

**DNP**



**DNP Group Environmental Report 2020**

# DNP Group Environmental Report 2020

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### Editorial Policy

- The *DNP Group Environmental Report 2020* was created to announce all of the environmental activities of the DNP Group, and is based on the Environmental Reporting Guidelines (2018 Edition) issued by Japan's Ministry of the Environment.
- The *DNP Group Environmental Report 2020* is published in a page format designed to be easy to read on the Web.
- The information in this report was subjected to a third-party review conducted by Lloyd's Register Quality Assurance Ltd. (LRQA). A check mark ☒ indicates indices that have undergone third-party audits.

### Period covered by this report

This report focuses on activities carried out in the period of April 1, 2019 to March 31, 2020. 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, 2019 to December 31, 2019.

### Scope of environmental data

Environmental data was applied to Dai Nippon Printing Co., Ltd. and to all domestic companies in the Group that are subject to consolidated financial accounting. The 23 domestic manufacturing companies plus one distribution company (see pages 34–35), the non-manufacturing sites (three development centers, office buildings, sales offices, etc.) of all domestic Group companies and our overseas manufacturing companies (see page 36) were included in the scope. However, the scope of tabulation for the reduction of environmental pollutants, reduction of environmental impact incurred during transport and activities at offices covers operations in Japan.

### Standards for Calculating Environmental Performance Indices

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

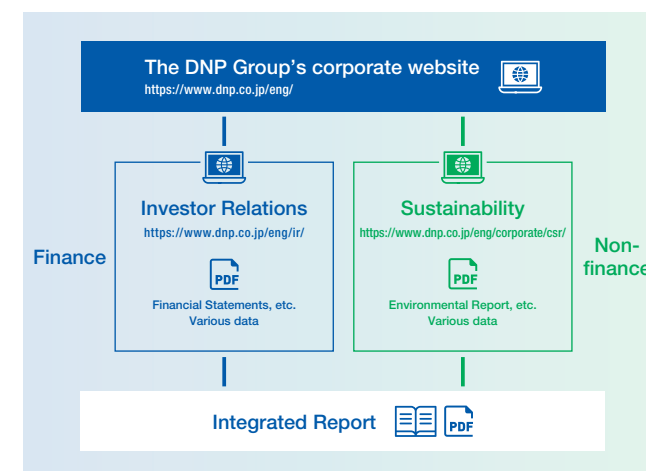
<https://www.dnp.co.jp/eng/corporate/csr/report/>

In this report "DNP" indicates the DNP Group and is differentiated from Dai Nippon Printing Co., Ltd.

### Issued

August 2020 (Next scheduled issue: August 2021)

### DNP Group's Information Disclosure



### About the cover design

DNP is currently conducting the redevelopment of the Ichigaya district of Shinjuku-ku, Tokyo, where our head office is located. As part of this effort, we are creating a green belt, "Ichigaya no Mori (Ichigaya Forest)", as a new form of urban "forest." The photo shows a swallowtail butterfly visiting our forest.

# Corporate Profile (As of March 31, 2020)

**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

**Website:** <https://www.dnp.co.jp/eng/>

**Established:** October 1876

**Incorporated:** January 1894





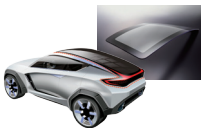


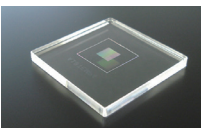


**Paid-in Capital:** ¥114,464 million

**Number of Employees:** 38,181 (Consolidated); 10,499 (Non-consolidated)

**Financial Data:** Consolidated Net Sales ¥1,401.8 billion (levelling off year-on-year)  
(FY ended March 2020)  
Consolidated Operating Income ¥56.2 billion (up 12.8% year-on-year)  
Consolidated Ordinary Income ¥63.7 billion (up 9.5% year-on-year)  
Net income attributable to shareholders of the parent ¥69.4 billion

## Business segments:

## Percentage of total sales

Printing	<b>Information Communication</b> Books and magazines, commercial printing, smart cards, network businesses, imaging communication, etc.	55.0 %	 Hybrid bookstore network "honto"	 Smart cards	 Ki-Re-i ID photo kiosk
	<b>Lifestyle and Industrial Supplies</b> Packaging, housing and non-housing interior/exterior materials, industrial high-performance materials, etc.	27.8 %	 Environmentally conscious packaging	 Curved resin glazing	 Exterior materials for buildings
	<b>Electronics</b> Display components, electronic devices, optical films, etc.	13.3 %	 Semiconductor photomask	 Master template for nanoimprinting	 Optical films used for displays
Beverages	<b>Beverages</b> Manufacturing and sales of beverages by Hokkaido Coca-Cola Bottling Co., Ltd., etc.	3.9 %	 Beverages		



## Message from the CSR & Environmental Committee Chairman

### Going Beyond Society's Expectations

Chairman of the CSR & Environmental Committee  
Managing Director

**Satoru Inoue**



First of all, I would like to extend my condolences to the victims of COVID-19, their families and people around them, and my thoughts are with those who are now fighting infection and those whose daily lives are affected by the pandemic. I would also like to express my deep appreciation for all people who are making committed efforts to prevent the spread of the virus.

#### Responding to Climate Change and Realizing a Recycling-Oriented Society

The DNP Group is always looking to achieve coexistence with the environment in order to increase the sustainability of its business. Embracing “environmental conservation and the realization of a sustainable society” as one tenet of our DNP Group Code of Conduct, we ensure legal compliance first and foremost and are working to reduce environmental impact by carefully examining the effects of our business activities on the environment throughout our entire supply chain.

As environmental risks, we recognize that responding to climate change and building a recycling-oriented society are urgent issues and are implementing priority initiatives in these areas.

In March 2020, we formulated the DNP Group Environmental Vision 2050, which shows our aspiration toward the year 2050, and declared that we will

proactively endeavor to achieve a decarbonized society, a recycling-oriented society and a society in symbiosis with nature. Each and every employee of DNP will work to realize the vision while maintaining a strong awareness of our relationship with the environment in every business. With COVID-19 currently causing significant economic impact on the entire society, we are determined not to slow down and to even strengthen environmental activities, which DNP has promoted to date.

As a response to climate change, we will identify risks and opportunities for our business and assess the financial impact of climate change by performing scenario analysis. We will strive to achieve effective net-zero greenhouse gas (GHG) emissions from business activities at our own sites by 2050 and aim to contribute to the creation of a decarbonized society through our products and services. The results of scenario analysis and our strategies are disclosed in our Environmental and Integrated Reports in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

As we work to build a recycling-oriented society, we are focusing on product designs that emphasize resource-savings and high recyclability, using sustainable raw materials and biomass materials and participating in recycling-related initiatives. As a company that handles

numerous plastic products, DNP seriously addresses the problem of marine plastic waste, which is emerging as a major global issue. As part of these efforts, DNP is participating in groups that were established to help solve the problem of marine plastic waste, such as Japan Clean Ocean Material Alliance (CLOMA) and Alliance for the Blue, and is making proactive efforts to develop technologies and create and implement structures for promoting recycling. Furthermore, as a corporate citizen, we are engaging in beach cleanup projects and disseminating information on the status of seashore contamination by marine plastic waste both internally and externally.

DNP will continue to proactively undertake environmental activities and help solve various social issues, such as reducing environmental impacts and responding to climate change through its products and services.

#### Principal Activities in FY2019 and Future Initiatives

DNP is conducting activities to reduce environmental impact by setting targets in eight categories that include GHG emissions and water usage. Regarding reduction of GHG emissions, a priority initiative, we have achieved significant reductions up to FY2019 and will work toward an early attainment of FY2030 targets.

As the environment surrounding companies is undergoing a drastic change with various social issues becoming increasingly prevalent, in the future DNP will strive to achieve further reductions in environmental impact through our business activities and across the entire supply chain. Simultaneously, we will combine DNP's Printing and Information (P&I) strengths and the strengths of our partners to create new value that will help provide solutions to various social issues while continually taking into consideration the latest trends.

In the future, DNP will deepen communication with its stakeholders and work to remain a sustainable company that is trusted by society.

# DNP Group Environmental Policy

DNP has prescribed “environmental conservation and the realization of a sustainable society” as one tenet of our DNP Group Code of Conduct and has formulated the DNP Group Environmental Policy to link this Code to specific activities. We consider relationships with the environment in all our business activities and aim to reduce environmental impact and realize a sustainable society.

**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 ecologically-friendly 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.

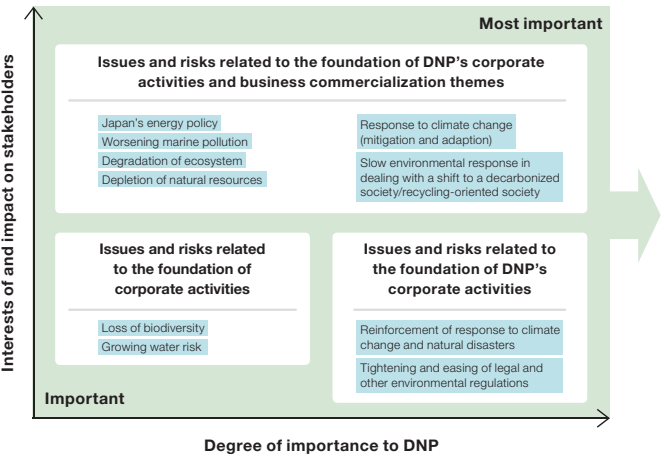
CSR & Environmental Committee (March 21, 2000, revised March 16, 2010)

**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.**

# Risks and Opportunities

DNP has been promoting integrated risk management efforts in order to minimize the negative impacts of social issues and variable factors (risks). While considering the United Nations’ Sustainable Development Goals (SDGs) and other global issues as well as environmental, social and governance (ESG) trends, DNP performs risk assessment from the perspectives of the interests of and impact on stakeholders and the level of importance for DNP. DNP’s risk assessment covers all countries and regions where it undertakes business. Among these, we regard that Japan and Asia in particular are important regions in considering risks, as we have many sites in these regions.

Based on the results of our risk assessment, as environment-related risk, we recognize that responding to climate change and building a recycling-oriented society are pressing issues and we are promoting priority measures in these areas.



## Responding to Climate Change

The effect of climate change has been becoming increasingly serious every year, causing a large impact on the economy, society and the environment. The international community has been stepping up its efforts to build a low-carbon or decarbonized society, and this has attached greater importance to the roles companies should fulfill. By striving to resolve various environmental and other social issues, DNP intends to make people's daily lives sustainable, safe and secure, and at the same time, create value that is unique to DNP and meets people’s expectations. We place particular emphasis on responding to climate change as an important management challenge and will proactively engage in *TAIWA* (“dialogue”) with stakeholders by disclosing information on our relevant efforts through the framework recommended by the Task Force on Climate-related Financial Disclosures (TCFD).

## Building a Recycling-Oriented Society

Curbing consumption of natural resources and reducing impacts on the environment are essential for building a recycling-oriented society. An increase in the discharge of waste materials accompanying global population increases and economic development is affecting oceans and there are concerns about the impact on marine ecosystems.

DNP uses paper and plastics as raw materials and believes that extensive resource recycling throughout the entire product lifecycle is important. We are improving resource productivity, promoting recycling, adopting product designs that emphasize resource saving and high recyclability and using sustainable raw materials and biomass materials. We are also participating in the Japan Clean Ocean Material Alliance (CLOMA) and Alliance for the Blue, which are collaborative groups of companies for solving the problem of marine plastic waste, and proactively carrying out activities for using sustainable plastic materials and developing and introducing alternative materials.

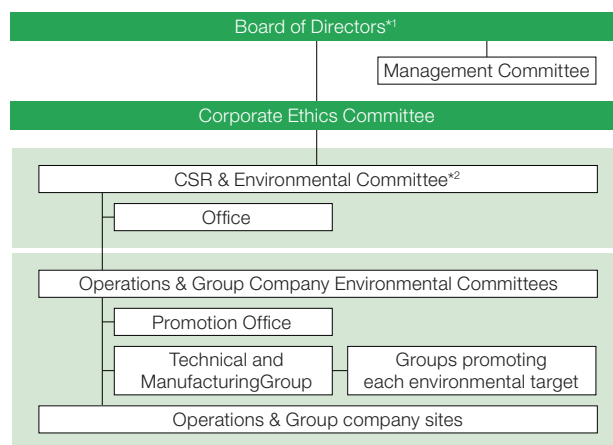
	Responding to risks	Leveraging opportunities	Efforts for responding to climate change and building a recycling-oriented society
Response to climate change	<ul style="list-style-type: none"> <li>•Reduce GHG emissions throughout the entire supply chain</li> <li>•Expand usage of renewable energy</li> <li>•BCP countermeasures at production bases</li> </ul>	<ul style="list-style-type: none"> <li>•Develop environmentally conscious products and services that contribute to a reduction in GHG emissions throughout the entire supply chain</li> <li>•Procure sustainable raw materials, etc.</li> </ul>	<p>■ <b>Environmental activities and results</b></p> <ul style="list-style-type: none"> <li>•Efforts related to climate change at company sites 2030 target: To reduce GHG emissions by 25% from FY2015 levels ⇒ FY2019 result: 23.7% reduction</li> <li>•Efforts related to climate change in the supply chain Featured in the Supplier Engagement Leaderboard of the international NGO CDP, recognized as one of the highest rated companies</li> </ul> <p>■ <b>Formulation of the DNP Group Environmental Vision 2050 in March 2020</b></p> <p>■ <b>Promotion of project activities of Alliance for the Blue, a group for solving the problem of marine plastic waste</b></p> <p>■ <b>Realization of a sustainable society through business activities with a focus on environment-related business</b></p>
Building a recycling-oriented society	<ul style="list-style-type: none"> <li>•Reduce volume of waste materials discharged</li> <li>•Use renewable resources</li> </ul>	<ul style="list-style-type: none"> <li>•Participate in corporate collaboration and technology development for plastic resource recycling, industry-government associations and international initiatives</li> <li>•Establish structure for using recycled resources, etc.</li> </ul>	

## Risks and Opportunities

# Efforts Related to Climate Change

### • Governance Structure → Related pages: 9–10

The Corporate Ethics Committee overseeing internal control of divisions within the head office and the CSR & Environmental Committee handling matters related to sustainability are responsible for DNP's response to climate change.



#### Roles of each organization

\*1 Deliberate and decide on important matters related to our response to climate change

\*2 Assess climate change-related risks and opportunities, deliberate and decide on basic policies, targets and plans and oversee the progress

### • Risk Management

The CSR & Environmental Committee identifies climate change-related risks based on our short- and medium-term business plans and from the perspectives of the interests of stakeholders, degree of impact of climate change on business and probability of the occurrence of such an impact. Risk assessment and management are performed at least more than once a year to prioritize activities and define targets.

\*For details of analysis using the TCFD framework:  
DNP Group Integrated Report 2020 (pages 46–49)

### • Strategy

Climate change-related risks and opportunities include those related to the shift toward building a decarbonized society, such as the establishment of an international framework following the effectuation of the Paris Agreement, enforcement of more stringent legal regulations on GHG emissions and growing demand for and market interest in low-carbon technologies, and those related to physical effects resulting from rising temperatures. As an effort to identify risks caused by climate change and examine strategies to prepare for long-term risks, DNP performs scenario analysis to assess the financial impact and duration during which we will be exposed to the impact.

#### Scenarios referenced

- Representative Concentration Pathway scenario (RCP8.5) in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)
- Stated Policies Scenario and Sustainable Development Scenario in the World Energy Outlook (WEO) of the International Energy Agency (IEA)

### • Scenario Analysis

Based on the scenario analysis results, we recognize that, toward building a decarbonized society, more stringent regulations on GHG emissions and increased carbon tax are likely and that a rise in operational costs is expected. The demand and market for low-carbon products and services, on the other hand, will grow further, pushing up the need for accelerated technology development and mergers and acquisitions (M&A).

The building of a decarbonized society is one goal of DNP's long-term environmental vision. In order to achieve effective net-zero GHG emissions from business activities at our own sites, we are undertaking systematic reduction activities and promoting the introduction of renewable energy.

Our Medium-Term Management Plan identifies “Environment and Energy” as one of the growth areas and specifies environment-related, mobility and other businesses as our focus businesses based on two factors, namely profitability and market growth potential. We expect future business expansion for low-carbon products, such as those related to renewable energy and battery pouches for lithium-ion batteries, and for security solutions for automated driving. Moreover, DNP has been increasing the lineup of containers and packaging that are both environmentally conscious and convenient and joining collaborative efforts of the entire supply chain to establish a recycling system and develop new recycling technologies. We are also channeling management resources and promoting strategic investment plans for reinforcing our management foundation that underpins value creation in these focus businesses.

Additionally, in dealing with the impact of short-term physical risks, we have set up a business continuity management structure and have been reinforcing response to disasters caused by climate change and enhancing supply chain management.

### • Targets and Indicators → Related pages: 16, 18 and 21–23

DNP has defined the following targets for maximizing opportunities and minimizing risks resulting from climate change.

#### Maximizing opportunities: Value creation

Under the Medium-Term Management Plan, we will work to expand our focus businesses and contribute to the creation of a decarbonized society through our products and services.

#### Minimizing risks: Foundation of business activities

We will reduce GHG emissions from business activities at our own sites.

Medium-term reduction target: To achieve a reduction of 25% from FY2015 levels by 2030

Long-term environmental vision: To achieve effective net-zero emissions by 2050

## Risks and Opportunities

## Formulation of Long-Term Environmental Vision

DNP formulated the **DNP Group Environmental Vision 2050** in March 2020, indicating DNP's "2050 vision" for the realization of a sustainable society.

Based on a strong awareness of the impact of various businesses on the environment, every employee will aim for the realization of a decarbonized society, a recycling-oriented society and a society in harmony with nature.

**DNP Group Environment Vision 2050**

DNP targets the realization of a decarbonized society, a recycling-oriented society and a society in harmony with nature by creating new value through Printing and Information (P&I) innovation designed to achieve the emergence of a sustainable society.

**[A Decarbonized Society through Climate Change Mitigation and Adaptation]**

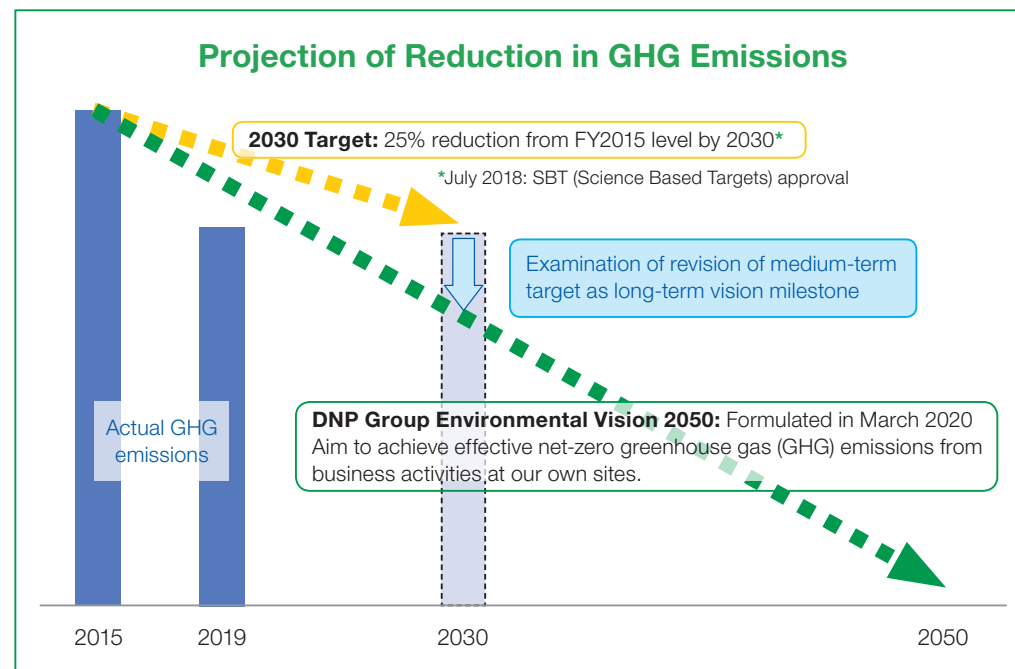
- We aim to achieve effective net-zero greenhouse gas (GHG) emissions from business activities at our own sites.
- We will contribute to create a decarbonized society through our products and services.

**[A Recycling-Oriented Society through the Efficient use of Resources]**

- We will provide maximum value through the efficient use and recycling of resources throughout the value chain.

**[A Society in Harmony with Nature via the Conservation of Biodiversity]**

- We aim to minimize the impact on biodiversity throughout the entire value chain and achieve harmony with regional ecosystems.

**[Decarbonized Society]**

We aim to achieve a decarbonized society through energy-saving activities including upgrading to energy-efficient equipment, the adoption of renewable energy and upgrading to next-generation energy. We will also pursue the development of products and services which will contribute to the creation of a decarbonized society.

**[Recycling Society]**

We will contribute to the creation of a recycling-oriented society mainly by minimizing the use of resources, developing products which are easy to recycle and actively using recycled materials.

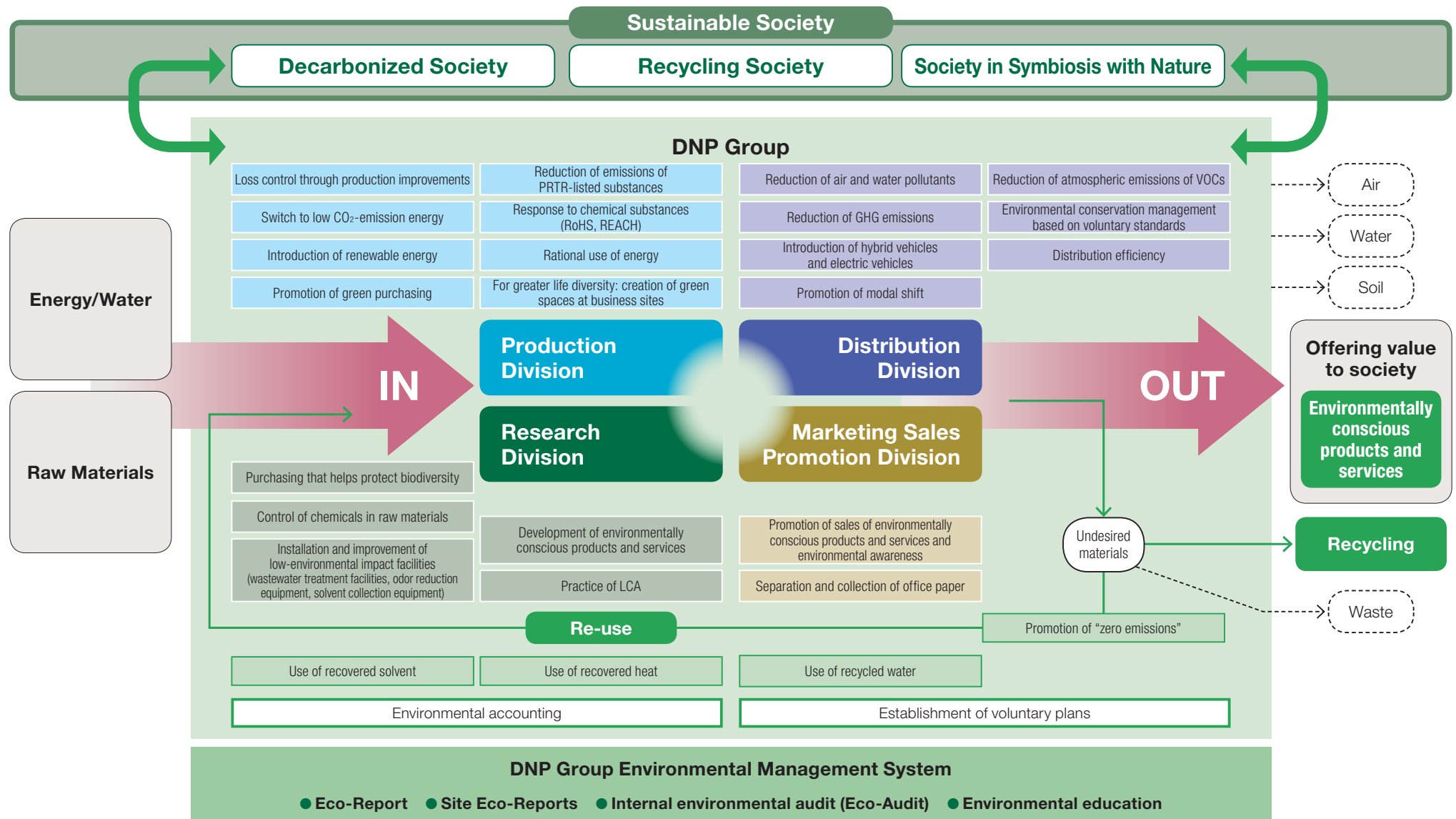
**[Society in Symbiosis with Nature]**

We will promote the eco-system friendly sourcing of raw materials and the creation of green spaces at business sites.



## Environment Management Structure

# Business and Environmental Activities



## Environmental Management Structure

## Environmental Management Structure

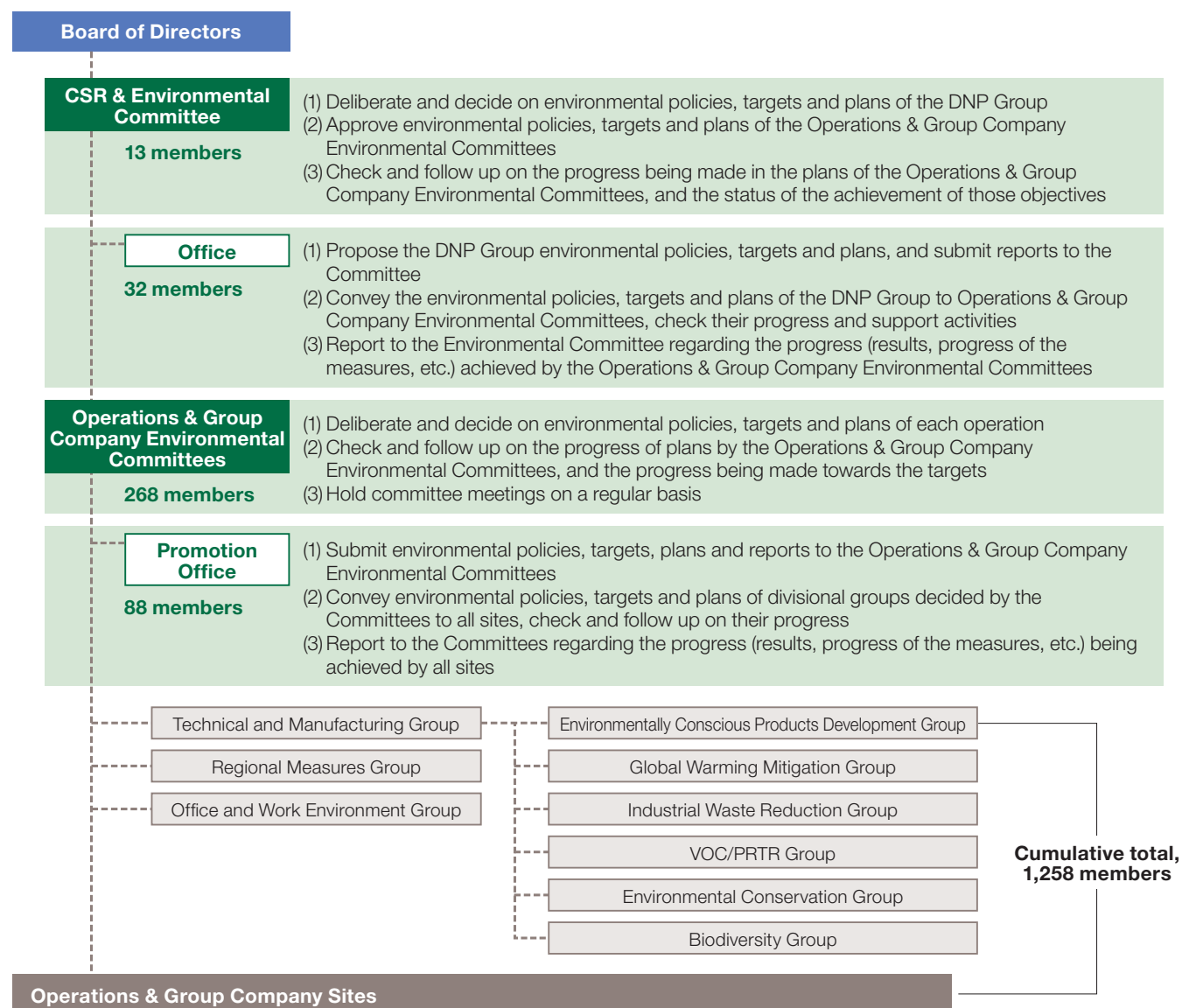
The DNP Group has established the CSR & Environmental Committee to coordinate Group-wide environmental activities and the Operations & Group Company Environmental Committees as a body to promote activities within each business segment. Each committee has its own office or promotion office.

### • CSR & 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 CSR & Environmental Committee and the characteristics of different business areas, including activities at our locations outside of Japan.



## Environmental Management Structure

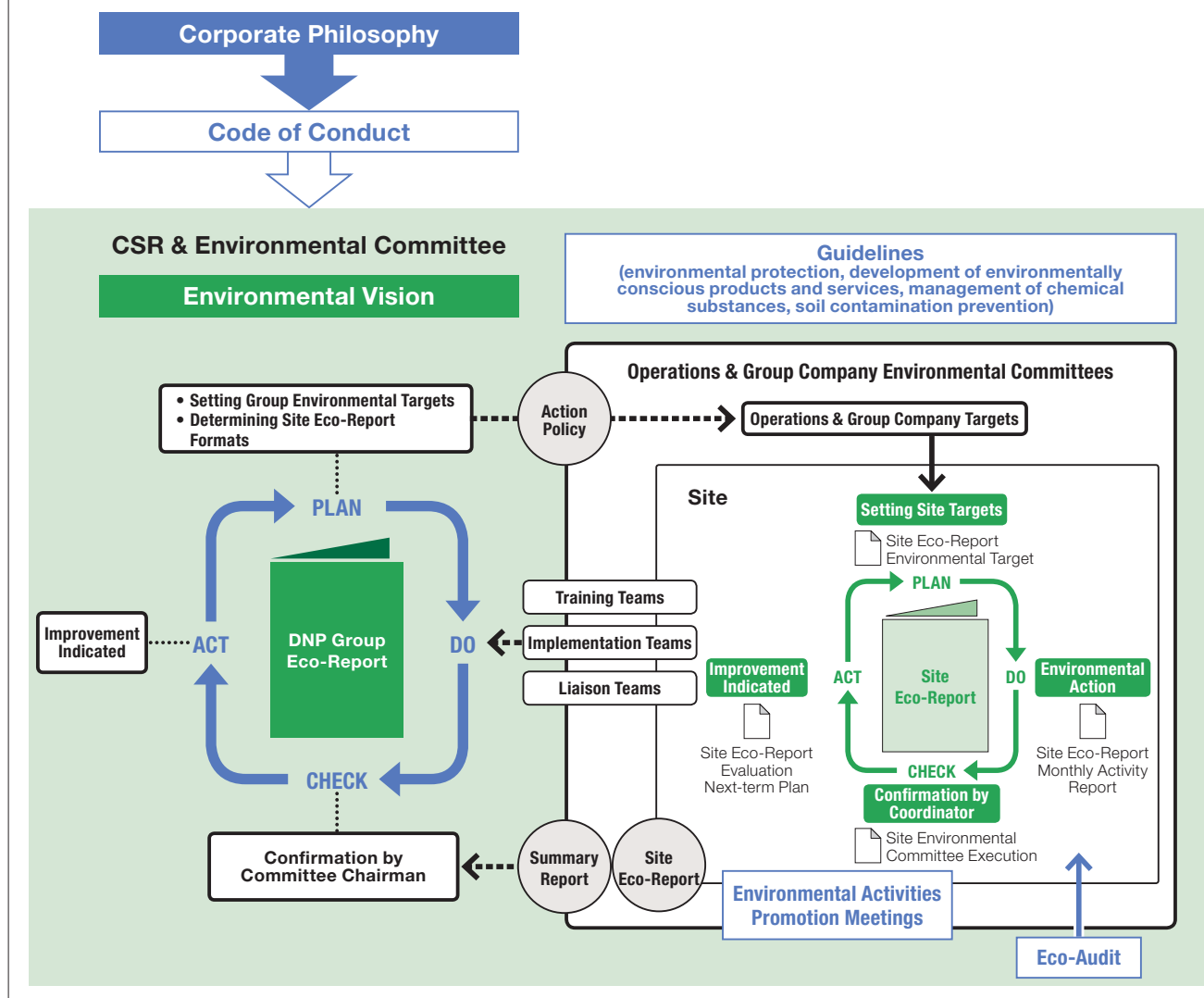
# Environmental Management System

The DNP Group created its own environmental management system (EMS) in 1993, prior to the publication of ISO 14001. Our EMS uses the twin tools of Eco-Reports and Site Eco-Reports set up by the CSR & Environmental Committee Office as a framework. We also execute the “Plan-Do-Check-Act” 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 CSR & Environmental Committee.

The CSR & 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.

### Outline of the DNP Group Environmental Management System



## Environmental Management Structure

# Eco-Audit Content and Flow

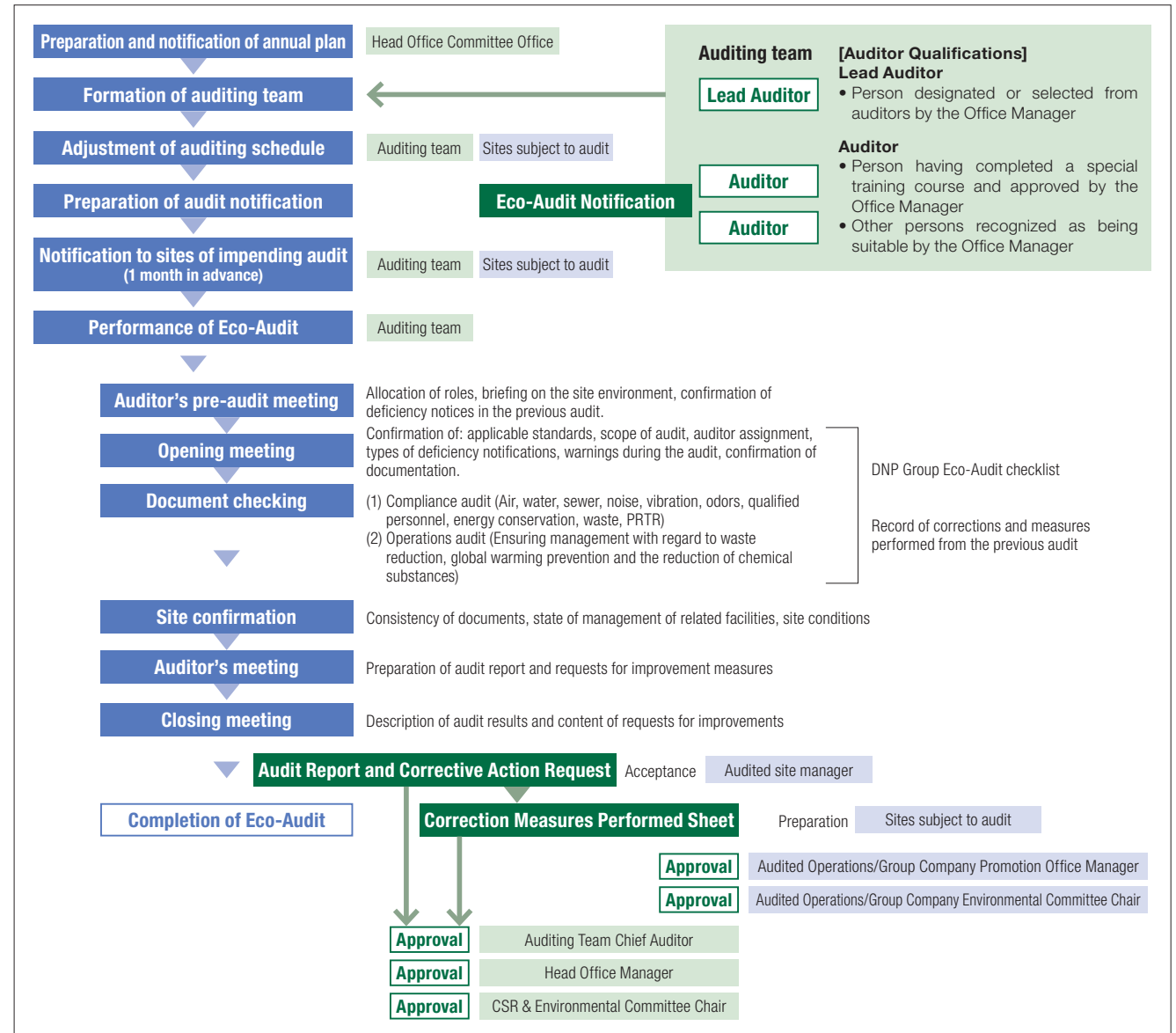
We began implementing “Eco-Audits” in 1996, so as to make our Environmental Management System (EMS) more effective.

Eco-Audits have the following features.

- (1) Auditors are DNP employees with no conflict of interest with the sites being audited and who possess specialized knowledge about products and processes, which produces meaningful and objective results maintaining an independent perspective.
- (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 CSR & Environmental Committee.

\*We will endeavor to prevent the spread of COVID-19, examining the optimal work flow, including remote working, and conduct eco-audits as necessary.





## Environmental Management Structure

## Eco-Audit Performance

<b>Number of sites audited</b>	<b>65 sites</b>
<b>Number of attendees at sites</b>	<b>446 persons</b>
<b>Cumulative auditor numbers</b>	<b>118 persons</b>
<b>Cumulative auditing hours</b>	<b>329 hours</b>

• **Notification Level and Improvements Required**

<b>Improvement required</b>	➡	<b>Submission of a written description of correction measures performed or improvement plans</b>
<b>Improvement consideration &amp; examination</b>	➡	<b>Submission as necessary of a written description of results of consideration/examination or improvement plans</b>

Indications of “improvement required” included items such as insufficient reporting by qualified personnel and at specific sites, 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 FY2019.

## 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**

- Implementation status of plan
- Achievement of targets

## CHECK

**Status of progress management of plan**

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

## ACT

**Status of reviews by term**

- Review of previous term results and reflection in plan

## Environmental Management Structure

# 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 are even stricter than 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, such as oil absorbing sheets, 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 FY2019, 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 15 sites, with 122 condensers and 10 transformers for a total of 132 units. The PCBs are contained in electrical equipment formerly used in substation facilities at our plants. Fluorescent lighting ballasts and other equipment 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.

### • Management of Chemical Substances in Products and Raw Materials

Companies like DNP are being called on to properly ascertain and control the chemical substances contained in raw materials and products in use throughout the supply chain.

DNP has put into operation a management system in accordance with standards issued by JIS and the JAMP Guidelines for the Management of Chemical Substances in Products.

#### 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.

### • Status of Legal Compliance

While we make all efforts to comply with environmental laws and regulations, over the past three years we have experienced one incident in which air quality standards were exceeded and improvement reports were submitted to the government. 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.

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

**March 5, 2018**

**Tsuruse Plant, Publication Printing Operations**

**Official survey of VOC concentrations in exhaust air → VOC concentrations exceeded regulatory standards, and we submitted an improvement report.**

It was caused by a decline in the VOC absorption ability of activated carbon used in the VOC recovery and treatment equipment. To prevent a recurrence, we improved VOC removal efficiency by increasing the amount of VOCs absorbed by activated carbon used in the solvent recovery equipment, and are now periodically monitoring the absorption capability of the activated carbon. We have confirmed that VOC concentration levels remain below regulatory standards in the subsequent surveys.

## Environmental Management Structure

# 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, 2020)

### ISO 14001 Certification

Site	Date Registered*1	Registration Organization
Okayama Plant, Imaging Communications Operations	Nov. 1997	JIA-QA
Mihara East Plant, Fine Optronics Operations	Jul. 1998	DNV
Okayama Plant, Living Space Operations	Jul. 2000	JIA-QA
D.T. Fine Electronics*2	Feb. 1996	JACO
Sayama Plant No. 1, DNP Technopack	Dec. 2001	SGS
Tokyo Plant, DNP Fine Chemicals	Jan. 2002	JCQA
Ushiku Plant, DNP Data Techno	Mar. 2002	JIA-QA
Tokai Plant, DNP Technopack	Mar. 2002	SGS
Chikugo Plant, DNP Technopack	Jun. 2002	SGS
Sayama Plant, Imaging Communications Operations	Oct. 2002	JIA-QA
Tokyo Plant, Living Space Operations	Jan. 2004	JIA-QA
Kamifukuoka Plant, Fine Optronics Operations	Mar. 2004	AJA
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, DNP Data Techno	Mar. 2005	JIA-QA
Nara Plant, DNP Data Techno	Jun. 2005	JIA-QA
Tien Wah Press (Johor Bahru)	Nov. 2005	TÜV
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	Registration Organization
DNP Fine Chemicals Utsunomiya	Mar. 1997	JCQA
Akabane Area, DNP Logistics	Dec. 2006	AJA
Izumizaki Plant, DNP Technopack	Aug. 2008	SGS
Kasaoka Plant, DNP Fine Chemicals	Jan. 2009	JCQA
DNP Imagingcomm Europe B.V.	Mar. 2009	LRQA
Mihara West Plant, Fine Optronics Operations	May 2009	DNV
Okayama Plant, Fine Optronics Operations	May 2009	DNV
PT DNP Indonesia (Pulogadung/Karawang)	Aug. 2009	AJA
Hokkaido Coca-Cola Bottling	Feb. 2010	JACO
DNP Imagingcomm America Corporation	Jun. 2013	NSF ISR
Kyoto-Minami Plant, DNP Data Techno	Dec. 2013	JIA-QA
Hagiwara Plant, DNP Tamura Plastic	Aug. 2000	JAER
Iwata Plant, DNP Tamura Plastic	Aug. 2000	JAER

### Eco Action 21 Certification

Site	Date Registered*1	Registration Organization
Tokyo Head Office, DNP Trading	Jan. 2006	IGES

### Green Key Certification

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

#### Registration 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.

##### TÜV

TÜV SÜD Asia Pasific TÜV SÜD Group

##### AJA

Anglo Japanese American Registrars Ltd.

##### LRQA

Lloyd's Register Quality Assurance Ltd.

##### CISQ

Federazione Certificazione Italiana dei Sistemi Qualità Aziendali (Italy)

##### SGS

SGS Japan

##### IGES

The Institute for Global Environmental Strategies

##### FEE

Foundation for Environmental Education

##### NSF-ISR

NSF International Strategic Registrations

##### JAER

Japan Automobile Research Institute

\*1 Indicates the first registration date.

\*2 Kitakami Plant of D.T. Fine Electronics are registered as a part of Toshiba Electronic Devices & Storage Corporation.

## Environmental Management Structure

## 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.

- **Awards System Instituted**

In FY2012 we introduced an internal 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 notable improvements in environmental performance, biodiversity protection activities and renewable energy utilization. Winners are selected not only for specific accomplishments, but also in light of their results in internal environmental audits by meeting voluntary standards for environmental conservation (additional to legal requirements for air and water quality).

Type of Training	Course Name/Description	First Held	Eligibility		Time of Year
<b>Education for New Recruits</b>	<b>Environmental Activity Overall (required)</b> Basic environmental knowledge and conservation efforts of the DNP Group	1994	All new recruits	Total Attendance 8,996 persons	When joining the company
<b>Technical Seminar</b>	<b>Environment/Chemicals (optional)</b> <b>Environmental Laws and Regulations</b> <b>Waste Treatment</b>	1999	Technicians	Total Attendance 1,516 persons	Once yearly
<b>Eco-Report Training</b>	<b>Environmental Issues of the Group (required)</b> 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
<b>In-company seminars</b>	<b>Information of global risks and SDGs, etc.</b>	2015	All DNP Group members		As needed



Environmental Management Activities

Environmental Activity Targets and Results

DNP has prescribed targets with the following categories as priority issues and is undertaking activities in these areas.

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

Topic	Reference page	Targets through FY2020	*GHG emissions reduction target set for mid-and long-term basis	FY2019 results	Evaluation
Reduction of GHG emissions	P 21	To reduce GHG emissions by 25% from the FY2015 levels by FY2030 Aiming to achieve effective net-zero greenhouse gas (GHG) emissions by 2050		Emissions in FY2015: 1.201 million tons Emissions in FY2019: 0.916 million tons	23.7% decrease from that in FY2015 
Reduction of environmental impact incurred during transport	P 22	To reduce fuel use for transport per amount of sales by 1% per annum and 10% compared to FY2010		Per unit in FY2010: 16.1 kl/billion yen Per unit in FY2019: 12.8 kl/billion yen	20.7% decrease from that in FY2010 
Reduction of VOC emissions	P 27	To reduce emissions of VOCs (except for methane) by 35% compared to FY2010  Overseas, based on local laws and regulations, we plan to reduce atmospheric emissions of VOCs to the greatest extent possible through the introduction of technologies and other measures		Emissions in FY2010: 6,729 tons Emissions in FY2019: 3,742 tons  Continue operation of VOC recovery equipment at DNP Indonesia's Karawang Plant	45.3% decrease from that in FY2010   
Reduction of industrial waste	P 24	To reduce waste emissions per amount of sales by 20% compared to FY2010. (Includes overseas locations)  To maintain zero emissions for the entire DNP Group		Per unit in FY2010: 42.4 tons/billion yen Per unit in FY2019: 36.3 tons/billion yen Landfill waste rate in FY2015: 0.06% Landfill waste rate in FY2019: 0.06%	14% decrease from that in FY2010 Maintained zero emissions  
Reduction of water usage	P 25	To reduce water use per amount of sales by 25% compared to FY2010 (Includes overseas locations)		Per unit in FY2010: 10.8 m³/million yen Per unit in FY2019: 6.1 m³/million yen	44% decrease from that in FY2010 
Development and sales of environmentally conscious products and services	P 19	Development and sales of environmentally conscious products and services to totaling 600 billion yen		Sales of 570.8 billion yen in FY2015 Sales of 624.2 billion yen in FY2019	9.4% increase from that in FY2015 
Environmental conservation	P 13	To keep the maximum concentration of air emissions subject to emissions regulations at 70% of the required standard or less To keep the maximum concentration of water emissions subject to wastewater regulations at 70% of the required standard or less To keep the maximum concentration of odors at our site perimeters at 70% of the required standard or less To keep the maximum level of noise at our site perimeters at 70% of the required standard or less To keep the maximum level of vibration at our site perimeters at 70% of the required standard or less		95% achievement rate of targets for FY2019 (voluntary target) 98% achievement rate of targets for FY2019 (voluntary target) 100% achievement rate of targets for FY2019 (voluntary target) 98% achievement rate of targets for FY2019 (voluntary target) 100% achievement rate of targets for FY2019 (voluntary target)	    
Office environment	P 24	To increase the rate of the fractional recovery of waste paper to 70% of that for general waste		84.2% recovery of waste paper in FY2019	

GHG Emissions Reduction Target of the DNP Group Recognized by the Science Based Targets (SBT) Initiative

In July 2018, the above target for reduction of GHG emissions was accredited by the international organization Science Based Targets (SBT) initiative as “science-based” in helping to achieve the goal of the Paris Agreement, which is to keep global warming below two degrees Celsius. DNP will continue to augment its GHG emissions reduction activities by saving energy and introducing energy-saving facilities.

“Dai Nippon Printing commits to reduce Scope 1 and 2 GHG emissions 25% by FY2030 from a FY2015 base-year. The company also commits to engage with key suppliers representing 90% of purchase value, to ensure these will have SBTs in place by FY 2025.”



## Environmental Management Activities

# Current Status of Environmental Impact

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

	2018	2019	
Paper	1,423.3	1,151.8	(19.1% decrease)
Film	162.1	158.9	(2.0% decrease)
Plastic	122.3	126.7	(3.6% increase)
Metal	54.0	49.1	(9.1% decrease)
Ink	104.4	102.9	(1.4% decrease)
Others	86.1	78.2	(9.2% decrease)

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

	2018	2019	
Solvent	26.2	26.3	(0.4% increase)
Acid and alkaline	8.6	7.6	(11.6% decrease)

### Utilities (Energy consumption)

	2018	2019	
Electricity (million kWh)	1,340	1,300	(3.0% decrease)
City gas (million Nm³)	66.1	64.9	(1.7% decrease)
LNG (million kg)	18.9	18.3	(3.0% decrease)
LPG (million kg)	6.6	5.9	(10.8% decrease)
Fuel oil (kl)	516	548	(6.2% increase)
Steam (TJ)	59	32	(45.8% decrease)
Kerosene (kl)	1,210	1,210	(—)
Water (million m³)	8.7	8.5	(2.2% decrease)

### Product Manufacturing Process

#### Information Communication

Books and magazines, commercial printing, business forms, etc.

#### Lifestyle and Industrial Supplies

Packaging, decorative materials, industrial supplies, etc.

#### Electronics

Displays, electronic devices, etc.

#### Other

Ink, beverages, etc.

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

	2018	2019
<b>Recycled solvent</b> (1,000 tons)	6.0	5.9
<b>Usage ratio</b> *1	1.2	1.2
<b>Recycled acid and alkaline</b> (1,000 tons)	7.4	7.8
<b>Usage ratio</b>	1.9	2.0
<b>Recycled water</b> (million m³)	259.47	249.88
<b>Usage ratio</b>	32.9	32.5
<b>Vapor generated from waste heat recovery</b> (tons)	152,000	128,000

\*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 coefficients for the fiscal years prior to the tabulated fiscal years. (Details are listed on page 21.)

\*3 Water discharge channels to which the Water Pollution Control Act applies

★ Scope limited to within Japan only

### Emissions into the air

	2018	2019	
GHG*2 emissions (1,000 tons-CO₂)	961	916	(23.7% decrease)
NOx emissions (tons)★	524	506	(3.4% decrease)
SOx emissions (tons)★	4.1	6.5	(58.5% increase)
Atmospheric emissions of VOCs (tons)	14,626	14,326	(2.1% decrease)

### Emissions into bodies of water

	2018	2019	
Water discharged (million m³)	6.9	6.6	(3.6% decrease)
COD emissions (tons)★	28.4	26.8	(5.6% decrease)
Nitrogen emissions (tons)★	5.4	4.6	(14.8% decrease)
Phosphoric emissions (tons)★	0.3	0.2	(33.3% decrease)

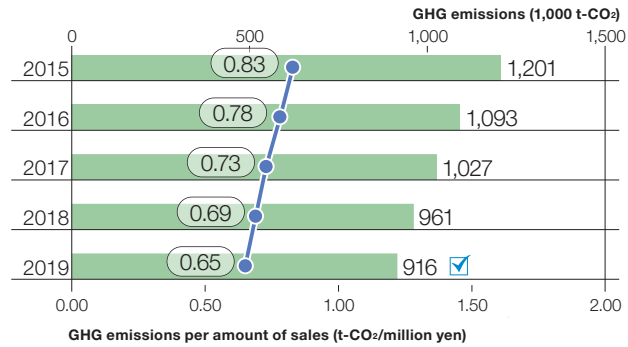
### Undesired materials generated (Unit: 1,000 tons)

	2018	2019	
Total amount of undesired materials	300	281	(6.3% decrease)
Waste emissions	51.7	50.9	(1.5% decrease)
Landfill waste amount	5.3	5.5	(3.8% increase)

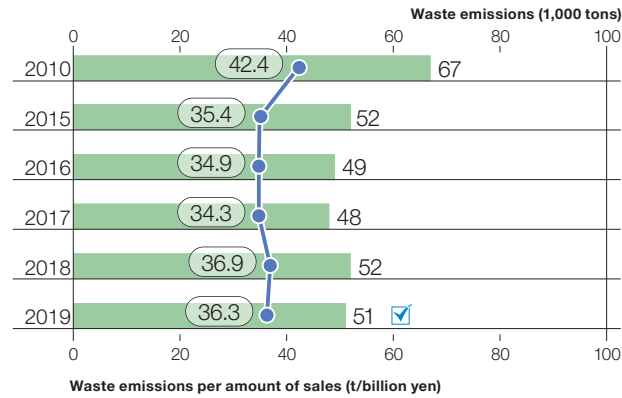
## Environmental Management Activities

# Environmental Impact and Environmental Efficiency

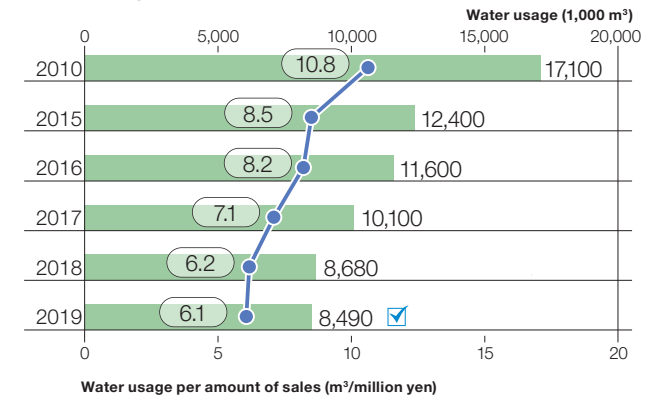
**GHG emissions (including overseas operations)**



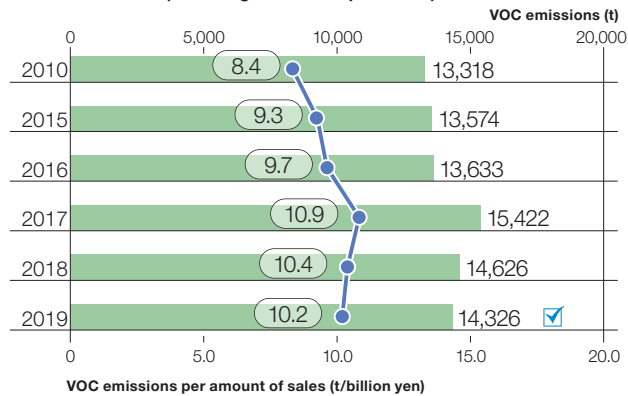
**Waste emissions (including overseas operations)**



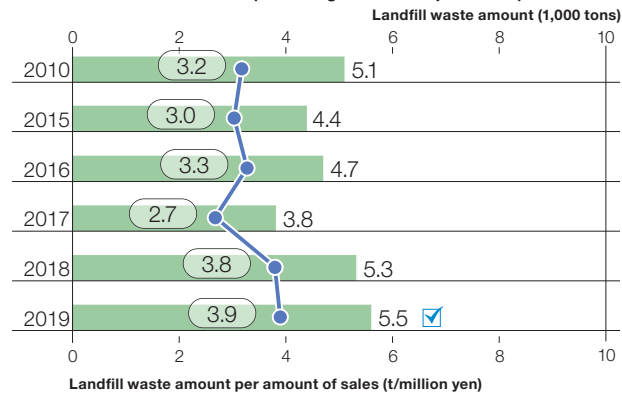
**Water usage (including overseas operations)**



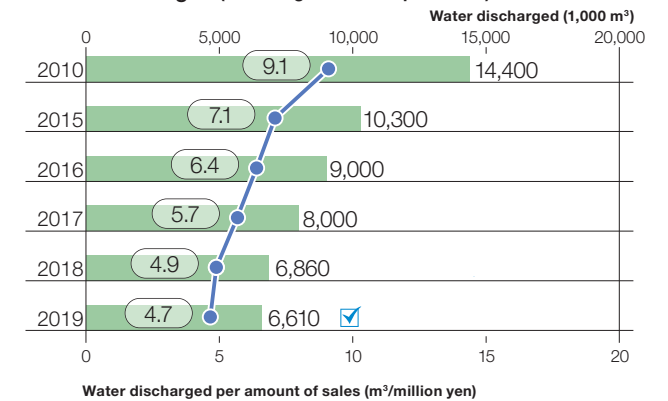
**VOC emissions (including overseas operations)**



**Landfill waste amount (including overseas operations)**



**Water discharged (including overseas operations)**



## Environmental Management Activities

# Environmentally Conscious Products and Services Development

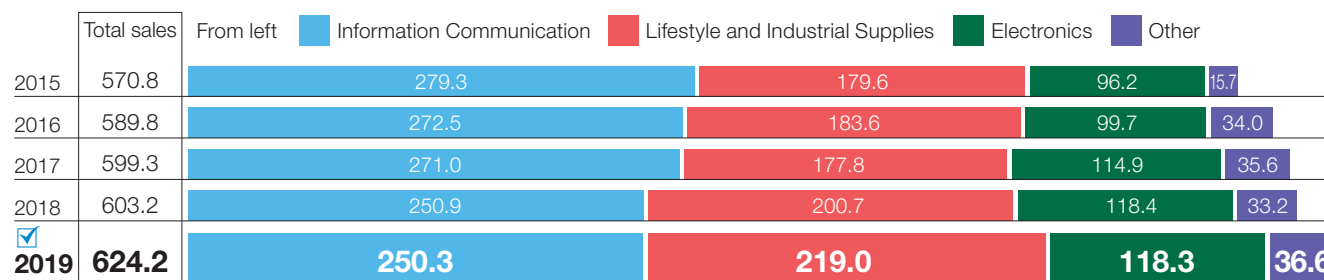
At DNP, we have created the Environmentally Conscious Products and Services Development Guidelines in order to create environmentally conscious products and services from the design stage, so as to reduce the environmental impact of our products and services throughout their lifecycle.

### • Sales of Environmentally Conscious Products and Services

FY2019 results: ¥624.2 billion

The FY2020 target of ¥600.0 billion was attained ahead of schedule.

**Transition of sales of environmentally conscious products and services (Unit: billion yen)**



## Guidelines for developing environmentally conscious products and services

### 1 Reduction of environmental pollutants

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

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

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

### 3 Sustainable use of resources

Utilize natural resources in a sustainable way.

### 4 Long-term usability

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

### 5 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.

### 6 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?

### 7 Use of recycled materials, etc.

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

### 8 Ease of treatment and disposal

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

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

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

### 10 Supporting and promoting environmental education and awareness

Helping to create a sustainable society.



## Environmental Management Activities

# Environmental Label Certification

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

### • Main Certification Acquisition Results

Eco Mark (Type 1 Environmental Label)	
This environmental label is attached to products recognized as having low environmental impact throughout their lifecycle, from production through disposal, and as being useful to environmental conservation.	Acquired for DNP's biomass plastic packaging material, Biomatech®, a blend with plant-based materials
CoC Certification	
CoC (Chain of Custody) This is a certificate of control throughout each stage of processing and distribution	Acquired for FSC and PEFC

#### 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* <sup>1</sup>	Acquisition Date* <sup>2</sup>	Registration Organization
CoC: FSC	DNP Trading	Dec. 03	SGS
	Packaging Operations	Dec. 05	SGS
	Publishing Innovation Operations	Mar. 06	SGS
	Tien Wah Press (Pte.) Ltd.	May 08	DNV
	Information Innovations Operations	Aug. 08	SGS
	Living Space Operations	Aug. 09	SGS
	DNP Shikoku	Dec. 11	SGS
CoC: PEFC	DNP SP Solutions	May 14	JIA
	Packaging Operations	Jan. 04	JIA
	DNP Trading	Jan. 08	SGS
	Publishing Innovation Operations	Mar. 11	SGS
	Living Space Operations	Nov. 11	SGS

**FSC**  
Forest Stewardship Council

**PEFC**  
Programme for the  
Endorsement of Forest  
Certification Schemes

**SGS**  
SGS Japan

**DNV**  
Det Norske Veritas (Norway)

**JIA**  
Japan Gas Appliances  
Association

\*<sup>1</sup> Organizations and the names used for them as of June 30, 2020

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

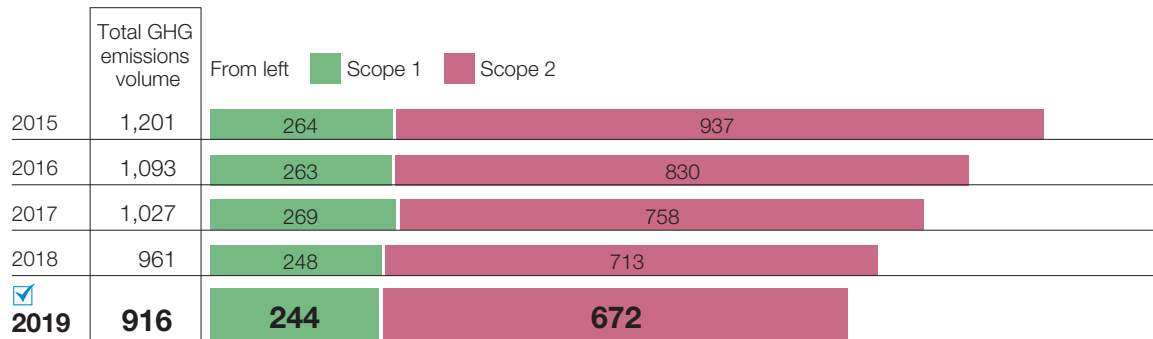
## Environmental Management Activities—Achieving a Low-Carbon Society

# Reduction of GHG emissions

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

### • GHG emissions

#### Scope 1 and Scope 2 GHG emissions FY2019 results: 916 [thousand tons-CO<sub>2</sub>]



**GHG emissions volume** (unit: thousand tons-CO<sub>2</sub>) GHG emissions in Japan due to electricity use, fuel use/combustion, burning of waste and atmospheric emissions of HFCs/PFCs/SF<sub>6</sub>/NF<sub>3</sub> are calculated based on the Manual for Calculating and Reporting Greenhouse Gas Emissions, Ver.4.3.2 (June 2018). For electricity emission factors in FY2019, the emission factor for each electric power company is used at manufacturing sites based on the emission factor for each electric power utility (FY2018 results) (announced on January 7, 2020) and a common emission factor is used for offices and the Bookstore Group. Overseas, the emission factor for each country is used based on the GHG Protocol (Ver1.0 of Compilation of emission factors used in the cross-sector tools) of 2006. (For FY2015–FY2018 as well, the domestic portion uses the same emission factor used in the fiscal years prior to the tabulated fiscal years.)

\*Scope 1 emissions attributable to transportation and distribution carried out by group companies are tabulated as Scope 3 emissions.

### • Introduction of renewable energy

#### Installation of solar power generation systems

Year of installation	Place of installation	System capacity
2009	Izumizaki Plant, DNP High-performance Materials	30kW
2011	DNP Ichigaya-Kagacho Building No. 2	30kW
	Tanabe Plant, DNP Technopack	30kW
	DNP Ichigaya-Tamachi Building	10kW
	DNP Ichigaya-Kagacho Building	36kW
2015	DNP Ichigaya-Takajocho Building	24kW
	Sayama Plant	6kW

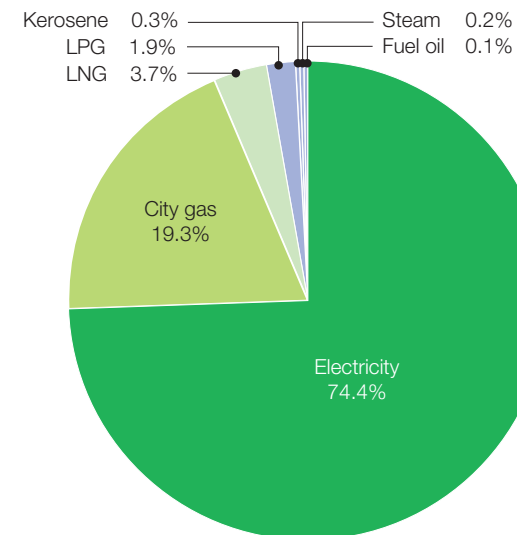
The amount of power generated by these systems in FY2019 was 146 thousand kWh. We also currently purchase 1.15 million kWh of Renewable Energy Certificates annually to cover part of the power consumption used by manufacturing processes within the Group (for printing, bookbinding and processing) and other facilities.

### • Domestic GHG emissions volume by category

Unit: tons-CO<sub>2</sub>

Total GHG emissions volume	806,600
Energy source	781,900
Non-energy source	21,600
Methane	30
N <sub>2</sub> O	460
HFC	0
PFC	20
SF <sub>6</sub>	2,650
NF <sub>3</sub>	0

### • Domestic fuel composition ☒



\*Gasoline and diesel fuel for automobile use are also used (less than 0.1%) in addition to these fuels above.

## Environmental Management Activities—Achieving a Low-Carbon Society

# Reduction of GHG emissions

### • Transport volume

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.

#### Domestic manufacturing sites FY2019 results

**Cargo transport volume: 3.1 million ton-kilometers**

**Amount of fuel used for transport: 17,950 kl**  
(converted to crude oil)

**CO<sub>2</sub> emissions: 46,710 tons**

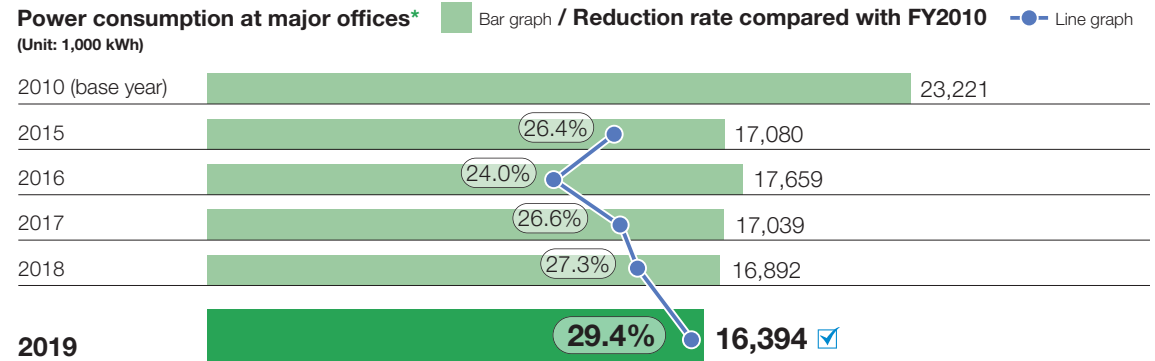
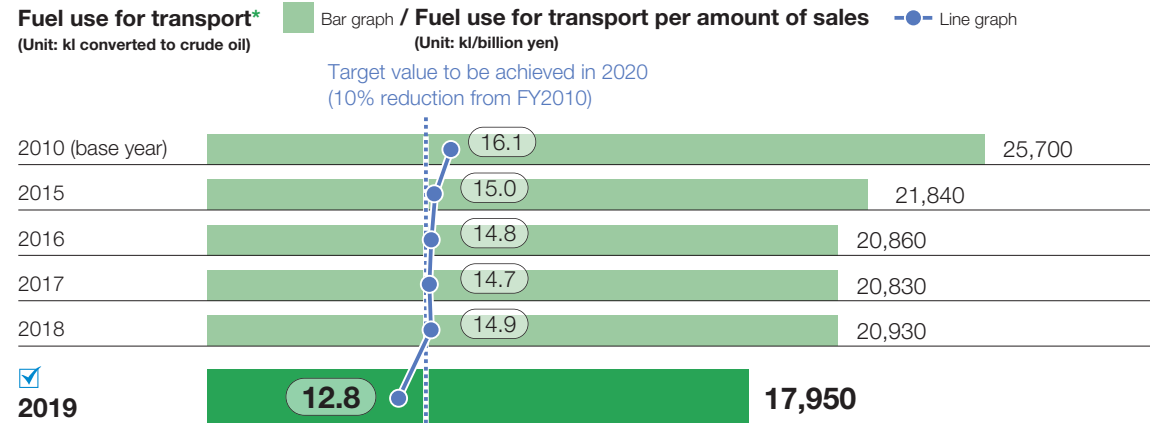
**Per-unit fuel use for transport**

**(amount of fuel used/sales): 12.8 kl/billion yen**

**20.7% reduction compared with FY2010**

### • Global warming measures for offices

The DNP Group has been engaged in efforts to reduce CO<sub>2</sub> emissions for offices since FY2005. We established a target of a 20% reduction in power consumed at our offices throughout Japan compared with FY2010. Specific actions that we are implementing, include completely revising the number of lighting fixtures and level of illumination needed, extending the “cool biz” dress code period (May–October), reviewing how air conditioning is run and expanding the use of LED lighting.

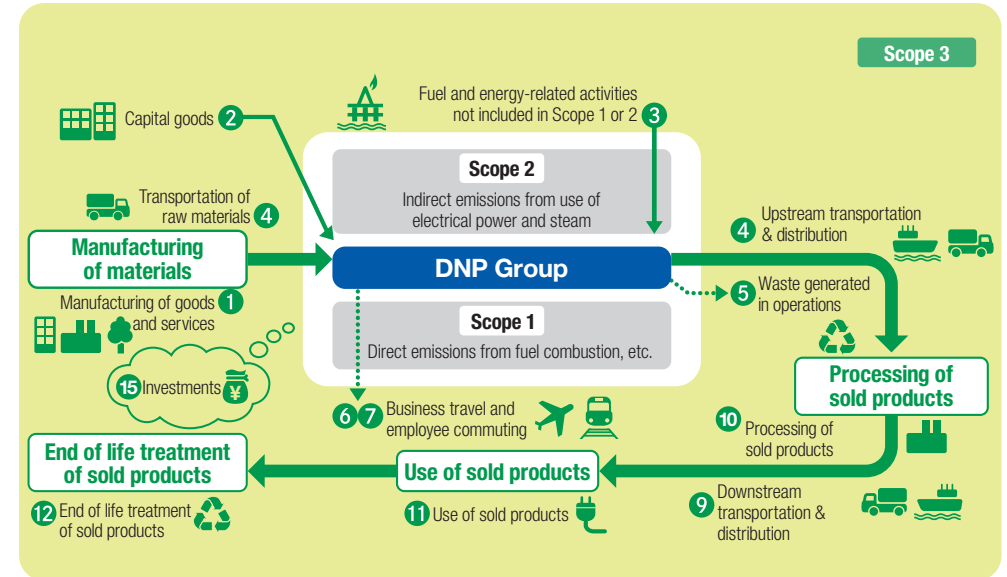
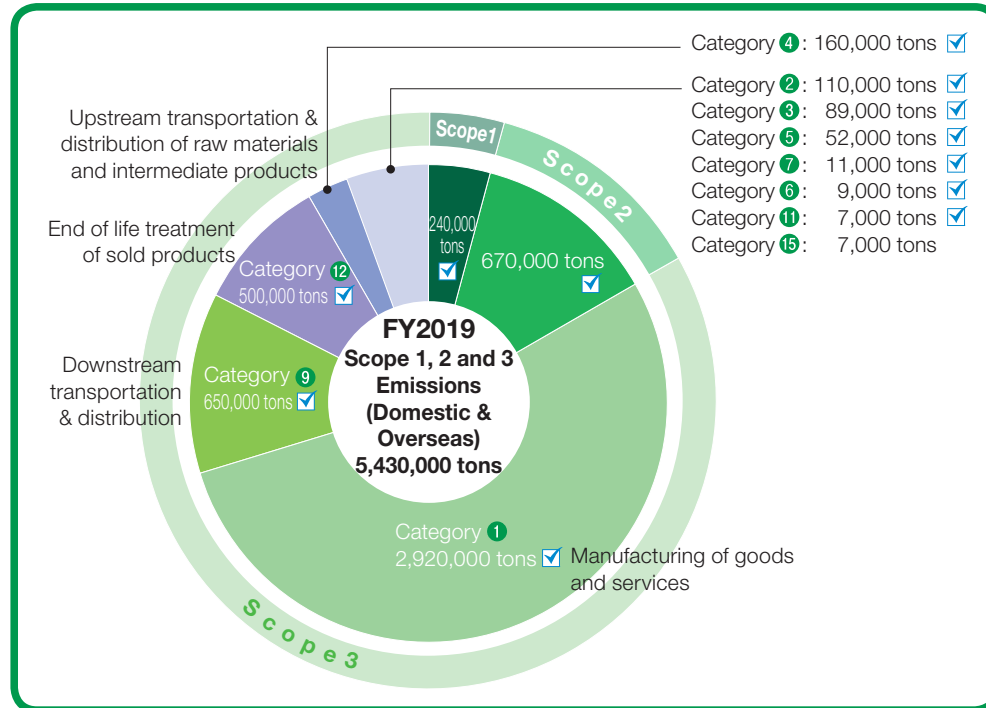


\*35 major offices in Japan under continuous operation during the period FY2010–FY2019

## Environmental Management Activities—Achieving a Low-Carbon Society

# GHG emissions Across the Entire Supply Chain

### • Scope 3 GHG emissions



### 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 2.3” the standards of which our calculations are based upon.

- Of the 15 Scope 3 categories, Categories 8, 10, 13 and 14 were not applicable.
- Scope 1 emissions attributable to transportation and distribution carried out by group companies were included under Category 4.

The unit values database used for our calculations can be viewed on the MOE’s Green Value Chain Platform.

[http://www.env.go.jp/earth/ondanka/supply\\_chain/gvc/estimate\\_tool.html#no00](http://www.env.go.jp/earth/ondanka/supply_chain/gvc/estimate_tool.html#no00) (in Japanese)

### Scope of calculations

Main DNP business sites in Japan (excluding Hokkaido Coca-Cola Products and the Bookstore Group among others), and key overseas sites (PT DNP Indonesia, DNP Imagingcomm America Corporation, DNP Imagingcomm Asia Sdn. Bhd. and Tien Wah Press (Pte.) Ltd.).

## Environmental Management Activities—Building a Recycling Society

# Reduction of Waste Products

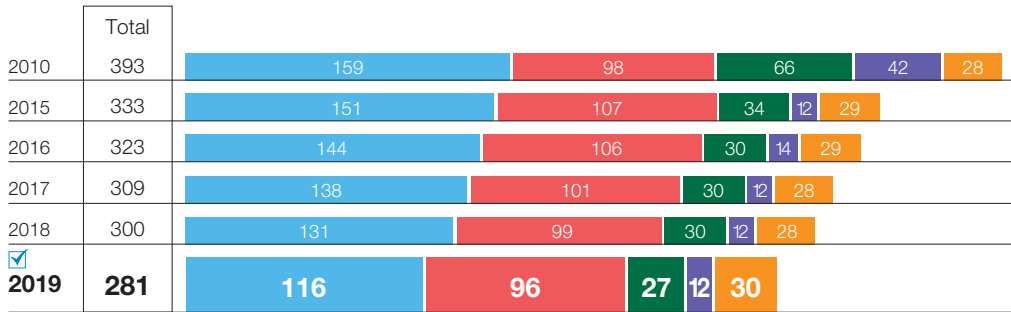
To build recycling into society, we are engaged in efforts to improve resource productivity and increase the recycling of undesired materials. These efforts are premised on the waste-free use of raw materials that go into manufacturing processes. Undesired materials are recycled as much as possible to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

### • Resource productivity

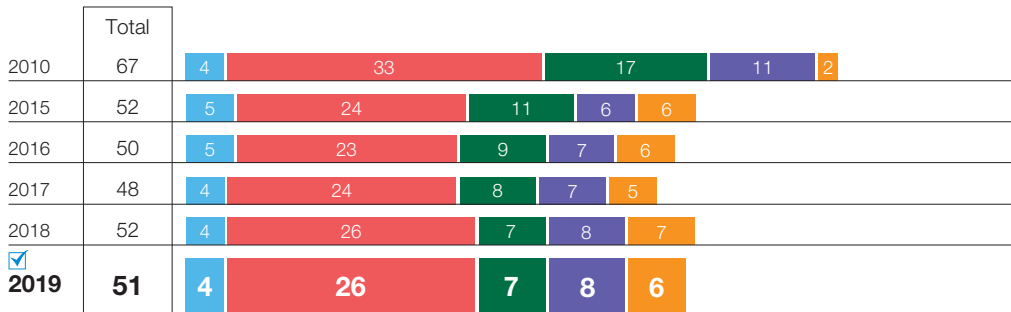
We use waste per unit of production as a productivity indicator and implement activities which set out to create a resilient production system in terms of quality, cost, delivery and other factors. In addition, we intend to reduce waste volume through the extraction of valuable materials such as waste plastic and waste oil.

**Waste per unit of production (Waste emissions: production volume)**  
**FY2019 results: 36.3 [tons/billion] (See the waste emission chart for 5-years on page18)**

Undesired material generation (Unit: 1,000 tons)



Waste emissions (Unit: 1,000 tons)



From left  
Information Communication Lifestyle and Industrial Supplies Electronics  
Other Overseas

### • Recycling undesired materials (Domestic)

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 (J + K [in the right chart])/undesired materials production volume A [in the right chart] to 0.5% or less.

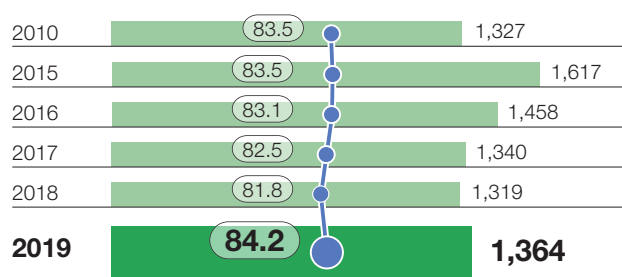
**Zero emissions FY2019 results: 0.06%**

### • Office paper recycling

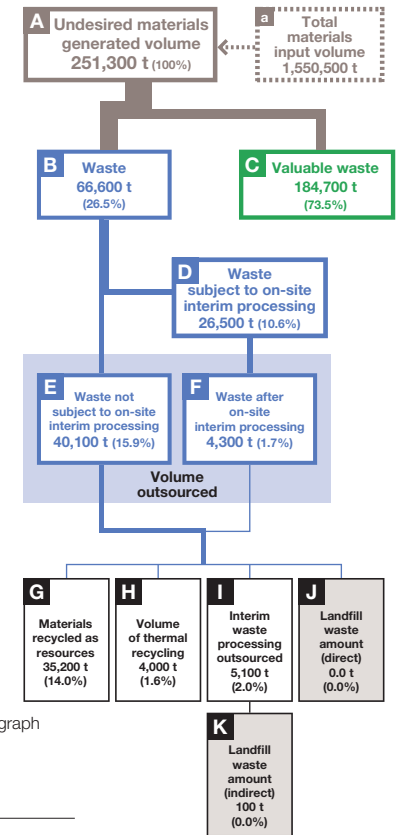
The business of the DNP Group is closely connected to paper, and we have been separating and collecting paper at our domestic offices for some time. In FY2019, waste paper was collected at 50 offices, primarily large-scale offices, for a recycling rate of 84.2%, exceeding our target of 70%.

Amount of waste paper collected (Unit: tons)

Used paper collection rate (Unit: %)



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





## Environmental Management Activities—Building a Recycling Society

# Effective Use of Water Resources

The levels of risk and access to water resources differ by country and region. Therefore, DNP carries out surveys of water risk at its manufacturing sites, including its overseas manufacturing sites. Based on the results of these surveys, we take measures that include water saving and water recycling in manufacturing processes as well as wastewater management. Also, we implement flooding counter-measures in regions with a high risk of flood damage.

### • Reducing volume of water used

The DNP Group strives to reduce its water consumption by conserving water, reducing the amount of water supplied to utility systems and increasing the use of recycled water. In the Electronics and Other segments that require a large amount of water, we are making particular efforts to reduce consumption, such as optimizing the amount of water used in manufacturing processes, refining each process, installing water meters to eliminate loss as well as increasing the recovery and reuse of water.

**Water used FY2019 results: 8,490 [1,000 m<sup>3</sup>]**

### • Use of recycled water

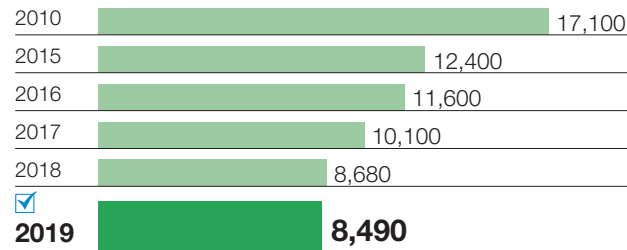
We are working hard to conserve water resources by promoting a closed-loop system in which water is recycled and reused instead of released. In this way we have been able to cut down on the high volume of water required for cleaning our products, air conditioning, and heating and cooling production machinery.

We are also making effective use of rainwater in our office buildings and other sites.

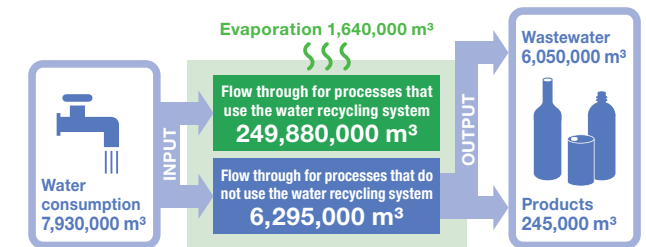
**Water use by intake source (Unit: 1,000 m<sup>3</sup>)**

	River	Groundwater	Clean water, industrial water	Rainwater	Seawater
<b>Domestic</b>	0	3,194	4,736	22.5	0
<b>Overseas</b>	0	0	529	0	0

**Water use (Unit: 1,000 m<sup>3</sup>)**



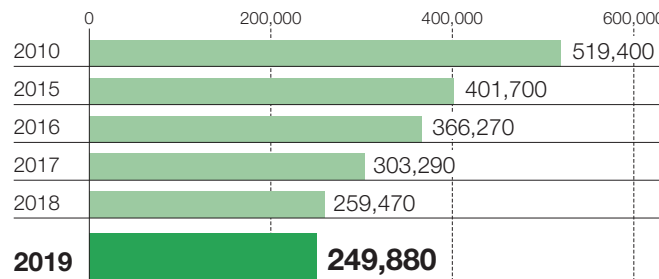
**Water input-output in domestic sites**



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

**Recycled water use in domestic manufacturing sites**

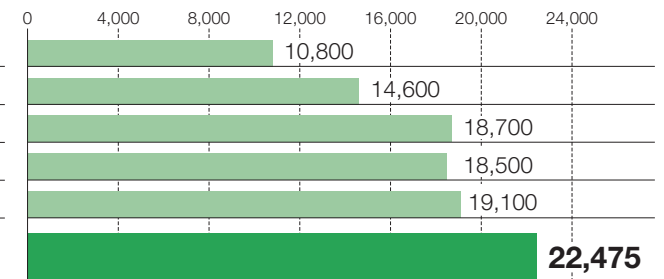
(Unit: 1,000 m<sup>3</sup>)



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

**Use of rainwater in domestic office buildings, etc.**

(Unit: 1,000 m<sup>3</sup>)

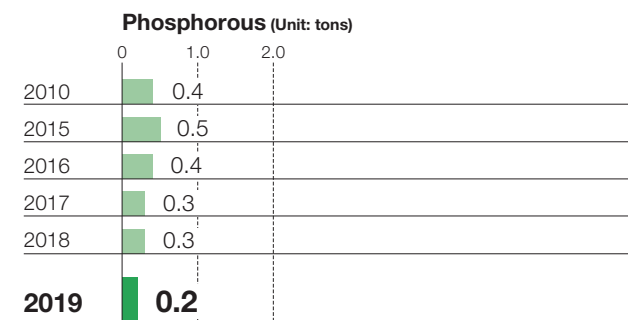
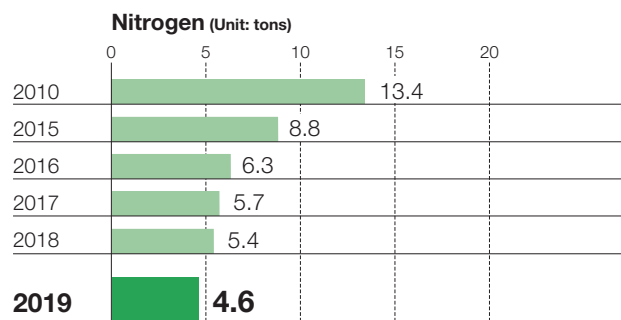
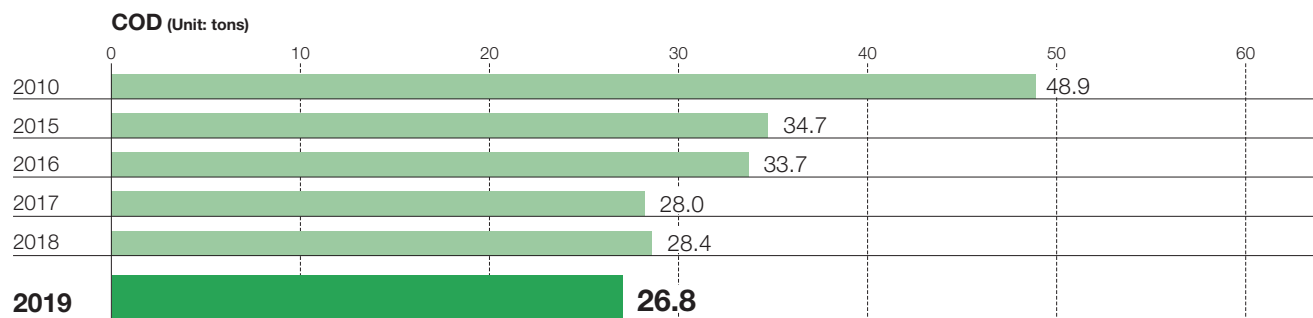


## Environmental Management Activities—For the Reduction of Environmental Pollutants

## Reducing Water Pollutants

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 continue to conduct measures, such as changing out the filtration membranes and absorbent materials in wastewater processing equipment, improving wastewater treatment in our kitchens.

## Water pollutant emissions



## Environmental Management Activities—For the Reduction of Environmental Pollutants

# Reducing Air Pollutants

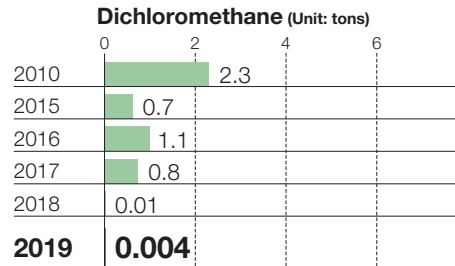
The Air Pollution Control Act regulates substances such as toxic air pollutants and ozone depleting substances, including sulfur oxides (SOx) and nitrogen oxides (NOx), as well as volatile organic compounds (VOCs). These substances have an impact on health and the global environment, causing problems 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

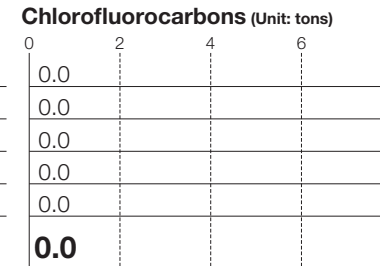
Inks, solvents, adhesives and cleaning solutions used in the printing process contain toluene and other VOCs. The DNP Group's anti-VOC measures not only seek to regulate concentrations as required under the Air Pollution Control Act, but also to reduce emissions overall. We have been switching to substitute products with a lower environmental impact and installing equipment for VOC treatment and collection.

**Atmospheric emissions of VOCs (domestic)**  
**FY2019 results: 3,742 (tons)**

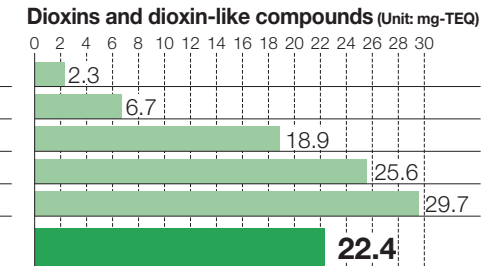
### Air pollutant emissions



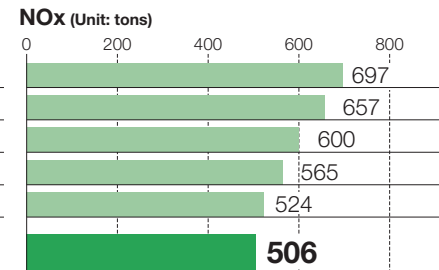
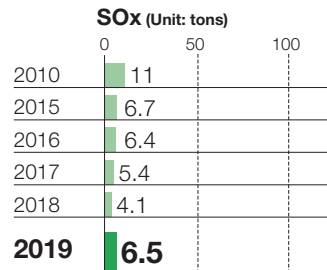
Although dichloromethane was mainly used for washing in the printing process, we have pursued a switchover to substitutes and terminated using dichloromethane for washing. At present, dichloromethane is used at some sites including our laboratory; however, the discharge concentration is extremely low.



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 zero.



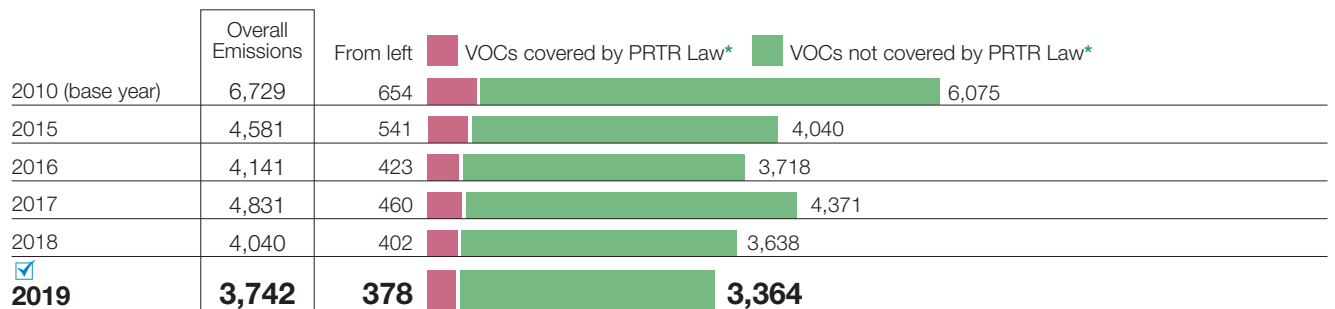
We totally eliminated small furnaces, for which burning control is difficult, and currently have five large-scale furnaces in operation, which are compliant with 2002 regulations. Atmospheric emissions in FY2017 amounted to 25.6 mg-TEQ.



Sulfur oxide is emitted through burning high-sulfur fuel oil and kerosene.

Nitrogen oxide is emitted when fuel is burned in production processes or when electric power is consumed.

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



\*PRTR Law: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Environmental Management Activities—For the Reduction of Environmental Pollutants

Chemical Substances Subject to the PRTR Law

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

Annual amounts of chemical substances handled at each plant above the defined reporting levels set by the PRTR Law are tallied here (amounts listed to 2 significant figures, or to the nearest 0.1 for figures under 1).

Substance	Handled	Consumed	Removed/ consumed	Recycled	To atmo- sphere	Public waterways	Soil	Sewer	Waste
2-Hydroxyethyl acrylate	6,400	3,100	2,400	700	160	–	–	–	33
Acrylonitrile	2,200	1,300	–	–	–	–	–	–	880
Acetonitrile	7,400	–	440	–	74	–	–	–	6,900
Antimony and other compounds	1,100	890	–	240	–	–	–	–	–
Indium and its compounds	1,800	250	–	1,600	–	–	–	–	29
Ethylbenzene	190,000	–	130,000	59,000	3,100	–	–	–	3,000
Ethylenediamine	1,500	750	–	–	–	–	–	–	750
Ferric chloride	3,100,000	1,100,000	470,000	1,500,000	–	–	–	–	4,700
Epsilon-caprolactam	4,500	2,200	1,700	–	61	–	–	–	550
Xylene	190,000	–	120,000	42,000	2,800	–	–	–	25,000
Chromium and chromium (III) compounds	27,000	8,400	22	9,000	–	–	–	0.7	10,000
Hexavalent chromium compounds	10,000	5,600	4,700	–	–	–	–	–	190
Inorganic cyanide compounds (except complex salts and cyanate)	2,800	–	350	–	460	–	–	–	2,000
N,N-dimethylformamide	160,000	–	6,400	–	800	–	–	–	150,000
Bromine	5,400	5,400	–	–	–	–	–	–	–
Dioxins and dioxin-like compounds	–	–	–	–	22	–	–	–	130
Water soluble copper salts (except complex salts)	240,000	49,000	11,000	180,000	–	–	–	–	570
Triethylamine	3,700	–	–	–	–	–	–	–	3,700
1,2,4-trimethylbenzene	27,000	–	15,000	12,000	310	–	–	–	–
1,3,5-trimethylbenzene	7,600	–	5,300	2,000	94	–	–	–	200
Methyl-1,3-phenylene diisocyanate	1,000	–	910	–	47	–	–	–	68
Toluene	8,700,000	1,400,000	5,200,000	720,000	370,000	–	–	–	900,000
Naphthalene	17,000	–	15,000	1,900	87	–	–	–	170
Nickel	36,000	19,000	3,900	13,000	–	–	–	–	–
Nickel compounds	12,000	1,300	–	3,900	–	–	–	–	6,500
Hydrazine	1,200	1,200	–	–	–	–	–	–	61
N-hexane	43,000	–	2,600	–	430	–	–	–	40,000
1,2,4-benzenetricarboxylic acid 1,2-anhydride	1,800	1,500	–	230	–	–	–	–	28
Benzophenone	1,200	1,200	–	–	–	–	–	–	–
Boron compound	1,900	–	–	–	–	33	–	–	1,800
Poly (oxyethylene) alkyl ether*	1,300	1,300	–	–	–	–	–	–	19
Formaldehyde	1,100	–	–	–	1,100	–	–	–	–
Manganese and its compounds	4,300	710	–	420	–	–	–	140	3,100
Methacrylic acid	21,000	21,000	–	–	2.3	–	–	–	27
2,3-Epoxypropyl methacrylate	1,200	1,200	–	–	2.3	–	–	–	20
n-Butyl methacrylate	5,800	5,800	–	–	–	–	–	–	–
Methyl methacrylate	36,000	36,000	–	–	–	–	–	–	–
Methylenebis (4,1-phenylene) diisocyanate	1,700	1,700	–	–	–	–	–	–	–
Morpholine	91,000	9,000	1,300	–	470	–	–	–	81,000
<input checked="" type="checkbox"/> PRTR-listed substances	12,890,000	2,680,000	6,035,000	2,555,000	378,800	30	–	140	1,238,300

\*Limited to alkyls of carbon 12 through 15 or their compounds

## Environmental Management Activities—Realizing a Society in Symbiosis with Nature

# Biodiversity Conservation

At DNP we understand that we gain many benefits from ecosystems that are supported by abundant biodiversity, 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 conserve biodiversity through our business activities.

In every process, including product development, material procurement, manufacturing, sales, transport, product use and disposal of waste, we have examined the relationship with 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.

## Raw Material Procurement

### • Guidelines for Procurement of Paper for Printing and Converting

Paper is a principal raw material essential to the ongoing continuation of DNP's business operations. We are committed to the conservation of forest resources and effective use of raw materials. To this end, we actively use of products made using timber from thinned trees and FSC-certified paper. We are aiming for 100% conformity to our Guidelines for Procurement of Paper for Printing and Converting for all raw material paper products. We are also strengthening our communication with paper manufacturers, sales companies and other suppliers in an effort to assure traceability.

## “Ichigaya no Mori (Ichigaya Forest)” Won an Award of Excellence in the Second ABINC (Association for Business Innovation in Harmony with Nature and Community) Awards (Urban/SC Version)

Currently, DNP is promoting the creation of “new value,” which solves social issues and meets people's expectations by combining its own P&I (Printing and Innovation) strengths and deepening cooperation with outside partners. DNP is pushing ahead with the redevelopment of Tokyo's Ichigaya District, which is home to its head office, as a central site for promoting such initiatives. As part of this urban plan, DNP is creating the “Ichigaya no Mori (Ichigaya Forest)” as a new urban forest, developing a diverse forest that primarily consists of deciduous broad-leaved trees interspersed with evergreen trees in the image of Musashino's thicket.



“Ichigaya no Mori (Ichigaya Forest)” obtained an eco-certificate from the Association for Business Innovation in harmony with Nature and Community (ABINC) in 2018 and then won an Award of Excellence in the Second ABINC Awards (Urban/SC Version) in January 2020. These awards are made once every three years to ABINC certified business sites with facilities or green space which make a particularly significant contribution to the protection of biodiversity. Ichigaya no Mori was highly acclaimed for the following initiatives.

### 1. Largest-scale green belt in an inner-urban district

As of ABINC certification, an area of approximately 6,000m<sup>2</sup> within a redevelopment site area of around 17,000m<sup>2</sup> serves as a green space which gives consideration to biodiversity.

### 2. Planting configured only with regional native species

The greening design gives consideration to the topography of the region and vegetation consists entirely of regional native species from the Kanto region.

### 3. Diligent upkeep and management by employees

Biological surveys are implemented by experts while employees continually make daily visits and perform “awareness record-keeping” that emphasizes observations and are helpful in planting management and discovering issues.



### 🔍 About ABINC Certification

ABINC certification is awarded based on third-party evaluation by ABINC for initiatives including the creation, management and usage of biodiversity-friendly green space by business enterprises on the basis of the JBIB Guidelines for Sustainable Business Sites and JBIB Land Use Score Card compiled by the Japan Business Initiative for Biodiversity (JBIB).



Environmental Activities Data

Environmental Accounting

As an environmental management tool and as a tool for communicating with society, the DNP Group calculates and publicizes its environment-related costs in accordance with the Ministry of the Environment’s *Environmental Accounting Guidelines* (2005 Edition). The scope of calculation covers DNP and its consolidated subsidiaries (more specifically, manufacturing sites, development centers, office buildings and sales offices of manufacturing companies and a distribution company in Japan).

Category	Investment (million yen)		Expense (million yen)		Details of major efforts	Page(s) on which data is listed
	FY2018	FY2019	FY2018	FY2019		
(1) Business area costs						
1) Pollution prevention costs	318	741	1,148	1,149	VOC collection and disposal equipment, wastewater treatment facility	17, 26-28
2) Global environmental conservation costs	405	620	244	265	Conversion to inverters, waste heat recovery, switching to energy-saving lighting	17-18, 21, 22
3) Resource circulation costs	88	104	450	1,547	Furnace improvements, separation recycling, zero emissions (conversion to RPF/cement ingredients), resource recycling	17-18, 24
(Total business area costs)	811	1,464	1,842	2,961		
(2) Up/downstream costs	0	0	120	135	Container and packaging recycling expense burden, recycling system development	19, 20
(3) Administration costs	1	1	2,431	2,466	ISO 14001 inspection and registration costs, environmental education costs, environmental report composition costs	9-12, 14-15, 20
(4) R&D costs	0	0	3,481	3,328	Research and development into environmentally conscious products and services and production methods	16, 19
(5) Social activities costs	0	0	16	15	Environmental conservation of areas outside plant compounds, biodiversity conservation, support for activities of environmental conservation groups	29
(6) Environmental remediation	0	0	0	719		13
Total	812	1,465	7,890	9,624		

● Environmental conservation costs to total costs ratio

Category	Consolidated total costs (million yen)	Costs (million yen)	Ratio
Investment of current period (FY2019)	57,100	1,465	2.57%
R&D cost of current period (FY2019)	33,603	3,328	9.90%

Environmental Activities Data

Environmental Accounting

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

Category of environmental conservation benefit	Category of indicator showing benefit	Indicator values			Remarks	Page(s) on which data is listed
		FY2018	FY2019	Difference		
1) Benefit arising from supplied resources						
Total energy input volume	Energy consumption (TJ)	17,561	16,998	−563		16-18, 21, 23
	Unit consumption per domestic production for the above (TJ/billion yen)	12.5	12.1	−0.4	Energy consumed per billion yen of domestic production	16-18, 21, 23
Input volume of water	Water usage (1,000 m³)	8,680	8,490	−190		17-18, 25
	Unit consumption per domestic production for the above (1,000 m³/billion yen)	6.2	6.1	−0.1	Water usage per billion yen of domestic production	17-18, 25
Input volume of main raw materials	Supplied amount (1,000 tons)	1,952	1,551	−401		17, 24
	Amount of undesired materials generated/supplied (%)	15.4	18.1	2.8	Ratio of undesired materials to main raw materials	17, 24

2) Environmental conservation benefit related to waste or environmental impact originating from business activities

Emissions to the air	SOx emissions (tons)	4.1	6.5	2.4		17, 27
	NOx emissions (tons)	524	506	−18		17, 27
	Environmental pollutant emissions volume (tons)	14,626	14,326	−300		17-18
Water quality	COD discharge (tons)	28.4	26.8	−1.6		17, 28
	Emissions of environmental pollutants (PRTR-listed substances) (tons)	0.1	0.0	−0.1		28
Waste emission volume	Generated undesired materials (1,000 tons)	300	281	−19	Including undesired materials other than main raw materials	17, 24
	Discharged waste (1,000 tons)	51.7	50.9	−0.8		17-18, 24
	Unit consumption per domestic production for the above (tons/billion yen)	36.9	36.3	−0.6	Discharged waste per billion yen of domestic production	17-18, 24
	Recycle rate (%)	99.4	99.0	−0.4	By category: paper (100%), waste plastics (95.3%), metals (97.6%)	24
	Emissions of environmental pollutants (PRTR-listed substances) (tons)	905	1,238	333	Total for 27 substances reported	28
Volume of GHG emission	GHG emissions (1,000 t-CO₂)	961	916	−45		16-17, 21
	Unit consumption per domestic production for the above (tons/billion yen)	690	650	−40	Emissions per billion yen of domestic production	16-17, 21

## Environmental Activities Data

# Environmental Accounting

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

Category of environmental conservation benefit	Category of indicator showing benefit	Indicator values			Remarks	Page(s) on which data is listed
		FY2018	FY2019	Difference		
Benefit related to goods produced by business activities						
CO <sub>2</sub> emissions after product shipment	CO <sub>2</sub> emissions (1,000 t-CO <sub>2</sub> )	1,257	1,202	-55		18, 23
	CO <sub>2</sub> emissions / domestic sales (1,000 t-CO <sub>2</sub> /billion yen)	0.90	0.86	-0.04	CO <sub>2</sub> emissions per billion yen of domestic production	18, 23

### (3) Other environmental conservation benefit

Category of indicator showing benefit	FY2018	FY2019	Difference	Remarks	Page(s) on which data is listed
<b>Benefit related to the environmental impact of transportation</b>					
Energy usage amount during shipment of goods (kl)	20,860	<b>17,950</b>	-2,910		22
Energy usage amount during transport / gross sales (kl/billion yen)	14.7	<b>14.9</b>	0.2	Energy usage amount per billion yen of consolidated production	22

Economic benefits of environmental conservation activities	Amount (million yen)			Remarks	Page(s) on which data is listed
	FY2018	FY2019	Difference		
(1) Increased sales      1) Economic benefit of R&D costs					
Sales of environmentally conscious products and services	603,200	624,200	21,000		16, 19
(2) Increased income      2) Benefit of resource recycling costs					
Income from recycling undesired materials	3,075	2,703	372	Shift toward valuable materials such as waste plastics, etc.	24

Environmental Activities Data

Results of Efforts

<b>FY1972</b>	Establishes the Environment Department within the head office to promote pollution prevention measures and communication with local residents
<b>FY1990</b>	Makes new efforts to deal with global environmental issues by establishing the Eco-Plan Promotion Office within the Environment Department
<b>FY1992</b>	Establishes the DNP Group Corporate Pledge and Code of Conduct for DNP Group Employees Establishes the Eco-Plan Promotion Targets, the elaborated voluntary plan based on the Environmental Declaration of the Code of Conduct, and starts activities by 4 sub-committees
<b>FY1993</b>	Starts the Eco-Report System, which is part of the DNP Group's environmental management system
<b>FY1994</b>	Remodels and expands the Environment Department into the Environment & Product Liability Department to strengthen our efforts towards comprehensive environmental issues, including product liability
<b>FY1995</b>	DNP wins the International Trade and Industry Minister's Prize in the 4th Grand Prize for the Global Environment Award. (The award was established in 1991 by the Japan Industrial Journal and the Fuji Sankei Communications Group, with special support by WWF Japan and sponsorship by the Environmental Agency, the Ministry of Economy, Trade and Industry and the Japan Federation of Economic Organizations)
<b>FY1996</b>	Begins performing Eco-Audits, the internal environmental audit performed by the Eco-Plan Promotion Office to upgrade the Eco-Report System
<b>FY1997</b>	Okayama Plant, Information Media Supplies Operations becomes the first in the printing industry to acquire ISO 14001 certification
<b>FY1998</b>	Mihara Plant, Display Components Operations acquires ISO 14001 certification Publishes the DNP Group Environmental Activity Report
<b>FY2000</b>	The Eco-Plan Promotion Office is dismantled and replaced with the DNP Environmental Committee to strengthen the system for promoting environmental activities DNP Facility Services becomes the first in the world to be certified for its comprehensive system with quality, environment, office safety, and HACCP
<b>FY2001</b>	DNP Tokai and Sayama Plant, DNP Technopack acquire ISO 14001 certification
<b>FY2002</b>	DNP Tokai acquires FSC-CoC certification
<b>FY2003</b>	Environmental Report Division receives the 6th Environmental Report Grand Prize for superior reporting Two types of fused thermal transfer materials of the Information Media Supplies Operations receive EPD "Type III" environmental labeling certification and registration
<b>FY2004</b>	DNP wins the Minister for the Environment's Prize in the 14th Grand Prize for the Global Environment Award 7th Environmental Report Prize awarded for excellence Eco-Report System implemented at overseas sites
<b>FY2005</b>	8th Environmental Report Prize / Sustainability Report Prize awarded for excellence
<b>FY2007</b>	PRTR 2007 Awards PRTR Honorable Mention (Tsuruse Plant) DNP Gotanda Building wins the Green Grand Prize in the Shinagawa-ku Green Award System
<b>FY2009</b>	Kanto Bureau of Economy, Trade and Industry Energy Management In Business Superiority Award (received by Akabane Plant, Commercial Printing Operations)
<b>FY2010</b>	DNP IMS Odawara receives the Kanagawa Prefecture Environmental Conservation (Air, Water, Soil) Award Revision of DNP Group Environmental Targets The DNP Emergent Evolution Forest Hakone Training Center 2 acquires Green Key certification

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

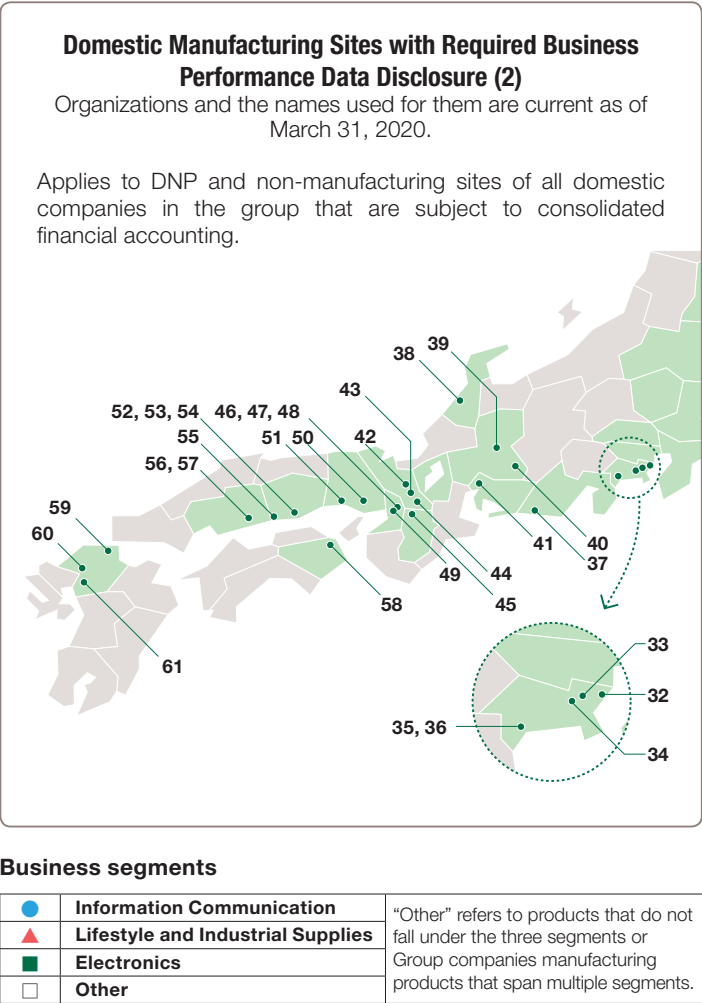
<b>FY2011</b>	DNP's independently developed Energy-Saving Total Management System is implemented at 36 Tokyo Electric Power locations New, leading-edge environmentally conscious plant for manufacturing flexible packaging is built in Kyotanabe Reductions in power consumption in the processes of manufacturing photomasks earns DNP the Energy Conservation Grand Prize for excellent energy conservation equipment, Jury's Special Prize awarded by the Energy Conservation Center, Japan (ECCJ)
<b>FY2012</b>	Guidelines for Procurement of Paper for Printing and Converting are established to protect biodiversity in our business operations, and projects to create green spaces are launched at Okayama Plant and DNP Chubu business sites Volume of GHG emissions are announced according to Scope 3 standards
<b>FY2013</b>	Targets for reduction of water usage are set Green Procurement Guidelines for Chemical Substances are set and management of chemical substances in products is strengthened
<b>FY2014</b>	Climate change prevention targets for FY2030 are set DNP is selected by CDP's Forest Program as sector leader in the Industrials & Autos sector DNP wins a Prize of Excellence (Judge's Prize) at the 18th Environmental Communication Awards
<b>FY2015</b>	DNP Group environmental targets are revised CDP places DNP on its "A List" DNP wins a Prize of Excellence (Judge's Prize) at the 19th Environmental Communication Awards
<b>FY2016</b>	DNP wins 26th Grand Prize for the Global Environment Award, Japan Business Federation Chairman's Prize DNP wins a Prize of Excellence (Judge's Prize) at the 20th Environmental Communication Awards DNP wins Biodiversity Action Award Japan 2016
<b>FY2017</b>	Hokkaido Coca-Cola Bottling wins a Special Review Panel Award in the 19th Japan Water Awards Ichigaya-Forest certified by the ABINC
<b>FY2018</b>	DNP's GHG reduction targets approved by the SBT (Science Based Targets) Initiative Ichigaya-Forest certified by the SEGES DNP wins a Prize of Excellence (Judge's Prize) at the 22nd Environmental Communication Awards DNP wins 28th Grand Prize for the Global Environment Award, Grand Prize
<b>FY2019</b>	DNP endorses recommendations of Task Force on Climate related Financial Disclosures (TCFD). DNP is included in CDP's CDP Supplier Engagement leaderboard. Ichigaya Forest wins Award of Excellence in 2nd ABINC Awards. DNP formulates DNP Group Environmental Vision 2050.





Environmental Activities Data

Manufacturing Sites with Required Business Performance Data Disclosure



Location		No.	Business segment	Site	Work content
Kanagawa	Kawasaki	32	■	Kawasaki Plant, D.T. Fine Electronics	Manufacturing of electronic precision parts
	Tsuzuki-ku, Yokohama	33	▲	Yokohama Plant, DNP Technopack	Manufacturing of packaging
	Midori-ku, Yokohama	34	□	Tokyo Plant, DNP Fine Chemicals	Manufacturing of chemicals, etc.
	Odawara	35	▲	Sagami Yoki	Manufacturing of laminated tubes
	Aikawa, Aiko	36	▲	Tokyo Plant, DNP Ellio	Printing and processing metal sheets
Shizuoka	Iwata	37	▲	Iwata Plant, DNP Tamura Plastic	Manufacturing of car supplies and various types of plastic products
Ishikawa	Hakusan	38	□	Hokuriku Techno Center, DNP Engineering	Manufacturing of printing machines and machine tools
Gifu	Gero	39	▲	Hagiwara Plant, DNP Tamura Plastic	Manufacturing of car supplies and various types of plastic products
	Nakatsugawa	40	▲	Tokai Plant, DNP Technopack	Manufacturing of packaging
Aichi	Moriyama-ku, Nagoya	41	●	Nagoya Plant, DNP Graphica	Plate-making / printing / bookbinding
Kyoto	Ukyo-ku, Kyoto	42	▲	Kyoto Plant, DNP Technopack	Manufacturing of packaging
	Minami-ku, Kyoto	43	●	Kyoto Plant, DNP Data Techno	Manufacturing of various types of smart cards
	Kyotanabe	44	▲	Tanabe Plant, DNP Technopack	Manufacturing of packaging
Nara	Kawanishi, Shiki	45	●	Nara Plant, DNP Data Techno	Manufacturing of various types of smart cards
Osaka	Neyagawa	46	▲	Neyagawa Plant, DNP Technopack	Manufacturing of packaging
		47	▲	Osaka Plant, DNP Ellio	Printing and processing metal sheets
		48	●	Neyagawa Plant, DNP SP Solutions	Manufacturing of all types of advertising items
	Kadoma	49	●	DNP Media Support	Manufacturing of magnetic cards
Hyogo	Ono	50	●	Ono Plant, DNP Graphica	Printing plate / printing / bookbinding
	Himeji	51	■	DNP Precision Devices Himeji	Manufacturing of electronic precision parts
Okayama	Okayama	52	●	Okayama Plant, DNP Imagingcomm	Manufacturing of dye-sublimation transfer materials
		53	▲	Okayama Plant, DNP Living Space	Plate-making / printing plate / printing / processing
		54	■	Okayama Plant, DNP Fine Optronics	Manufacturing of electronic parts
	Kasaoka	55	□	Kasaoka Plant, DNP Fine Chemicals	Manufacturing of chemicals, etc.
Hiroshima	Mihara	56	■	Mihara East Plant, DNP Fine Optronics	Manufacturing of electronic precision parts
		57	■	Mihara West Plant, DNP Fine Optronics	Manufacturing of electronic parts
Tokushima	Tokushima	58	□	DNP Shikoku	Plate-making / printing / manufacturing of packaging
Fukuoka	Tobata-ku, Kitakyushu	59	▲	Tobata Plant, DNP High-performance Materials	Manufacturing of solar cell filler
	Minami-ku, Fukuoka	60	●	Fukuoka Plant, DNP Graphica Fukuoka Plant, DNP Data Techno	Plate-making / printing / bookbinding
	Chikugo	61	▲	Chikugo Plant, DNP Technopack	Manufacturing of packaging

## Environmental Activities Data

# Manufacturing Sites with Required Business Performance Data Disclosure

### Overseas Manufacturing Sites with Required Business Performance Data Disclosure

#### Business segments

●	Information Communication
▲	Lifestyle and Industrial Supplies
■	Electronics

Country	City	No	Business segment	Site	Work content
Italy	Agrate Brianza	①	■	DNP Photomask Europe S.p.A.	Manufacturing of photomasks
Denmark	Karlsunde	②	■	DNP Denmark A/S	Manufacturing of projection television screens
Netherlands	Amsterdam	③	●	DNP Imagingcomm Europe B.V.	Manufacturing of information media supplies
USA	Concord, NC	④	●	DNP Imagingcomm America Corporation	Manufacturing of information media supplies
	Pittsburgh, PA	⑤	●	DNP Imagingcomm America Corporation	Manufacturing of information media supplies
Malaysia	Johor Bahru	⑥	●	DNP Imagingcomm Asia Sdn. Bhd.	Manufacturing of information media supplies
		⑦	●	Tien Wah Press (Pte.) Ltd.	Offset printing and binding
Indonesia	Pulo Gadung	⑧	▲	PT DNP Indonesia	Manufacturing of packaging
	Karawang	⑨	▲	PT DNP Indonesia	Manufacturing of packaging
Vietnam	Binh Duong Province	⑩	▲	DNP Vietnam Co., Ltd.	Manufacturing of packaging

①, ②, ④–⑥ April 2019–March 2020 totals ③, ⑦–⑩ January 2019–December 2019 totals

# Independent Review Report Comments by an Independent Institution



# LR Independent Assurance Statement

## Relating to DNP Group's Environmental Data within DNP Group Environmental Report 2020 for the fiscal year 2019

This Assurance Statement has been prepared for Dai Nippon Printing Co., Ltd.'s in accordance with our contract but is intended for the readers of this report.

### Terms of engagement

Lloyd's Register Quality Assurance Limited (LR) was commissioned by Dai Nippon Printing Co., Ltd. ("the Company") to provide independent assurance on DNP Group's environmental data and information ("the report") within DNP Group Environmental Report 2020 for the fiscal year 2019, that is, 1 April 2019 to 31 March 2020, against the assurance criteria below to a limited level of assurance and professional judgement of the verifier using ISAE3000 (Revised) Assurance Engagements Other than Audits or Reviews of Historical Financial Information and ISO14064-3:2006 Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions for GHG data.

Our assurance engagement covered the operations and activities relating to the Company and its consolidated subsidiary in Japan and overseas<sup>1,2,3</sup> and specifically the following requirements:

- Verifying conformance with the Company's reporting methodologies;
- Evaluating the accuracy and reliability of data for the selected environmental indicators listed Appendix 1;<sup>4,5</sup>

Our assurance engagement excluded the data and information of the Company's suppliers, contractors and any third-parties mentioned in the report.

LR's responsibility is only to the Company. LR disclaims any liability or responsibility to others as explained in the end footnote. The Company's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains the responsibility of the Company.

### LR's Opinion

Based on LR's approach nothing has come to our attention that would cause us to believe that the Company has not, in all material respects:

- Complied with the Company's reporting methodologies
- Disclosed accurate and reliable environmental data

The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the verifier.

**Note:** The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

### LR's approach

LR's assurance engagements are carried out in accordance with ISAE3000 and ISO 14064-3 for GHG emissions. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:



- Auditing the Company's data management systems to confirm that there were no significant errors, omissions or misstatements in the Report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification.
- Interviewing with those key people responsible for compiling the data and drafting the report.
- Sampling datasets and traced activity data back to aggregated levels;
- Verifying the historical environmental data and records for the fiscal year 2019; and
- By implementing the Company's "No Visitor" Policy due to the global infection spread of COVID-19, conducting the remote verification to Okayama Plant of DNP Living Space Co., Ltd. and Mihara East Plant of DNP Fine Optronics Co., Ltd. for confirming the effectiveness of its data management systems via emails and Microsoft Teams.

### Observations

The Company should further demonstrate the accuracy, reliability and completeness of its future reports. Especially the company should make further efforts to improve the accuracy of reported parameters measured on their own usage through formalisation of measurement equipment handling and control rules.

### LR's standards, competence and independence

LR implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases - Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021-1 Conformity assessment - Requirements for bodies providing audit and certification of management systems - Part 1: Requirements that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LR ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

LR is the certification body of ISO9001 and ISO14001 for the DNP Elio Co., Ltd. which is the consolidated subsidiary of the Company and as such does not compromise our independence or impartiality.

Signed



Norihiko Kinoshita

LR Lead Verifier

On behalf of Lloyd's Register Quality Assurance Limited

10th Floor, Queen's Tower A, 2-3-1 Minatomirai, Nishi-ku, Yokohama, JAPAN

Dated: 9 July 2020

LR reference: YKA00000845

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## Appendix 1: The Scope of Work

LR undertook a limited assurance engagement of the environmental data listed below within the Environmental Report 2020. (The number of pages on the left side of this table below is the page published in the Environmental Report 2020.)

P.16	GHG emissions <sup>4</sup>
	Fuel use for transport per amount of sales
	Emissions of VOCs (except for methane)
	Waste emissions per amount of sales
	Landfill waste rate
	Water use per amount of sales (includes overseas location)
	Sales of environmentally conscious products and services
P.17-18	Main raw materials consumption (Paper, Film, Plastic, Metal, Ink, and Others)
	Solvent use
	Acid and alkaline use
	Energy consumption (Electricity, City gas, LNG, LPG, Fuel oil, Steam, and Kerosene)
	Water use
	GHG emissions <sup>4</sup>
	Atmospheric emissions of VOCs
	Water discharged
	Total amount of undesired materials
	Waste emissions
	Landfill waste amount
P.19	Transition of sales of environmentally conscious products and services (including the breakdown of the sales amount of the department)
P.21	Scope 1 and Scope 2 GHG emissions <sup>4</sup> (including the breakdown of Scope 1 and Scope 2 [Market-based])
	Domestic fuel composition
P.22	Fuel use for transport
	Fuel use for transport per amount of sales
	Power consumption at major offices
P.23	Scope 3 GHG emissions <sup>4,7</sup> (Categories 1,2,3,4,5,6,7,9,11, and 12)
P.24	Undesired material generation (including the breakdown of the department)
	Waste emissions (including the breakdown of the department)
P.25	Water use
P.27	Atmospheric emissions of VOCs (includes the breakdown of PRTR and non-PRTR VOCs)
P.28	Chemical Substances Subject to the PRTR Law (includes the breakdown of Release and Transfer amount)

### Verification period

- Fiscal year 2019 (1 April 2019 to 31 March 2020)
- Some overseas plants collect and aggregate the environmental data in the calendar year 2019 (1 January 2019 to 31 December 2019).

<sup>4</sup> GHG quantification is subject to inherent uncertainty.

<sup>7</sup> Regarding Scope 3 GHG emissions, the scope is covered major domestic sites (excluding Hokkaido Coca-Cola Products and the subsidiaries book stores etc.) and major overseas sites (PT DNP Indonesia, DNP Imagingcomm America Corporation, DNP Imagingcomm Asia Sdn. Bhd., and Tien Wah Press (Pte.) Ltd.

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