## Environmental Efficiency in Containers and Packaging

It is important for containers and packaging to not only have low environmental impact but be easy to use, as they are handled frequently by consumers. For such reasons, in FY2011 DNP began to develop environmental efficiency rating methods based on environmental indices, with the factor of functionality/ease of use added in. Further research was conducted through FY2013.

In order to develop these methods into standards for the industry, beginning in FY2014 DNP and two other major container manufacturers launched a study group within the Life Cycle Assessment Society of Japan and began activities. The group aims to establish indices and put them into action during FY2016.

#### Q Carbon Footprint

A carbon footprint represents the total emissions of greenhouse gases of a product or service over its entire lifecycle converted to CO<sub>2</sub> by volume. Product labeling is a method by which a business can visually demonstrate to consumers the measures it is taking to fight global warming, who can then make product or service choices which take CO<sub>2</sub> emissions volume into consideration. LCA methodology is used to calculate the carbon footprint.

#### Q Water Footprint

An index for converting the amount of water "used" through the entire lifecycle of a product, etc., into a numerical value, also applicable to the amount of water (drinking water, etc.) used in the process of producing agricultural and livestock products. The International Organization for Standardization (ISO) decided to create an international standard for water footprinting in June 2009 and has been studying how to systemize it.



Water Footprint Jissenjuku meeting

# **Environmental Label Certification**

We have earned environmental labeling certification such as CoC (Chain of Custody) certification and the Japan Environment Association's Eco Mark. We are working to expand the sale of products with this labeling, so that their packaging and advertising can serve as means to educate consumers properly about the environmental aspects of our goods and services.

### • Main Certification Acquisition Results

	Eco Mark (Type 1 Environmental Label)					
recog	environmental label is attached to products inized as having low environmental impact ighout their lifecycle, from production	Acquired for mugs made of recycled plastic Received for				
throu	igh disposal, and as being useful to onmental conservation.	"construction use album" using used paper				
	CoC Certification					
This each by w (includent certification or green wood)	(Chain of Custody) is a certificate of control throughout stage of processing and distribution, hich wood products and materials ding paper products) taken from FSC- ied forests contain a fixed percentage eater of certified material, and have no d products or materials derived from lly harvested sources mixed in.	Acquired by a total of 17 business units				

#### Q Environmental Labeling

Environmental Labeling: This is broadly divided into three types: Type 1, such as the Eco Mark (third party certification); Type 2, in which a company itself makes the declaration (self-declaration); and Type 3, in which environmental information is provided on the label, such as the EcoLeaf (environmental information labeling), with each having specifications under ISO or JIS.

Reference information: "Environmental Labeling Database" of the Central Environment Council of the Ministry of the Environment

### **CoC Certification**

Certification Type	Acquired by *1	Acquisition Date *2	Registration Organization	
	DNP Chubu	Oct. 02	SGS	
	DNP Trading	Dec. 03	SGS	
	Packaging Operations	Dec. 05	SGS	
	DNP Tohoku	Mar. 06	SGS	FSC
	Ichigaya Publication Printing Operations	Mar. 06	SGS	Forest Stewardship Council
	DNP Multi Print	Apr. 07	SGS	PEFC
FSC-CoC	DNP Hokkaido	Nov. 07	SGS	Programme for the Endorsement of Forest
	Tien Wah Press (Pte.) Ltd.	May. 08	DNV	Certification Schemes
	Information Solutions Operations	Aug. 08	SGS	<b>SGS</b> SGS Japan
	Lifestyle Materials Operations	Aug. 09	SGS	DNV
	DNP Nishi Nippon	Jun. 10	SGS	Det Norske Veritas (Norway)
	DNP Shikoku	Dec. 11	SGS	JIA
PEFC-CoC	Packaging Operations	Jan. 04	JIA	Japan Gas Appliances Association
	DNP Chubu	Sep. 05	SGS	Association
	DNP Trading	Jan. 08	SGS	
	Ichigaya Publication Printing Operations	Mar. 11	SGS	
	Lifestyle Materials Operations Nov. 11 S		SGS	

<sup>\*1</sup> Organizations and the names used for them as of March 31, 2014.

<sup>\*2</sup> Date of initial registration. However, this is the date that Information Solutions Operations (August 2003) switched to multisite certification.

At DNP we understand that we gain many benefits from ecosystems that are supported by creatures of all kinds, and we believe that working to coexist harmoniously and protect the environment is essential for the company to maintain sustainable growth. Based on this way of thinking, we work to protect biodiversity through our business activities.

In every process, including but not limited to product development, material procurement, manufacturing, sales, transport, product use, and disposal of waste, we have examined the relationship to biodiversity. We established two key themes, both of which affect our reliance on ecosystem services and seriously impact biodiversity—the improvement of material procurement practices and the creation of green spaces at our business sites.

### **Material Procurement**

 Questionnaire on Guidelines for Procurement of Paper for Printing and Converting

Paper is a key material without which DNP could not do business. In 2012 DNP therefore drafted its Guidelines for Procurement of Paper for Printing and Converting with the purpose of sustainably maintaining forestry resources. In FY2013, DNP distributed a questionnaire to all of its suppliers in order to ascertain the current state of affairs and make improvements. The questionnaire for the suppliers, who are responsible for 90% of the purchased amount of printing and converting paper, covered six categories related to such

topics as procurement policy and proof of origin.

Moving forward, DNP will work together with its suppliers to strengthen the system of management and raise the overall percentage of paper purchased from ecologically managed forestry resources.

# **DNP Group Guidelines for Procurement of Paper for Printing and Converting**

3. Guidelines for Supplier Selection

The DNP Group will give precedence to companies that fulfill the following criteria when selecting suppliers from which to procure paper.

- Companies that have a defined policy regarding procurement of wood raw materials
- Companies that have established and are implementing a management system for verifying the legal compliance of wood raw materials
- Companies that are able to provide information regarding their pulp suppliers (information for verifying criteria under Guidelines for Paper Selection)
- 4. Guidelines for Paper Selection

Product selection in the procurement of paper will be based on the following guidelines.

- 1) Give priority to forest-certified paper
- 2) Strive to select paper made from a higher ratio of wood raw materials obtained in a way that fosters sustainability of forest resources
  - Paper made of wood harvested according to sustainable forest management methods
  - Paper with a higher deinked pulp content
  - Paper made from scraps from sawn logs, low-grade wood, and/or forest thinning wood
  - Paper that contains non-wood pulp
- 3) Do not use paper made from wood raw materials that cannot be verified as legally compliant. (We verify that paper does not contain illegally harvested wood.) (Excerpted)

# For Greater Life Diversity: Creation of Green Spaces at Business Sites

# Creating Green Spaces to Broaden the **Diversity of Life in the Local Area**

The land use and site management of plants and offices affect a region's ecosystem, but they can also contribute to improving the quality and sustainable use of ecosystem services.

The DNP Group creates green spaces at business sites for the benefit of wildlife in the local area. Plant and wildlife surveys will also be conducted at business sites to improve their green spaces, to select suitable plants and trees, and to update maintenance practices. These surveys will be used in creating green spaces that promote biodiversity at our business sites.

### Sagami Yoki



The company conducted a survey of wildlife inhabiting the grounds of the plant that borders the verdant Sakawa River, and a map of plant and animal life was created. A pond was also created on the grounds to protect the breeding of the Odawara rice fish.

### Okayama Plant



DNP continues working to preserve the grasslands that are disappearing in the environs of the plant. In the wildlife survey conducted in FY2013, the owlfly was selected as the indicator species. The grasslands will be expanded in the hopes of attracting more wildlife.

### • R&D Center / Kashiwa Plant, DNP Technopack



Kashiwa Plant volunteers were joined by members of Kashiwa City Hall and Kashiwa Nature Watchers, a citizens' group, to identify and map the location of trees on the plant site. Tree thinning and pruning is conducted, and rare species will be protected and reintroduced.

#### • DNP Chubu



A vine known as Dutchman's Pipe has been planted to attract the Chinese Windmill butterfly. In FY2013 spawning and larva hatching were observed.

#### • Kawasaki Plant, DT Fine Electronics



Wildlife of the Tama River that flows nearby was surveyed and a habitat was re-created at the plant site in a large water tank. Seminars were held for employees on the topic of activities that anyone can do to protect the river environment.

# For Greater Life Diversity: Creation of Green Spaces at Business Sites

The DNP Head Office is located in Ichigaya, Tokyo, which was once covered by the great Musashino Woods. We are currently pursuing an ambitious plan—the Ichigaya Forest Plan—to recreate the Musashino Woods. We want to create a lush green environment in Ichigaya similar to the Imperial Palace and its outer moat in which wildlife can thrive and travel from one green area to others in the vicinity.

As a step toward building this environment, DNP is holding public "Ichigaya Forest" seminars to deepen communication between employees and local residents. In FY2013 three seminars were held on the theme of "green," in addition to two events, one of which was aimed at observing cicadas.

DNP "Ichigaya Forest" public seminars will continue to be held periodically with different invited quest lecturers as fun, useful, connective learning events.



#### Opening seminar in June



2nd public seminar in January



#### 1st public seminar in September



Cicada observation event in August



Mr. Akira Kameyama, Chairman of the Nature Conservation Society of Japan, was the invited lecturer at the opening seminar in June. He first presented a historical look at the Ichiqava district using ukiyo-e pictures and other visuals. Then he spoke about the effects of the Ichigaya Forest on the area. The invited lecturer for the first public seminar was Mr. Tadashi Kawashima of the Kiyosato Educational Experiment Project. He spoke of the importance of fun programs for learning about forests and enjoyable hands-on learning experiences. In the second half of the seminar, participants split into groups for a workshop on forests. The guest speaker for the second public seminar held in January was Professor Hiroshi Kamiya of Hosei University with whom DNP has been working on a public study project of the outer moat. He spoke about how water was channeled in Tokyo in the Edo period, the restoration of the outer moat, and the relationship between the outer moat and the Ichiqaya Forest, A large number of people participated in these seminars each time-local residents, employees, and others,

In August, an event to observe cicadas was held for employees working in the Ichigaya district and their families. Participants collected the empty shells of cicadas at Kitanomaru Park and Yasukuni Shrine and investigated their habitat and varieties.

# Basic Target and Calculation Items

#### **Targets**

# 1. As an environmental management tool for the DNP Group

- (1) To evaluate and confirm the effectiveness of environmental conservation activities
- (2) To determine the cost of and investment in individual conservation measures and the Group's overall environmental activities
- (3) To monitor and evaluate the effects and achievements of activities performed throughout the year to ensure continuous improvement in our environmental performance

### 2. As a tool for communicating with society

- (1) To publicly announce the cost-benefit relationship of environmental conservation efforts
- (2) To reflect the opinions of shareholders, business partners, local residents, and others in environmental conservation activities

### **Environmental Accounting Calculation Bases**

- (1) Period covered: April 1, 2013 through March 31, 2014 (Environmental facilities are those considered as of March 31, 2014)
- (2) Scope of coverage: At DNP and among its domestic group companies subject to consolidated financial accounting, 33 domestic manufacturers and one distribution company (p. 44, 45), plus non-manufacturing sites (two development centers, office buildings, sales offices, etc.). However, newly built plants are included in the capital investment.
- (3) Monetary unit: All monetary figures are expressed in millions of yen, rounded off to the nearest million.
- (4) Announcement format: We used the format designated in the Ministry of the Environment "Environmental Accounting Guideline" 2005 edition.

#### (5) Basis for calculation of environmental conservation costs

- 1) Environmental conservation costs include depreciation expenses for investments.
- 2) Personnel costs for full-time workers were calculated at the average labor cost per person, while personnel costs for workers holding two or more posts were calculated at 1/10 or 1/5 the average personnel cost per person, depending on the worker's assigned duty.
- 3) R&D costs are the total costs incurred by our four R&D centers and development departments within each operations field in the development of environmentally conscious products and manufacturing equipment.

#### (6) Basis for calculation of environmental conservation benefits

- 1) DNP uses energy consumption per unit of sales as an efficiency indicator for the volume of resources (energy and water) spent on business activities, as well as for the volume of waste materials and CO2 emissions.
- 2) Benefits apply to all volatile organic compounds (VOCs), including chemical substances subject to the PRTR Law among the atmospheric environmental pollutant emissions volume corresponding to business area costs.
- 3) The benefit related to goods produced by business activities was reduction of the volume of greenhouse gases emitted from all products shipped. Specifically, of the GHG emissions calculated according to the Scope 3 standards listed on p. 19, the categories used were: part of Category 4 (Upstream transportation & distribution), Category 9 (Downstream transportation & distribution), Category 10 (Processing of sold products), Category 11 (Use of sold products), and Category 12 (End of life treatment of sold products).
- 4) The benefit corresponding to the transportation environmental impact is converted to the energy usage reduction benefit to the shipper at the time the goods, etc., are transported.

#### (7) Basis for calculation of economic benefit of environmental conservation activities

- 1) The benefit corresponding to resource circulation costs is calculated as the benefit from savings on waste disposal costs. The amount of reduction is calculated as follows: (Benchmark period unit consumption - unit consumption for current period) × amount of business activity for current period.
- 2) Amount of business activity is based on domestic consolidated sales.
- 3) Unit consumption is calculated as: waste disposal cost / domestic consolidated sales.
- 4) The benchmark period unit consumption is the gross average value for the three-year period up to and including the previous term.

# Table (1) Environmental Conservation Costs (categories corresponding to business activities)

Catagory	Investment		Expe	ense	Dataila of major offents	
Category	FY2012	FY2013	FY2012	FY2013	Details of major efforts	which data is listed
(1) Business area costs						
1) Pollution prevention costs	1,159	156	2,661	2,305	VOC collection and disposal equipment, wastewater treatment facility	23-25
2) Global environmental conservation costs	316	270	363	353	Introduction of energy-saving ventilation equipment, conversion to inverters, waste heat recovery equipment	20
3) Resource circulation costs	71	109	1,627	1,620	Furnace improvements, separation recycling, zero emissions (conversion to RPF/ cement ingredients), resource recycling	26-27
(Total business area costs)	1,546	535	4,652	4,278		
(2) Up/downstream costs	0	0	141	131	Container and packaging recycling expense burden, recycling system development	30-32
(3) Administration costs	8	5	2,338	2,389	ISO14001 inspection and registration costs, environmental education costs, environmental report composition costs	8-14, 33, 46
(4) R&D costs	0	0	2,674	2,435	Research and development into environmentally conscious products and production methods	29-32
(5) Social activities costs	0	0	19	16	Environmental conservation of areas outside plant compounds, biodiversity conservation, support for activities of environmental conservation groups	34-36
(6) Environmental remediation	0	0	14	0	Soil improvement	9-12
Total	1,554	540	9,838	9,249		

### Environmental conservation costs to total costs ratio

Category	Consolidated total costs	Costs	Ratio	Details of major environmental conservation costs	Page(s) on which data is listed
Investment of current period	63,400	540	0.85%	Introduction of energy-saving ventilation equipment, conversion to inverters, etc.	20
R&D cost of current period	30,820	2,435	7.90%	Development of photovoltaic and fuel cell parts, development of products free of toxic substances, process loss reduction, etc.	29-32

# FY2013 Assessments of Performance Data of Environmental Accounting

#### **Environmental Conservation Costs and Environmental Conservation Measures**

- (1) The amount of capital invested in equipment to conserve the environment was reduced from the previous fiscal year when VOC treatment facilities and factory expansions were carried out domestically.
- (2) Business area costs were reduced from the previous fiscal year due to reduced outlays from lower expenditures on waste treatment and factory streamlining.

# Table (2) Environmental Conservation Benefits (1)

# (1) Environmental conservation benefit related to resources input into business activities

ategory of environmental	Category of indicator	Ir	ndicator values		Remarks	Page(s) on which data	
conservation benefit	showing benefit	FY2012 <b>FY2013</b> Difference		Difference	Remarks	is listed	
Benefit arising from su	ipplied resources	·					
Tatal anavarrianut	Energy consumption (TJ)	21,275	20,540	-735		20-22	
Total energy input volume	Unit consumption per domestic sales for the above (TJ/100 million yen)	1.70	1.67	-0.03	Energy consumed per 100 million yen of domestic sales	20-22	
	Water usage (1,000 m³)	15,300	13,900	-1,400		28	
Input volume of water	Unit consumption per domestic sales for the above (1,000 m³/100 million yen)	1.22	1.13	-0.09	Water usage per 100 million yen of domestic sales	28	
Input volume of main	Supplied amount (1,000 tons)	2,166	2,223	57		27	
raw materials	Amount of undesired materials generated/ supplied (%)	15.1	14.7	-0.4	Ratio of unwanted materials to main raw materials	27	
Environmental conser	vation benefit related to waste or env	vironmental imp	act originating f	from busines	es activities		
	SOx emissions (tons)	10	10	0		17, 23	
Emissions to the air	NOx emissions (tons)	706	683	-23		17, 23	
	Environmental pollutant emissions volume (tons)	5,173	4,849	-324	VOC emissions volume	23	
	COD discharge (tons)	39.0	36.2	-2.8		17, 24	
Water quality	Emissions of environmental pollutants (PRTR-listed substances) (tons)	0.0	0.0	0.0	There have been no emissions into public waters since FY2010	25	
	Generated undesired materials (1,000 tons)	327	326	-1	Including undesired materials other than main raw materials	26-27	
	Discharged waste (1,000 tons)	50.9	51.3	0.4		26-27	
Waste emission	Unit consumption per domestic sales for the above (tons/10 million yen)	0.407	0.416	0.009	Discharged waste per 10 million yen of domestic sales	26-27	
volume	Recycle rate (%)	99.3	99.6	0.3	By category: paper (100%), waste plastics (98.0%), and metals (98.7%)	26-27	
	Emissions of environmental pollutants (PRTR-listed substances) (tons)	817	802	-15	Total for 28 substances reported	25	
Volume of greenhouse gas emission	Emissions of greenhouse gases (1,000 t-CO <sup>2</sup> )	999	965	-34		20-21	
	Unit consumption per domestic sales for the above (tons/100 million yen)	80	78	-2	Emissions per 100 million yen of domestic sales	20-21	

# Table (2) Environmental Conservation Benefits (2) (3)

# (2) Environmental conservation benefit related to goods and services produced by business activities

Category of environmental	Category of indicator	Indicator values			Damanika	Page(s) on		
conservation benefit	showing benefit	FY2012	FY2013	Difference	Remarks	which data is listed		
1) Benefit related to goo	) Benefit related to goods produced by business activities							
	CO <sub>2</sub> emissions (1,000 t-CO <sub>2</sub> )	1,500	1,510	10		19, 30-32		
CO <sub>2</sub> emissions after product shipment	CO <sub>2</sub> emissions / domestic sales (1,000 t-CO <sub>2</sub> /100 million yen)	0.120	0.123	0.003	CO <sub>2</sub> emissions per 100 million yen of domestic sales	19, 30-32		

# (3) Other environmental conservation benefit

Category	Category of indicator showing benefit	FY2012	FY2013	Difference	Remarks	Page(s) on which data is listed
1) Benefit related to the environmental impact of transportation						
Energy usage amount du	Energy usage amount during shipment of goods (kl)		23,980	1,080		22
Energy usage amount during transport / gross sales (kl/100 million yen)		1.59	1.66	0.07	Energy usage amount per 100 million yen of consolidated sales	22

# Table (3) Economic Benefits of Environmental Conservation Activities

	Economic benefits of environmental		Amount		Remarks	Page(s) on which data	
	conservation activities	FY2012	FY2012 FY2013 Difference		nemarks	is listed	
(1)	(1) Increased sales 1) Economic benefit of R&D costs						
	Sales of environmentally conscious products	355,700	369,800	14,100	4.0% year-on-year increase in sales of environmentally conscious products	30-32	
(2)	Increased income 2) Benefit of resource recycling of	costs					
	Income from recycling undesired materials	2,754	2,720	-34	Shift away from and reduction of valuable materials such as waste plastics, etc.	26-27	
(3) Cost saving 3) Benefit of resource recycling costs							
	Saving disposal costs by resource conservation	100	23	-77	Reduction due to worse unit consumption owing to slumping domestic sales	26-27	

### FY2013 Assessments of Performance Data of Environmental Accounting

#### **Environmental Conservation Benefits**

- (1) Energy consumption, water usage, and greenhouse gas emissions were again reduced from the previous year thanks to energy-saving and water-saving efforts and the effects of factory streamlining. This resulted in an improvement in unit consumption.
- (2) Emissions of VOCs into the air were reduced from the previous year as a result of efforts to introduce more VOC collection and removal equipment. Waste emissions increased from the previous year due to a period of shift away from valuable materials, and unit consumption worsened.
- (3) Regarding the benefits related to goods produced by business activities, CO<sub>2</sub> emissions after product shipment increased due to greater shipping distances, and unit consumption worsened.
- (4) Regarding distribution, efforts were made to streamline the allocation of vehicles and transport routes, but energy usage increased due to greater shipping distances and energy usage amount/gross sales also worsened.

#### **Economic Benefits of Environmental Conservation Activities**

- (1) Sales of environmentally conscious products are moving steadily toward the FY2015 sales target of 400 billion yen.
- (2) Business income from recycling undesired materials was reduced from the previous year due to a period of shift away from valuable materials.
- (3) The economic benefits calculated according to the basis outlined in (7) of the "Environmental Accounting Calculation Bases" on p. 37 were reduced, and unit consumption for the fiscal year worsened even though efforts were made to reduce waste emissions.

### **Ongoing Efforts**

- (1) Make further improvements in eco-efficiency through Production 21 Activities.
- (2) Systematically promote replacement with energy-saving equipment to reduce greenhouse gas emissions.

# Environmental Impact Status at Overseas Sites

We implemented the Eco-Report System (see p. 9) at our overseas sites as well beginning in 2005.

We promote compliance with all local laws and regulations at our overseas manufacturing sites, as well as environmental conservation measures for energy conservation, waste reduction, and recycling. We also promote activities in fields such as energy conservation, reduced use of copier paper, and recycling at our overseas offices.

Eco-Audits were performed in FY2013 at the following two manufacturing sites.

DNP IMS America Corporation (Concord)

DNP IMS America Corporation (Pittsburgh)



DNP IMS America Corporation (Pittsburgh)



Site	Work content	CO2 emissions*1 (Unit: CO2 tons)	Final amount of waste disposal (Unit: tons)	VOC emissions (Unit: tons)	Water use (Unit: m³)
DNP Photomask Europe S.p.A. (Agrate Brianza)	Manufacturing of photomasks	6,780	1	less than 1 ton	40,122
2 DNP Denmark A/S (Karlslunde)	Manufacturing of projection television screens	650	0	less than 1 ton	1,599
2 ODNP IMS Netherlands B.V. (Amsterdam)	Manufacturing of information media supplies	420	11	less than 1 ton	199
4 DNP IMS America Corporation (Concord)	Manufacturing of information media supplies	9,610	595*3	18	3,414
5 DNP IMS America Corporation (Pittsburgh)	Manufacturing of information media supplies	13,290	700*³	11	13,635
<sup>1</sup> 2 6 DNP Electronics America, LLC (Chula Vista)	Manufacturing of projection television screens	490	3	less than 1 ton	420
7 Tien Wah Press (Pte.) Ltd. (Singapore)	Offset printing and binding	6,980	26	36	43,645
Tien Wah Press (Pte.) Ltd. (Johor Bahru)	Offset printing and binding	7,200	35	29	134,077
① DNP Indonesia (Pulo Gadung)	Gravure printing and offset printing	18,190	956	4,162	94,944
DNP Indonesia (Karawang)	Gravure printing and offset printing	33,970	580	8,353	154,327
DNP Photomask Technology Taiwan (Hsinchu)	Manufacturing of photomasks	3,950	13	less than 1 ton	66,011

<sup>\*1</sup> CO2 emissions volume is calculated using coefficients from the GHG Protocol and the US Department of Energy.

<sup>\*2</sup> Period for collecting data was changed in the previous year.

<sup>\*3</sup> This value has been revised as the original value published in June included processed solvent quantity.

# Results of Efforts

BF Operations acquire ISO14001 certification

Eco-Report System implemented at overseas sites

FY1972	Establishes the Environment Department within the head office to promote pollution prevention measures and communication with local residents	FY2005	"8th Environmental Report Prize / Sustainability Report Prize" awarded for excellence DNP Data Techno Kansai; Johor Bahru Plant, Tien Wah Press; Otone Plant, Display Products Operations;
FY1990	Makes new efforts to deal with global environmental issues by establishing the Eco-Plan Promotion Office		and DNP Techno Polymer (Kashiwa and Kansai Plants) acquire ISO14001 certification
	within the Environment Division		Ichigaya Publication Printing Operations; DNP Tohoku; and Yokohama Plant, Packaging Operations acquire
FY1992	Establishes the DNP Group Corporate Pledge and Code of Conduct for DNP Group Employees		FSC-CoC certification, DNP Tokai acquires PEFC-CoC certification
	Establishes the Eco-Plan Promotion Targets, the elaborated voluntary plan based on the Environmental	FY2006	DNP Photomask Europe; Akabane Office, DNP Logistics; DNP Techno Film (Kashiwa Plant and Izumizaki
	Declaration of the Code of Conduct, and starts activities by 4 sub-committees		Plant); and DNP IMS Odawara acquire ISO14001 certification
FY1993	Starts the Eco-Report System, which is part of the DNP Group's environmental management system	FY2007	"PRTR 2007 Awards" PRTR Honorable Mention (Tsuruse Plant)
	Remodels and expands the Environment Department into the Environment & Product Liability Department		DNP Gotanda Building wins the "Green Grand Prize" in the Shinagawa-ku "Green Award System"
	to strengthen our efforts toward environmental issues, including taking responsibility for the disposal of		DNP Technopack Yokohama (Yokohama Plant) and DNP Fine Chemicals acquire ISO14001 certification
	products we produce		DNP Hokkaido and DNP Data Techno Kansai acquire FSC-CoC certification, DNP Hokkaido and DNP
FY1995	DNP wins the International Trade and Industry Minister's Prize in the "4th Grand Prize for the Global		Trading acquire PEFC-CoC certification
1 1 1000	Environment Award," which commends companies and groups that contribute to the conservation of the	EV2000	Izumizaki Plant, DNP Technopack; Kasaoka Plant, DNP Fine Chemicals; Okayama Plant, Opto-Materials
	global environment (The award was established in 1991 by the Japan Industrial Journal and the Fuji Sankei	F12000	Operations acquire ISO14001 certification
	Communications Group, with special support by WWF Japan and sponsorship by the Ministry of the		IPS Operations and DNP Media Create Kansai acquire PEFC-CoC certification
	Environment, the Ministry of the Economy, Trade and Industry, and the Japan Federation of Economic	EV0000	Mihara Plant, Opto-Materials Operations; DNP Indonesia (Pulo Gadung / Karawang); Kyoto Plant, Electronic
	Organizations)	F 12009	
FY1996	Begins performing Eco-Audits, the internal environmental audit performed by the Eco-Plan Promotion		Devices Operations; and Shiga Plant, Information Media Supplies Operations acquire ISO14001 certification
	Office to upgrade the Eco-Report System		Kanto Bureau of Economy, Trade and Industry "Energy Management In Business Superiority Award"
FY1997	Okayama Plant, Information Media Supplies Operations becomes the first in the printing industry to acquire		(received by Akabane Plant, Commercial Printing Operations)
	ISO14001 certification		Lifestyle Materials Operations acquires FSC-CoC certification
FY1998	Mihara Plant, Display Components Operations acquires ISO14001 certification	FY2010	DNP IMS Odawara receives the Kanagawa Prefecture Environmental Conservation (Air, Water, Soil) Award
	Publishes the DNP Group Environmental Activity Report		Revision of DNP Group Environmental Targets
EV2000	The Eco-Plan Promotion Office is dismantled and replaced with the DNP Environmental Committee to		The DNP Emergent Evolution Forest Hakone Training Center 2 acquires Green Key certification
F12000	strengthen the system for promoting environmental activities	FY2011	DNP's independently developed Energy-Saving Total Management System is implemented at 36 Tokyo
	DNP Facility Services becomes the first in the world to be certified for its comprehensive system with		Electric Power locations
	quality, environment, office safety, and HACCP		New, leading-edge environmentally conscious plant for manufacturing flexible packaging is built in
	Okayama Plant, Decorative Interiors Operations acquires ISO14001 certification		Kyotanabe
EV0004			DNP Chubu becomes Ecostage-certified (Stage 1)
	DNP Tokai, and Sayama Plant, DNP Technopack acquire ISO14001 certification		Sayama Plant, DNP Technopack Yokohama acquires ISO14001 certification
FY2002	DNP Tokai acquires FSC-CoC certification		DNP Shikoku acquires FSC-CoC certification and Lifestyle Materials Operations acquires PEFC-CoC
	Acquisition of ISO14001 certification by: Kobe Plant, Decorative Interiors Operations; The Inctec (Tokyo,		certification
	Kansai, and Utsunomiya Plants); Ushiku Plant, BF Operations; DNP Technopack Tokai; Singapore Plant,		Reductions in power consumption in the processes of manufacturing photomasks earns DNP the Energy
	Tien Wah Press; Chikugo Plant, DNP Nishi Nippon; Kyoto Plant, Electronics Devices Operations; Sayama		Conservation Grand Prize for excellent energy conservation equipment, Jury's Special Prize awarded by
	Plant, Information Media Supplies Operations; Ono Plant, DNP Media Create Kansai		the Energy Conservation Center, Japan (ECCJ)
FY2003	Environmental Report Division receives the "6th Environmental Report Grand Prize" for superior reporting	FY2012	Guidelines for Procurement of Paper for Printing and Converting are established to protect biodiversity in
	Acquisition of ISO14001 certification by: Advanced Colortech; Tokyo Plant, Decorative Interiors Operations;		our business operations, and projects to create green spaces are launched at Okayama Plant and DNP
	Kamifukuoka Plant, Electronics Devices Operations		Chubu business sites
	Commercial Printing Operations, DNP Media Create Kansai, and DNP Trading acquire FSC-CoC		Volume of greenhouse gas emissions are announced according to Scope 3 standards
	certification, Packaging Operations acquires PEFC-CoC certification	FY2013	Targets for reduction of water usage are set
	Two types of fused thermal transfer materials of the Information Media Supplies Operations receive EPD		Green Procurement Guidelines for Chemical Substances are set and management of chemical substances
	"Type III" environmental labeling certification and registration		in products is strengthened
FY2004	DNP wins the Minister for the Environment's Prize in the "14th Grand Prize for the Global Environment Award"		- Productions and Agricultural
	The "7th Environmental Report Prize" awarded for excellence		
	Fukuoka Plant, DNP Nishi Nippon; DNP Logistics; DNP Ellio (Tokyo and Osaka Plants); and Warabi Plant,		
	DE Operations assume 1004 4004 postification	Note: Ore	animations and the names used for them as of that time

Note: Organizations and the names used for them as of that time.

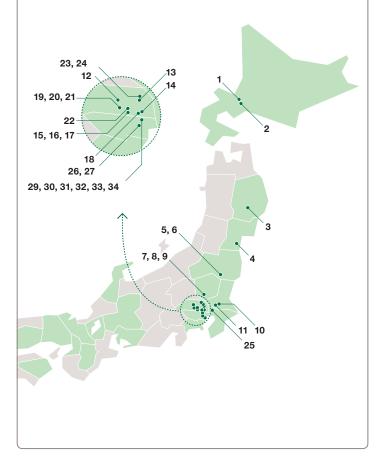
# Domestic manufacturing sites with required business performance data disclosure (1)

Organizations and the names used for them are current as of March 31, 2014.

Applies to DNP and non-manufacturing sites of all domestic companies in the group that are subject to consolidated financial accounting.

### **Business segments**

Information			
Communication	"Other" refers to products that		
Lifestyle and	do not fall under the three seg-		
Industrial Supplies	ments or group companies		
Electronics	manufacturing products that span multiple segments.		
Other	Sparrinditiple segments.		



	Location	Business segment	No.	Site	Work content	
Halde - ! - !	Higashi-ku, Sapporo		1	DNP Hokkaido / Sapporo Plant, DNP Technopack	Plate-making / printing / bookbinding / manufacturing of packaging	
Hokkaido	Kiyota-ku, Sapporo		2	Sapporo Plant, Hokkaido Coca-Cola Products	Beverage manufacturing	
Iwate	Kitakami	•	3	Kitakami Plant, DT Fine Electronics	Manufacturing of electronic precision parts	
Miyagi	Miyagino-ku, Sendai		4	DNP Tohoku	Plate-making / printing / bookbinding / manufacturing of packaging	
F. L 155	Izumizaki,	<b>A</b>	5	Izumizaki Plant, DNP Technopack	Plate-making / printing plate / printing	
Fukushima	Nishi Shirakawa	<b>A</b>	6	Izumizaki Plant, DNP Energy Systems	Manufacturing of solar cell filler	
		•	7	DNP Graphica	Printing / bookbinding	
Tochigi	Tochigi	<b>A</b>	8	Utsunomiya Plant, DNP Technopack	Plastic container molding	
			9	DNP Fine Chemicals Utsunomiya	Manufacturing of photographic materials and pharmaceuticals	
Un avale!	Ushiku	•	10	DNP Data Techno	Manufacturing of various types of smart cards	
Ibaraki	Tsukuba		11	Tsukuba Techno Center, D.N.K.	Manufacturing of printing machines and machine tools	
	Higashimatsuyama	•	12	Higashimatsuyama Plant, Oguchi Book Binding & Printing	Bookbinding	
	Shiraoka	•	13	Shiraoka Plant, DNP Book Factory	Printing / bookbinding	
	Kawaguchi	•	14	Kawaguchi Plant, DNP Book Factory	Printing	
	Miyoshi, Iruma	•	15	Tsuruse Plant, Ichigaya Publication Printing Operations	Plate-making / printing plate / printing / bookbinding	
		<b>A</b>	16	Tokyo Plant, DNP Lifestyle Materials	Plate-making / printing plate / printing / processing	
		•	17	Miyoshi Plant, Oguchi Book Binding & Printing	Bookbinding	
Saitama	Warabi	•	18	Warabi Plant, Information Solutions Operations	Plate-making / printing / processing	
	Sayama	<b>A</b>	19	Sayama Plant No.1, DNP Technopack	Plate-making / printing plate / printing	
		<b>A</b>	20	Sayama Plant No.2, DNP Technopack	Plate-making / printing plate / printing	
		<b>A</b>	21	Sayama Plant, DNP IMS	Manufacturing of thermal transfer carbon ribbons and dye-sublimation transfer materials	
	Fujimino		22	Kamifukuoka Plant, DNP Fine Electronics	Manufacturing of electronic precision parts	
		•	23	Kuki Plant, Ichigaya Publication Printing Operations	Printing plate / printing / bookbinding	
	Kuki	<b>A</b>	24	Saitama Plant, DNP Advanced Optics	Manufacturing of electronic parts	
Chiba	Kashiwa	<b>A</b>	25	Kashiwa Plant, DNP Technopack	Molding, processing, and printing plastic containers	
	Object 1	•	26	Ichigaya Plant, Ichigaya Publication Printing Operations	Plate-making / printing plate / printing / bookbinding	
	Shinjuku-ku	•	27	Enoki-cho Plant, Information Solutions Operations	Plate-making / printing / bookbinding	
			28	Kamiya Plant, DNP SP Tech	Manufacturing of all types of advertising items	
		•	29	Akabane Plant, DNP Book Factory	Printing	
Tokyo		•	30	Akabane Plant, Information Solutions Operations	Plate-making / printing / bookbinding	
	Kita-ku	•	31	Kamiya Plant, DNP Book Factory	Bookbinding	
			32	DNP Logistics	Packaging / shipping	
			33	DNP Hoso	Processing filling and packaging	
		•	34	Kamiya Plant, Information Solutions Operations	Printing / bookbinding / processing	

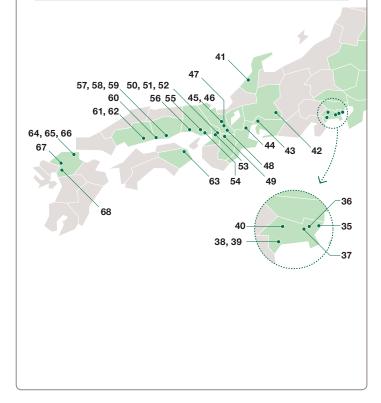
# Domestic manufacturing sites with required business performance data disclosure (2)

Organizations and the names used for them are current as of March 31, 2014.

Applies to DNP and non-manufacturing sites of all domestic companies in the group that are subject to consolidated financial accounting.

### **Business segments**

•	Information Communication	"Other" refers to products that		
_	Lifestyle and Industrial Supplies	do not fall under the three seg- ments or group companies		
	Electronics	manufacturing products that span multiple segments.		
	Other	apairmanple segments.		



	Location	Business segment	No.	Site	Work content	
	Kawasaki		35	Kawasaki Plant, DT Fine Electronics	Manufacturing of electronic precision parts	
	Tsuzuki-ku, Yokohama	_	36	Yokohama Plant, DNP Technopack	Plate-making / printing plate / printing	
Kanagawa	Midori-ku, Yokohama		37	Tokyo Plant, DNP Fine Chemicals	Manufacturing of ink, varnish, chemicals, etc.	
	Odawara	_	38	Sagami Yoki	Manufacturing of laminated tubes	
	Odawara	_	39	Odawara Plant, DNP IMS	Photographic materials manufacturing	
	Aikawa, Aiko	_	40	Tokyo Plant, DNP Ellio	Printing and processing metal sheets	
Ishikawa	Hakusan		41	Hokuriku Techno Center, D.N.K.	Manufacturing of printing machines and machine tools	
Gifu	Nakatsugawa	_	42	Tokai Plant, DNP Technopack	Manufacturing / printing / processing packaging	
Aichi	Moriyama-ku, Nagoya		43	DNP Chubu / Nagoya Plant, DNP Technopack	Plate-making / printing / bookbinding / manufacturing of packaging	
Mie	Kameyama		44	DNP Color Techno Kameyama	Manufacturing of electronic precision parts	
	Ukyo-ku, Kyoto	<b>A</b>	45	Kyoto Plant, DNP Energy Systems	Manufacturing of solar cell filler	
Kyoto	OKYO-KU, KYOIO	<b>A</b>	46	Kyoto Plant, DNP Technopack	Plate-making / printing plate / printing	
Ryoto	Minami-ku, Kyoto	•	47	Kyoto Plant, DNP Data Techno Kansai	Manufacturing of various types of smart cards	
	Kyotanabe	_	48	Tanabe Plant, DNP Technopack	Printing plate / printing / molding and processing plastic containers	
Nara	Kawanishi, Shiki	•	49	Nara Plant, DNP Data Techno Kansai	Manufacturing of various types of smart cards	
	Neyagawa	_	50	Neyagawa Plant, DNP Technopack	Molding, processing and printing plastic containers	
Oooko		_	51	Osaka Plant, DNP Ellio	Printing and processing metal sheets	
Osaka			52	Neyagawa Plant, DNP SP Tech	Manufacturing of all types of advertising items	
	Kadoma	•	53	DNP Media Support	Manufacturing of magnetic cards	
	Kita-ku, Kobe	_	54	Kobe Plant, DNP Lifestyle Materials	Printing and processing	
Hyogo	Ono	•	55	Ono Plant, DNP Media Techno Kansai	Printing plate / printing / bookbinding	
	Himeji		56	DNP Precision Devices Himeji	Manufacturing of electronic precision parts	
		_	57	Okayama Plant, DNP IMS	Manufacturing of dye-sublimation transfer materials	
Okayama	Okayama	<b>^</b>	58	Okayama Plant, DNP Lifestyle Materials	Plate-making / printing plate / printing / processing	
Okayailia		<b>A</b>	59	Okayama Plant, DNP Advanced Optics	Manufacturing of electronic parts	
	Kasaoka		60	Kasaoka Plant, DNP Fine Chemicals	Manufacturing of ink, varnish, chemicals, etc.	
Hiroshima	Mihoro		61	Mihara Plant, DNP Fine Electronics	Manufacturing of electronic precision parts	
пігозінна	IVIII Idi d	_	62	Mihara Plant, DNP Advanced Optics	Manufacturing of electronic parts	
Tokushima	Tokushima		63	DNP Shikoku	Plate-making / printing / manufacturing of packaging	
	Yahatanishi-ku,		64	Kurosaki Plant No.1, DNP Fine Electronics	Manufacturing of electronic precision parts	
	Kitakyushu		65	Kurosaki Plant No.2, DNP Fine Electronics	Manufacturing of electronic precision parts	
Fukuoka	Tobata-ku, Kitakyushu	_	66	Tobata Plant, DNP Energy Systems	Manufacturing of solar cell filler	
	Minami-ku, Fukuoka		67	Fukuoka Plant, DNP Nishi Nippon	Plate-making / printing / bookbinding	
	Chikugo		68	Chikugo Plant, DNP Technopack	Plate-making / printing / manufacturing of packaging	

- DNP Media Art calculated under the Ichigaya Plant, Ichigaya Publication Printing Operations.
- DNP Media Create calculated under the Enoki-cho Plant, Information Solutions Operations.
- DNP Total Process Warabi calculated under the Warabi Plant, Information Solutions Operations.
- DNP Micro Technica calculated under the Kamifukuoka Plant, DNP Fine Electronics.

# Independent Review Report Comments by an Independent Institution

#### On-site audit



DNP Precision Devices Himeji



Nara Plant, DNP Data Techno Kansai



Tokai Plant, DNP Technopack



Tokyo Plant, DNP Lifestyle Materials



#### Translation

The (ollowing is an English translation of an independent assurance statement prepared in Japanese and is for information and reference purposes only. In the event of a discrepancy between the Japanese and English versions, the Japanese version will prevail.

#### Independent Assurance Report

Date: 31 July, 2014

To Mr. Yoshitoshi Kitajima President Dai Nippon Printing Co., Ltd.

Kenji Sawami Representative Director Ernst & Young Sustainability Co., Ltd. Tokyo

We, Ernst & Young Sustainability Co., Ltd. have been commissioned by Dai Nippon Printing Co., Ltd. (hereafter the "Company") to provide limited assurance on the environmental accounting data and the Key Environmental Performance Indicators (hereafter the "Indicators") of the Company and its major subsidiaries for the year ended March 31, 2014 included in the Company's DNP Group Environmental Report 2014 posted on the Company's Web site (hereafter the "Report").

#### 1. The Company's Responsibilities

The Company is responsible for the preparation of the Report in accordance with the Company's policies and standards found at <a href="http://www.dnp.co.jp/csr/index02.html">http://www.dnp.co.jp/csr/index02.html</a> and "Environmental Accounting Calculation Bases' (Page 37 of the Report) as criteria.

#### 2. Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. We apply International Standard on Quality Control 1 and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

#### 3. Our responsibilities

Our responsibility is to express a limited assurance conclusion on the environmental accounting data and the Key Environmental Performance Indicators of the Company and its major subsidiaries for the year ended March 31,2014 included in the Report based on the procedures we have performed and the evidence we have obtained.

We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements – Assurance Engagements of their than Audits or Reviews of Historical Financial Information (ISAE 3000), Issued by the International Auditing and Assurance Standards Board, Practical Guidelines for the Assurance of Sustainability Information, revised in December 2012 by the Japanese Association of Assurance Organizations for Sustainability Information and, in respect of CO2 emissions, the International Standard on Assurance Engagements 3410, Assurance Engagements on Greenhouse Gas Statements (ISAE 3410), issued by the International Auditing and Assurance Standards Board.

The summary of the procedures we performed for our assurance engagement is as follows:

- Reading relevant documents with regard to the Company's Reporting Standards and the Company's policies and standards and inquiring of personal responsible thereof;
- Reading relevant documents with regard to the design of the Company's internal control of the Indicators and inquiring of personal responsible thereof at the headquarters and the sites visited;
- · Performing analytical procedures of the Indicators at the headquarters and the sites visited (4 factories);and
- Agreeing to supporting documents and recalculating with part of the Indicators at the headquarters and the sites visited on a test basis.

The procedures performed in a limited assurance engagement are more limited in nature, timing, or extent than a reasonable assurance engagement.

As a result, the level of assurance obtained in a limited assurance engagement is not as that obtained had we performed a reasonable assurance engagement.

#### 4. Conclusio

Based on the assurance procedures performed, nothing has come to our attention that caused us to believe that the Indicators of the Company and its major subsidiaries for the year ended March 31, 2014 included in the Report were not measured and reported in accordance with the Company's policies and standards in all material respects.

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# Dai Nippon Printing Co., Ltd.

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