



**NIPPON PAPER GROUP**

# Sustainability Report 2017



Shaping the Future with Trees

## Consolidated Subsidiaries

### Pulp and Paper Business

Nippon Paper Crecia Co., Ltd., Nippon Paper Papylia Co., Ltd., SUN OAK CO., LTD., Nippon Tokai Industrial Paper Supply Co., Ltd., Paper Australia Pty Ltd. (and its 7 subsidiaries), NP Trading Co., Ltd., Kokuei Paper Co., Ltd., Kitakami Paper Co., Ltd., Daishowa North America Corporation, Nippon Paper Industries USA Co., Ltd., Dyna Wave Holding Asia, Jujo Thermal Oy, Siam Nippon Industrial Paper Co., Ltd., and Nippon Dynawave Packaging Co.

### Paper-Related Business

Sakurai Co., Ltd., Nippon Seitai Corporation, and FLOWRIC CO. LTD.

### Wood Products and Construction Related Business

Nippon Paper Lumber Co., Ltd., NIPPON PAPER UNITEC CO., LTD., Kokusaku Kiko Co., Ltd., Nippon Paper Ishinomaki Technology Co., Ltd., Kunimoku House Co., Ltd., N&E Co., Ltd., Daishowa Uniboard Co., Ltd., Nanei Co., Ltd., Nichimoku Fancy Materials Co., Ltd., Nippon Paper Resources Australia Pty Ltd., and Amapá Florestal e Celulose S.A.\* (and 1 subsidiary)  
\* Referred to as AMCEL in this report.

### Other Businesses

NIPPON PAPER LOGISTICS CO., LTD., NANKO UNYU CO., LTD., Kyokushin Transport Co., Ltd., Hotoku Co., Ltd., Nippon Paper Development Co., Ltd., and GAC CO., LTD.

## Group Companies

	Japan	North America	Australia	Asia	Europe	South America	Africa	Total
Consolidated subsidiaries	25	4	4	4	3	2	0	42
Non-consolidated subsidiaries	68	1	0	7	1	0	0	77
Affiliates	32	1	0	3	1	1	1	39
Equity-method affiliates	8	1	0	1	0	0	0	10

## Production Sites

### Pulp and Paper Business

#### ● Nippon Paper Industries Co., Ltd.

- 1 Kushiro Mill
- 2 Hokkaido Mill (Asahikawa)
- 3 Hokkaido Mill (Yufutsu)
- 4 Hokkaido Mill (Shiraoi)
- 5 Akita Mill
- 6 Ishinomaki Mill
- 7 Iwanuma Mill
- 8 Nakoso Mill
- 9 Kanto Mill (Ashikaga)
- 10 Kanto Mill (Soka)
- 11 Fuji Mill
- 12 Otake Mill
- 13 Iwakuni Mill
- 14 Yatsushiro Mill

#### ◆ Nippon Paper Crecia Co., Ltd.

- 15 Tokyo Mill
- 16 Kaisei Mill
- 17 Kyoto Mill
- 18 Koyo Mill

#### ■ Nippon Paper Papylia Co., Ltd.

- 19 Harada Mill
- 20 Suita Mill
- 21 Kochi Mill

#### ▲ Kitakami Paper Co., Ltd.

- 22 Ichinoseki Mill

#### ● Nippon Paper Industries USA Co., Ltd.

- 23 Port Angeles Mill

#### ● Paper Australia Pty Ltd.

- 24 Maryvale Mill

#### ● Jujo Thermal Oy

- 25 Kauttua Mill

#### ● Siam Nippon Industrial Paper Co., Ltd.

- 26 Siam Mill

#### ● Nippon Dynawave Packaging Co.

- 27 Siam Mill

### Paper-Related Business

#### ● Nippon Paper Industries Co., Ltd. (Paper-Pak Division)\*

- 1 SOKA PAPER-PAK CO., LTD.
- 2 EGAWA PAPER-PAK CO., LTD.
- 3 MIKI PAPER-PAK CO., LTD.
- 4 ISHIOKA KAKO CO., LTD.

#### ◆ Nippon Paper Industries Co., Ltd. (Chemical Division)\*

- 5 Gotsu Mill\*
- 6 Iwakuni Mill\*
- 7 Higashimatsuyama Mill
- 8 Yufutsu Mill

#### ■ Nippon Seitai Corporation

- 9 Asahikawa Mill
- 10 Maebashi Mill
- 11 Saitama Mill
- 12 Niigata Mill
- 13 Kyoto Mill
- 14 Kyushu Mill

#### ▲ Akita Jujo Chemicals Co., Ltd.

- 15 Head Office Plant

### Wood Products and Construction Related Business

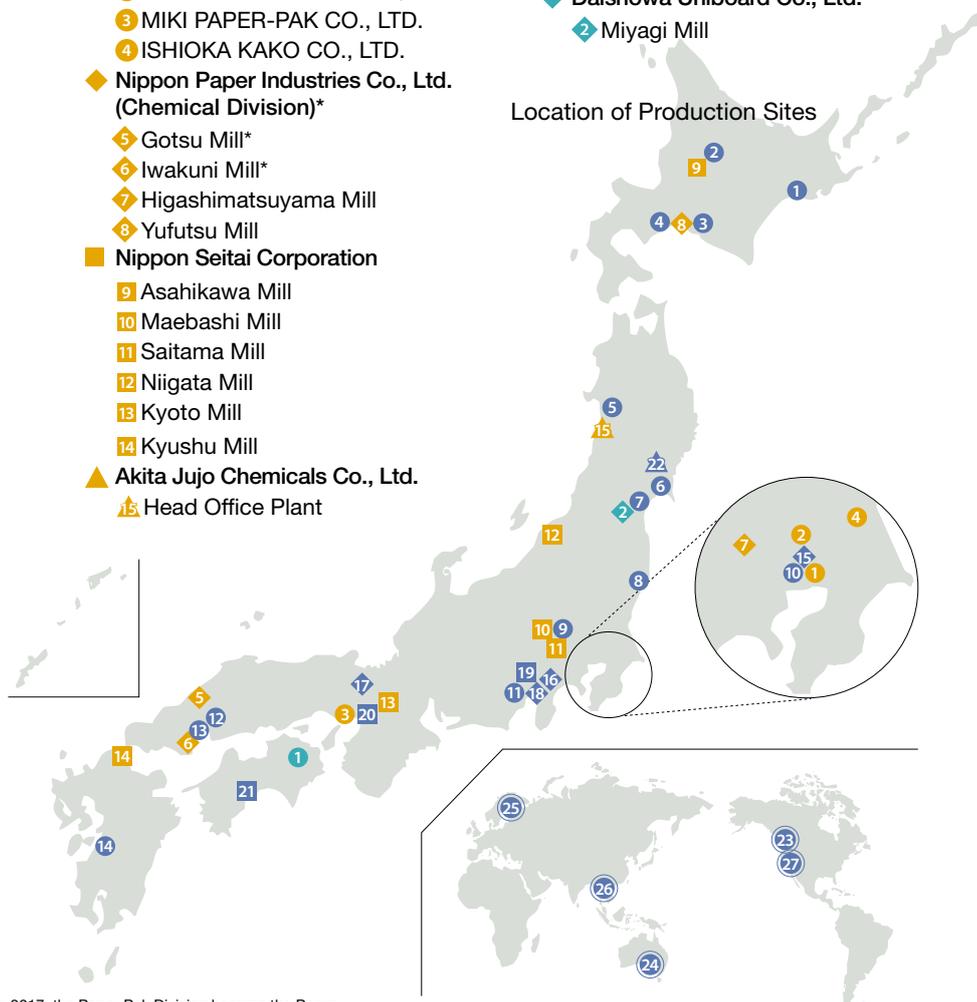
#### ● Nippon Paper Lumber Co., Ltd.

- 1 N&E Co., Ltd.

#### ◆ Daishowa Uniboard Co., Ltd.

- 2 Miyagi Mill

Location of Production Sites



\* In an organizational restructuring implemented in June 2017, the Paper-Pak Division became the Paper-Pak Sales Division, and the Chemical Division became the Chemical Sales Division. The Gotsu Mill, which was part of the Chemical Division, was made into its own organizational unit. The Iwakuni Mill, which was also part of the Chemical Division, was consolidated with the pulp and paper business's Iwakuni Mill.

## Editorial Policy

The Nippon Paper Group publishes its sustainability report to provide stakeholders with a broad overview of what we are doing to meet our corporate social responsibilities (CSR). The Group also publishes an annual report to provide information on its financial aspects and results of operations.

This report was prepared in accordance with the core option of the fourth update of the GRI Sustainability Reporting Guidelines (G4).

### Period Covered

Fiscal 2016: April 1, 2016–March 31, 2017

Includes information from before April 1, 2016 and after March 31, 2017. Dates are indicated in such cases.

### Scope of Organizations Covered

The reporting entity is Nippon Paper Industries Co., Ltd. Data, however, were compiled as of March 31, 2017 for Nippon Paper Industries Co., Ltd. and all 42 of its consolidated subsidiaries.

### Scope of Environmental Coverage

The scope of the report covers the basic environmental policies, systems, environmental accounting and environment performance and other data for the 20 companies, including 5 non-consolidated subsidiaries with production facilities, named below. All major production locations are included.

Consolidated: Nippon Paper Industries Co., Ltd.; Nippon Paper Crecia Co., Ltd.; Nippon Paper Papyrus Co., Ltd.; Paper Australia Pty Ltd.; Kitakami Paper Co., Ltd.; Jujo Thermal Oy; Siam Nippon Industrial Paper Co., Ltd.; Nippon Seitai Corporation; Nippon Paper Lumber Co., Ltd.; N&E Co., Ltd.; Daishowa Uniboard Co., Ltd.; Nippon Paper Development Co., Ltd.; GAC CO., LTD.; Amapá Florestal e Celulose S.A.; Nippon Dynawave Packaging Co.

**(The contribution to total consolidated sales of the companies listed here was 94%.)**

(Sales data for trading companies that are members of the Nippon Paper Group and sell products made by the Group to outside buyers are included.)

Non-consolidated: SOKA PAPERPAK CO., LTD.; EGAWA PAPER-PAK CO., LTD.; MIKI PAPER-PAK CO., LTD.; ISHIOKA KAKO CO., LTD.; Akita Jujo Chemicals Co., Ltd.

### Referenced Guidelines

- *Environmental Reporting Guidelines (2012)* of the Ministry of the Environment
  - *Sustainability Reporting Guidelines (Version 4)* issued by the Global Reporting Initiative (GRI)
  - United Nations Global Compact
  - ISO 26000, etc.
- \* Information on performance relative to guidelines is available at the following URL.  
<http://www.nipponpapergroup.com/english/csr/gri/>

### Disclaimer

This report includes not only statements of fact and historical data but also plans, forecasts and estimates (forward-looking statements) based on the business plans and policies of the Nippon Paper Group. These forward-looking statements are the result of assumptions or judgments based on currently available information as this report was prepared. It should be noted that forward-looking statements may differ significantly from actual results due to the impacts of a number of important factors.

## Contents

Major Operating Companies and Production Sites .....	2
Editorial Policy .....	3
<b>Message from the President</b> .....	4
<b>Nippon Paper Group Business Overview</b> .....	6
<b>Business Model and Strategy</b>	
• The Sustainable Business Model of a Comprehensive Biomass Company .....	8
• Targeting New Value through Our R&D and Business Strategy .....	10
<b>Business Activity Impacts and Materiality</b>	
• Social Issues and the Nippon Paper Group's Value Creation Flow .....	12
• CSR Materiality at the Nippon Paper Group .....	14
<b>Management Responsibility</b> .....	15
Corporate Governance and Information Disclosure / CSR Management / Compliance / Dialogue with Stakeholders*	
* Includes examples of dialogues with a chip supplier.	
<b>Forest Management and Raw Material Procurement Responsibility</b> .....	23
Policy and Management / Current Status of Raw Materials Procurement / Sustainable Procurement of Raw Materials / Protecting and Nurturing Japan's Wood Resources / Overseas Afforestation	
<b>Environmental Responsibility</b> .....	31
Policy and Management / Reduction of Environmental Impacts / Climate Change Initiatives / Promoting Recycling / Preserving Biodiversity	
<b>Responsibility to Customers</b> .....	47
Policy and Management / Enhancement of Product Safety / Providing Environmentally and Socially Conscious Products	
<b>Human Rights, Employment and Labor Responsibility</b> .....	53
Policy and Management / Occupational Safety and Health / Creating Workplaces that Support Diverse Human Resources	
<b>Responsibility to Communities</b> .....	61
Policy and Management / Coexistence with Local Communities and Society at Large / Corporate Identity Sharing	
Outline of the Nippon Paper Group .....	66
Third-Party Comments / Action in Response to Third-Party Comments .....	67

**As a comprehensive biomass company shaping the future with trees, the Nippon Paper Group will contribute to the building of a sustainable society by utilizing the diverse qualities of wood, a renewable resource, to swiftly grow a broad array of businesses.**

### **The Nippon Paper Group will build on its sustainable business model and continue to be a company that is indispensable to society.**

Through its sustainable stewardship of renewable forests, the Nippon Paper Group is sequestering CO<sub>2</sub> in trees and helping to protect ecosystems and biodiversity. By effectively applying every bit of the abundance of biomass resources forests produce, we are also helping to slow the depletion of fossil fuels and lower the environmental impact of their use. Furthermore, we are a leader on the recycling front, using recycled content for 38% of the raw material for our paper and 89% of the raw material for our paperboard.

With its sustainable business model, the Nippon Paper Group aims to engage in business activities that consider the impacts on and needs of stakeholders while contributing to the sustainability of society. By swiftly developing businesses along these lines to achieve long-term growth, the Nippon Paper Group will continue to be a company that is indispensable to society.

### **By uncovering and developing new fields, we are helping to enrich daily life and culture.**

Business structure transformation is one of the key themes of our Fifth Medium-Term Business Plan, covering the period April 1, 2015 to March 31, 2018. In 2016, therefore, we concentrated on reallocating and using assets more effectively and strengthening the profitability of our domestic and overseas paper and paperboard businesses, while also developing businesses in growth areas and enhancing the profitability of new businesses.

In industrial paper, an existing business area, we furthered our production and sales business alliance with Tokushu Tokai Paper Co., Ltd., creating Nippon Tokai Industrial Paper Supply Co., Ltd. In the packaging business, we established a new internal organization to strengthen product development and R&D. Overseas, we acquired a liquid packaging board business from a North American company and concluded a license agreement with a

Norwegian company regarding gable-top liquid packaging that can accommodate closures. In the area of healthcare, we concluded an agreement with Kasuga Paper Industry Co., Ltd. to create a joint venture for household paper products. In 2017, we will commence operation of a demonstration facility for using torrefaction technology to produce woody biomass fuel in a new business undertaking in Thailand. In addition, we have already established one of the world's largest high-capacity production facilities for cellulose nanofiber (CNF), at the Ishinomaki Mill; a kneading facility for combining CNF and plastic, at the Fuji Mill; and high-capacity production facilities for food and cosmetics products at the Gotsu Mill. Regarding CNF, we have established an organization for performing R&D, application development, and marketing activities, and aim to achieve rapid progress in this business by making the most of our new CNF facilities to develop a wide range of applications for this material and market it to other companies.

Going forward, we will draw on the advanced wood-application technologies we have cultivated in our papermaking business and on our wealth of woody biomass resources to rapidly develop new products that consumers will find indispensable for daily life.

### **We aim to thoroughly understand impacts on all of our stakeholders and to achieve sustainable development for society and the Nippon Paper Group.**

I believe paying attention to local environmental needs and maintaining safe operations are critical to fulfilling our responsibilities as a manufacturer, and what enable us to be a part of the communities where we operate. We, therefore, devote significant time and attention to communicating with communities, customers, and other stakeholders to see what impacts we are having and respond to expectations and desires. In environmental matters, we reflect what we learn, and our responses to issues, in the medium-term environmental action plans that guide our environmental management. Regarding matters of safety, we make safety and health our top priorities and, based on the iron principle that no one must be injured in

## Group Mission

Mission	Vision	Value
<p>The Nippon Paper Group aims to contribute to better living and cultural progress everywhere it does business.</p>	<ol style="list-style-type: none"> <li>1. Drive social sustainability through our business</li> <li>2. Delight our customers</li> <li>3. Instill pride in employees</li> <li>4. Give back to society</li> </ol>	<p><b>Challenge: Embrace new challenges</b>  <b>Fairness: Be fair</b>  <b>Teamwork: Champion teamwork</b></p>

our facilities, spare no effort in making work environments as safe as they can be.

In our Group Mission, we emphasize embracing new challenges, acting with fairness, and championing teamwork. Embracing new challenges means rising to the challenges of an industry characterized by dynamic change. Fairness means having a corporate culture that not only exercises fairness in our dealings with outside parties but also applies internal rules with an even hand. Championing teamwork means having individuals properly perform their respective roles to realize our Group Mission.

Nippon Paper Industries Co., Ltd. is a signatory to the United Nations Global Compact, which sets out 10 principles on human rights, labor, environment, and anti-corruption, and we, as a responsible member of society, are participating in the building of a global framework for realizing sustainable growth. In my role as a company president, I am aware that business survival requires that the challenge of realizing a sustainable society - a common issue for all of humankind - be faced head on.

This report focuses on describing how our sustainable business model, as that of a comprehensive biomass company, contributes to problem resolution and ongoing development for society, and how we will continue to pursue our business in coexistence with local communities. Taking the perspective of R&D targeting long-term value creation, it also discusses how we will achieve long-term growth and how our actions further achievement of the sustainable development goals (SDGs) adopted by the United Nations.

The Nippon Paper Group places great importance on maintaining dialogues with stakeholders and working in ways that promote the development of a sustainable society. We welcome candid feedback on how we can improve in these endeavors.

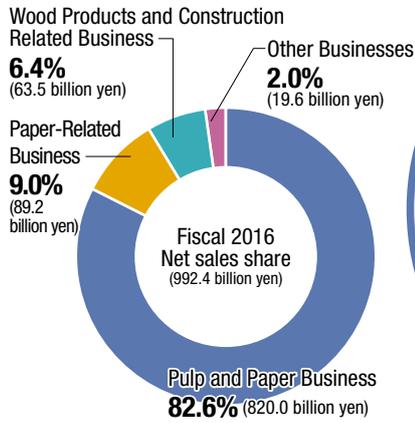


**Fumio Manoshiro**  
 President  
 Nippon Paper Industries, Co., Ltd.



# Nippon Paper Group Business Overview

The Nippon Paper Group uses renewable wood resources to pursue a diversity of businesses. From paper and paperboard, and household paper, to paper containers, chemicals, and housing construction materials, we provide a wide range of products indispensable for daily life.



### Paper Media

Product Examples

Newsprint      Printing paper

### Packaging

Product Examples

Linerboard and corrugated medium      Beverage containers

## Pulp and Paper Business

### Business Description

Various paper, paperboard and household paper products in this core segment lead the domestic industry in production, sales volumes and quality. We are working to reorganize our production structure. At the same time, we are proactively developing overseas markets for paper and paperboard, especially in Asia and the Pacific Rim. Significant attention is also being devoted to the application of in-house power generation know-how to produce and sell electricity.

### Principal Customers

Newspaper, publishing, printing, and stationery companies; public offices, paper manufacturers, electric utilities, and general consumers

### Household and Healthcare

Product Example

Household products      Healthcare products

### Special Function Papers

Product Example

Specialty paper (teabags and other products)

### Energy

Business Example

Power generation business



## Paper-Related Business

### Business Description

Comprising this business are three segments, including paper-processing operations, which add various forms of value to paper as a raw material; the chemical products segment, which applies all wood components fully in the manufacture and sale of various types of products; and the functional film segment, which makes the most of its clean coating technology.

### Principal Customers

Manufacturers of beverages, food, chemicals and other products, and various types of paper processing companies

### Chemicals

#### Product Examples



Coating materials



Food additives



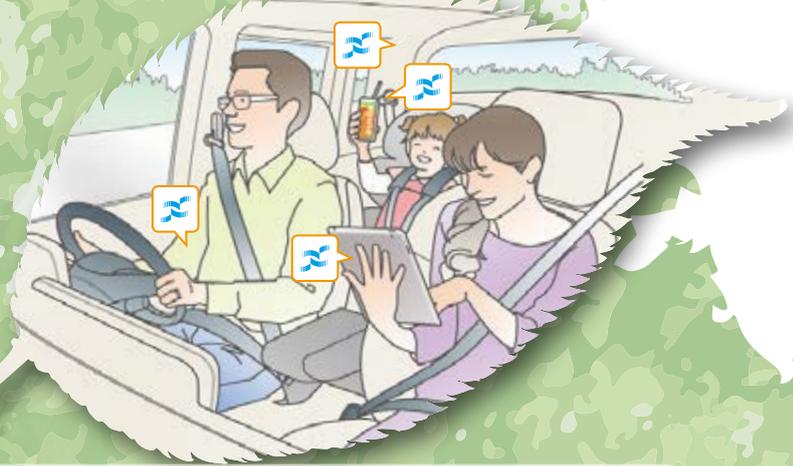
Material for LCDs



Raw material for rayon



Concrete dispersant



## Wood Products and Construction Related Business

### Business Description

The lumber segment of this business has the advantage of using Japanese timber obtained by the same expertise we use to procure wood resources for making paper. It also strives to use Japanese timber for construction materials and finished products. The civil-engineering-related segment makes use of the technologies we have amassed for maintaining facilities at our paper mills.

### Principal Customers

Construction materials, housing and construction companies, general consumers, and public offices

### Housing and Construction

#### Product Examples



Lumber



Interior decoration materials

## Other Businesses

### Business Description

Included here are segments that put biotechnology expertise developed in afforestation R&D to work in agricultural pursuits; apply real estate and other Group assets in sports and leisure operations; and handle product and material logistics for Group companies.

### Principal Customers

Businesses and general consumers

### Agriculture

#### Business Example



Tea business

### Sports & Leisure

#### Business Example



Leisure business

# The Sustainable Business Model of a Comprehensive Biomass Company

The Nippon Paper Group is a comprehensive biomass company that, while sustainably managing forests, effectively uses and recycles the abundant biomass resources they produce. We practice CSR activities consistent with our business characteristics and business strategies.

Helping to fight global warming, protect biodiversity, and prevent resource depletion

Three Cycles Contributing to Sustainable Development

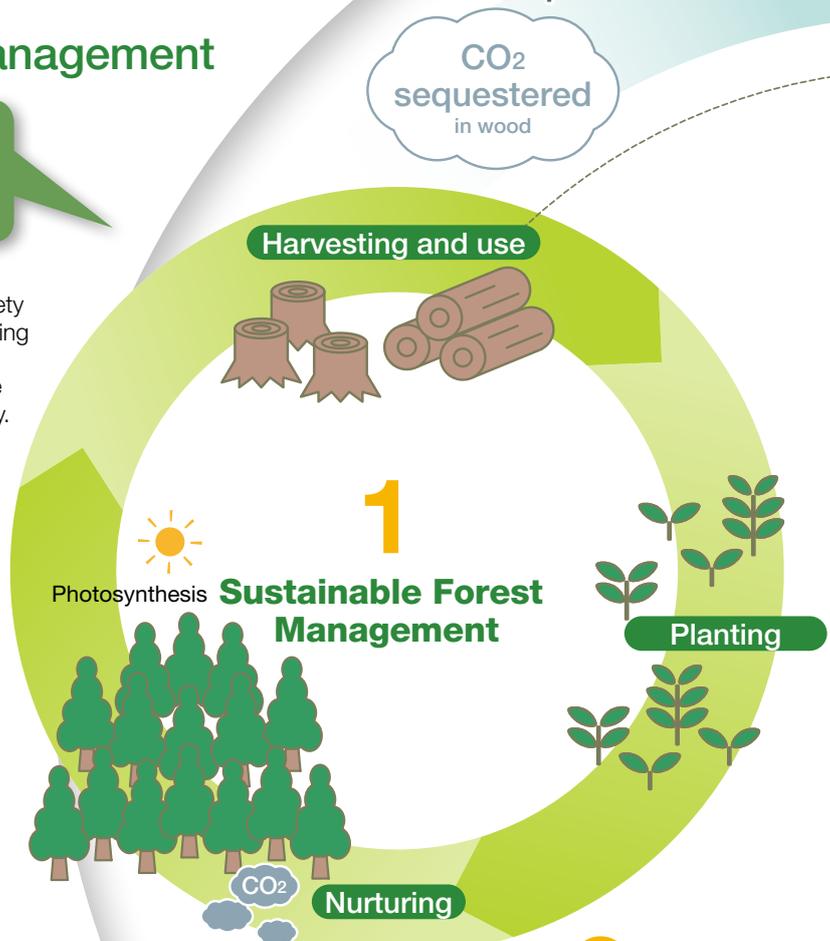
## 1 Sustainable Forest Management

**181** thousand hectares of company-owned forests worldwide

In addition to preventing global warming and protecting watersheds, forests perform a wide variety of functions such as providing shelter for diverse living creatures. After harvesting, steps such as tree planting are taken to regenerate forests and ensure that forests under our stewardship thrive indefinitely.

**Preserving biodiversity**  
Nippon Paper Industries has designated approximately 20% of its Japanese forest as "environmental forest areas." In these areas, logging for commercial purposes is prohibited and forest ecosystems and water resources are protected. These environmental forest areas include national park lands in Akan, Nikko, and other places as well.

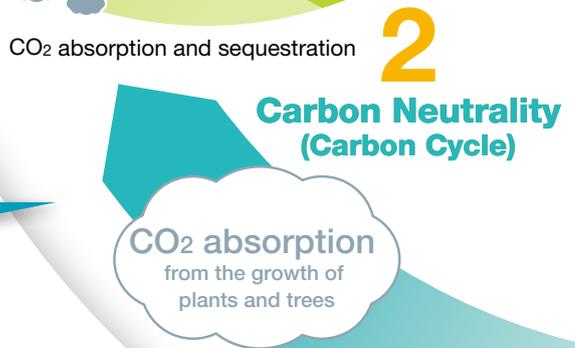
**Environmental forest areas:**  
**18** thousand hectares  
About 20% of forests owned in Japan



## 2 Carbon Neutrality (Preventing Global Warming through the Carbon Cycle)

**CO2 sequestered in company-owned forests worldwide:** **33** million tons

Trees, the principal raw material used by the Nippon Paper Group, absorb and hold CO<sub>2</sub> from the atmosphere as they grow. It is believed, therefore, that the release of CO<sub>2</sub> when wood resources are burned results in no net increase in atmospheric CO<sub>2</sub>. The ongoing effective use of wood resources from properly managed, sustainable forests constitutes a carbon-neutral cycle that adds no carbon to the atmosphere.



## Toward greater use of trees

Wood science technologies



Woody biomass resources

New business creation  
Expansion of product applications to growth areas

### Cascade use of wood

#### Unprocessed wood



#### Use as a material

Paper and construction materials and various other products



CO<sub>2</sub> emission from burning

#### Use as a fuel

Black liquor, construction waste, logging residue, and other forms of biomass fuel



Use

3

### Recycling of Paper Products

Separation and collection

Production of recycled paper

Pulp production from wastepaper

## Making full use of trees as a biomass resource

### Cascade use of wood

While constantly building upon its wealth of wood science technologies, the Nippon Paper Group uses every harvested tree in a cascade of applications.

### Prevention of resource depletion

Of the energy used by the Nippon Paper Group, 46% is comprised of black liquor from the pulp-making process, wood construction waste and other biomass fuels, and fuels derived from discarded tires, RPF, and other waste materials.

The Group is also making advances in the development of biomass fuel that can be used in place of fossil fuels.

### Non-fossil energy\* as a percent of total energy usage:

46%

\* Non-fossil energy = biomass energy+ waste energy

## 3 Recycling of Paper Products

### Recycled paper utilization rate

Paper **38%** Paperboard **89%**

The Nippon Paper Group is working diligently to increase the waste paper collection rate with the support of customers and the general public. In addition to bolstering its recycled paper processing capabilities, the Group is striving to expand the range of applications for pulp made from wastepaper.

# Targeting New Value through Our R&D and Business Strategy

The Nippon Paper Group is creating new value as a comprehensive biomass company shaping the future with trees.

Message

## R&D Activities Targeting Long-Term Growth

The Paris Agreement<sup>1</sup> was adopted at the United Nations Framework Convention on Climate Change in 2015. As a signatory to the agreement, the Japanese government established the objective of achieving an 80% reduction in greenhouse gas emissions by 2050. The use of woody biomass can make a large contribution to the achievement of a low-carbon society (see pages 40, 41), and interest in this renewable natural resource is rising. The Nippon Paper Group, as a comprehensive biomass company, aims to develop ecologically friendly products and promote them across the globe.

R&D is key to that effort. To increase the amount of wood we can harvest per unit area, we are researching the application of cutting and hybridization technologies for trees. We are also developing cellulose nanofiber (CNF) (see page 11), a new material derived from cellulose - a component of wood and the raw material for paper. At the same time, our Cellulose Nanofiber Research Laboratory and newly established Innovative Material Sales Division are working to develop CNF applications. Lignin is another important component of wood and we have devoted significant efforts to using it as a fuel for our in-house power generation facilities and to developing lignin-based products. In addition, we, as a biorefinery, are moving forward with a Japanese-government-led project exploring possibilities for lignin as a raw material.

In the area of paper-based products, we have accelerated the development of ecologically friendly products by establishing the Packaging Research Laboratory and Packaging Communication Center, which performs marketing functions, in 2016. We did this in light of the overwhelmingly positive response to SPOPS® (see page 51) – the world’s first Paper-Pak replaceable shampoo dispenser cartridge – and our new SHIELDPLUS® (see page 52) packaging material with exceptional barrier properties.

As a comprehensive biomass company, the Nippon Paper Group performs R&D that is also valuable for achieving Sustainable Development Goals (SDGs)<sup>2</sup>. New materials can contribute to SDG achievement, but R&D in this area usually requires long periods of time. To accelerate it, we will apply approaches such as open innovation when necessary. We aim to achieve sustainable growth by accelerating R&D and developing new businesses. And it is through the pursuit of R&D with a long-term perspective that we will help to enrich daily life and culture for people throughout the world.

1 Paris Agreement: Multilateral agreement aimed at limiting climate change. Adopted at the 21st session of the Conference of the Parties to the 1992 United Nations Framework Convention on Climate Change (COP21), in December 2015.

2 Sustainable Development Goals (SDGs): 17 global goals with 169 targets. Adopted by over 150 leaders of member states at the United Nations Sustainable Development Summit held in September 2015.



**Kazufumi Yamasaki**

Executive Vice President, Representative Director and General Manager of the Research & Development Division and CSR Division Nippon Paper Industries Co., Ltd.

### Relevant Sustainable Development Goals

The Nippon Paper Group can achieve SDGs by successfully implementing its business model. In R&D, work proceeds with the aim of achieving SDGs over the medium-to-long term.



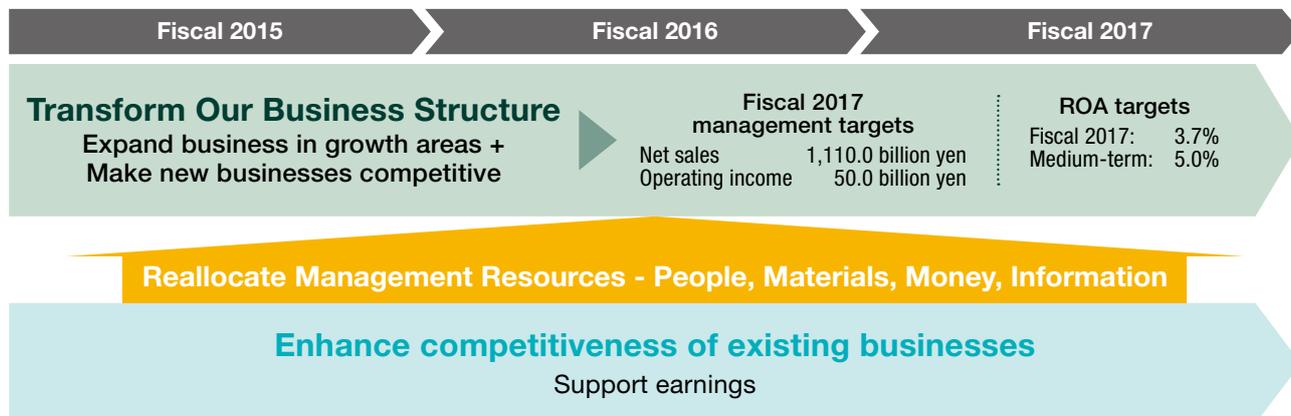
### Main R&D Themes

<p><b>Nurture</b></p> <p><b>Technical assistance to plantations</b></p> <ul style="list-style-type: none"> <li>• Rapid improvement in growth of plantation trees</li> <li>• Genetic improvement of plantation trees</li> <li>• Development of efficient analysis methods for wood properties</li> <li>• Environmental improvement in plantation areas</li> </ul>	<p><b>Sources of Growth</b></p> <p>The Nippon Paper Group's Wood Science Technologies</p> <p>+</p> <p>Nippon Paper Industries' Global Biomass Resources</p> <p><b>181 thousand hectares in total</b></p> <p>(Company-owned forests in Japan: 90 thousand hectares Overseas afforestation areas: 91 thousand hectares)</p>	<p><b>Apply</b></p> <p><b>Biorefinery</b></p> <ul style="list-style-type: none"> <li>• DKP</li> <li>• Fuel by torrefaction</li> <li>• Chemical production</li> </ul>	<p><b>Apply</b></p> <p><b>Cellulose nanofiber (CNF)</b></p> <ul style="list-style-type: none"> <li>• Production technology development</li> <li>• Application development</li> <li>• International standardization</li> <li>• Safety</li> </ul>
--	---	--	---

# Implementing the Three-Year Medium-Term Business Plan

Working from a base of enhancing profitability in the domestic and overseas paper and paperboard businesses, the Nippon Paper Group is expanding businesses in growth areas by transforming the business structure.

## Overview of the Fifth Medium-Term Business Plan



## Examples of Results Achieved with Technologies and Assets on Hand

### Growth Areas / New Businesses

#### Energy

- Expansion of wind power, biomass power generation and other renewable energy businesses
- Development of biomass fuels

#### Energy Business

In fiscal 2016, we expanded the Komatsushima Solar Power Plant and the thermal power plant at Suzukawa entered into commercial operation. The wind power generation facility in Akita and the biomass power generation facility at Ishinomaki Hibarino, both of which are under construction, are scheduled to come online in fiscal 2017.



The biomass power generation facility at Ishinomaki Hibarino

#### Chemicals

- Cellulose nanofiber
- Expansion of high-value-added product sales
- Expansion of overseas sales

#### Cellulose Nanofiber (CNF)

In April 2017, we commenced operation of a high-capacity (500t/yr.) production facility for CNF. This facility, located at the Ishinomaki Mill, chemically treats wood pulp to produce CNF with a uniform fiber width of 3 nm. Product development work will focus on creating items such as antibacterial/deodorizing sheets, transparent sheets, paint additives, and other industrial products.



High-capacity production facility for CNF

#### Healthcare

- Expansion of light incontinence product sales
- Expansion of overseas sales

#### Healthcare

The Poise® Hada Care Pad and the Hada Care Acty® series - CNF products with high deodorizing capacity - respond to the needs of an aging society. Going forward, management resources will continue to be directed toward the healthcare business, which is expected to continue growing.



Poise® Hada Care Pad

Hada Care Acty®

#### Packaging

- Refinement of liquid carton designs
- Closures attachable

#### Liquid Cartons

Pure-Pak Curve, a new type of paper carton with a resealable closure, was adopted for use by the manufacturer of a major brand of fruit juice. Sales of these products in Pure-Pak Curve containers began in March 2017. As Japan's largest total system supplier of liquid cartons, we are committed to moving forward with the development of more new products.



New type of paper carton with a resealable closure

# Social Issues and the Nippon Paper Group's Value Creation Flow

## Toward Sustainable Social Development

As shown in the diagram below, the Nippon Paper Group addresses social issues through its value chain. Among these social issues, we identified materiality items. (see page 14). In the upper right part of the diagram are SDGs the Group can work to achieve either through the execution of its sustainable business model (see pages 8-9) or through minimization of negative impacts of business activities. These SDGs are particularly relevant for the Nippon Paper Group because of their economic, environmental, and social impacts. They are, therefore, viewed as overlapping with materiality items and are also matters for us to consider carefully from a medium-to-long-term perspective in our R&D activities.

### SDGs with Particular Relevance for the Nippon Paper Group's Materiality Items

Economic, Environmental, and Social Impacts



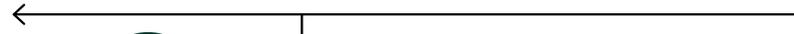
#### Goal 15 Life on Land

Enable the sustainable use of the public functions of forests and the services of ecosystems by properly managing company-owned forests.



#### Goal 13 Climate Change Initiatives

Help to reduce the loss of forests by strictly practicing proper, legal procurement. Strive to rein in CO<sub>2</sub> emissions in all business activities.



### Addressing Social Issues in Our Value Chain

Materiality

Social Issues	ISO 26000 Core Subjects	Pages in Sustainability Report 2017	Raw Material Procurement
Management Responsibility	Organizational Governance, Fair Operating Practices	PP.15-22	←
Forest Management, Raw Material Procurement, and Environmental Responsibility	The Environment	PP.23-46	<ul style="list-style-type: none"> <li>Sustainable procurement of raw materials (Efforts to procure certified material, confirm legitimacy, pursue afforestation overseas, obtain certifications for company-owned forests, and use domestic materials)</li> <li>Protection and nurturing of company-owned forests (Preserving biodiversity)</li> </ul>
Responsibility to Customers	Consumer Issues	PP.47-52	←
Human Rights, Employment and Labor Responsibility	Human Rights, Labor Practices	PP.53-60	<ul style="list-style-type: none"> <li>Confirmation of suppliers' actions in respecting human rights</li> <li>Respect for human rights in the company's forest management</li> </ul>
Responsibility to Communities	Community Involvement and Development	PP.61-65	<ul style="list-style-type: none"> <li>Coexistence with communities adjacent to overseas afforestation areas (Job creation, education support, cultural preservation, contributions to local environments, preserving biodiversity), Promotion of safety and disaster preparedness, etc.)</li> <li>Contributions that make use of company-owned forests for the benefit of local areas and communities (Environmental education, etc.)</li> </ul>

**Goal 7 9 12 Providing Environmentally and Socially Conscious Products**

Help to protect the environment and enhance the sustainability of resources through technical innovations making greater use of renewable biomass resources.

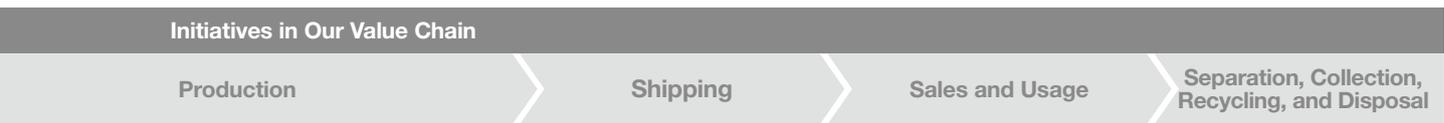


**Goal 6 15 Clean Water and Sanitation, and Life on Land**

Prevent environmental pollution from Group manufacturing activities by reining in emissions or discharges of water, air, and soil contaminants.

**Goal 3 Good Health and Well-Being**

Take every possible measure to protect working people from disease and injury by implementing extensive workplace safety measures and conducting thorough training and education.



Corporate governance, CSR management, thorough compliance, appropriate information disclosure, personal information management, and **dialogue with stakeholders**

- **Reduction of environmental impacts** (Water and air pollutants, waste, noise, vibration, odor, chemical substances, etc.)
- **Development and manufacturing of environmentally and socially conscious products**

- Increase in load efficiency (Promotion of modal shifts)
- Shortening of transportation distances (Pursuit of direct delivery and reorganization of distribution warehouses)

- Promotion of the collection and use of wastepaper (Strengthening of waste paper processing capacity, expansion of use of unutilized waste paper, improvement of recycled paper pulp quality)

**Climate change initiatives**

- The stable supply of products
- Ensuring quality and safety

- **Providing environmentally and socially conscious products**
- **Enhancement of product safety**
- Pursuing customer satisfaction
- Appropriate disclosure of product information
- Addressing customer questions and opinions

- Promotion of wastepaper collection together with customers (Support for recycling organizations, establishment of waste paper collection facilities, etc.)

Appropriate information disclosure, promotion of communication, and environmental education activities

Business Continuation in time of emergency

- Hiring practices that respect human rights
- Securing diversity in the workforce
- Human resource development
- **Occupational safety and health**, disaster preparedness

- Ensuring safety in shipping (Promotion of transportation safety)

Creation of comfortable work environments

Respect for basic human rights

- **Coexistence with areas surrounding mills** (Job creation, education support, contributions to local environments, cultural preservation, promotion of safety and disaster preparedness, etc.)

- Reduction of impacts of shipping (Promotion of transportation safety, adoption of low emission vehicles, promotion of noise abatement measures)

- Working with local communities to promote wastepaper collection

Promotion of appropriate information disclosure and communication

# CSR Materiality at the Nippon Paper Group

## CSR Materiality Items among Initiatives in Our Value Chain (Addressed on pages 12-13)

ISO 26000 Core Subjects	Materiality	Scope of External Impacts	Indicators
Organizational Governance, Fair Operating Practices (Management Responsibility)	<ul style="list-style-type: none"> <li>Dialogue with stakeholders</li> </ul>	Society	P.15
The Environment (Forest Management, Raw Material Procurement, and Environmental Responsibility)	<ul style="list-style-type: none"> <li>Sustainable procurement of raw materials</li> <li>Climate change initiatives</li> <li>Reduction of environmental impacts</li> <li>Preserving biodiversity</li> </ul>	Production sites, people living near company-owned forests, and suppliers	P.23 P.31
Consumer Issues (Responsibility to Customers)	<ul style="list-style-type: none"> <li>Enhancement of product safety</li> <li>Providing environmentally and socially conscious products</li> </ul>	Customers	P.47
Human Rights, Labor Practices (Human Rights, Employment and Labor Responsibility)	<ul style="list-style-type: none"> <li>Occupational safety and health</li> </ul>	Subcontractors, suppliers	P.53
Community Involvement and Development (Responsibility to Communities)	<ul style="list-style-type: none"> <li>Coexistence with local communities and society at large</li> </ul>	Production sites and people living near company-owned forests	P.61

The Nippon Paper Group, working from a foundation of sustainable forest management, contributes to better living and cultural progress as a comprehensive biomass company making full use of, and recycling, renewable wood resources.

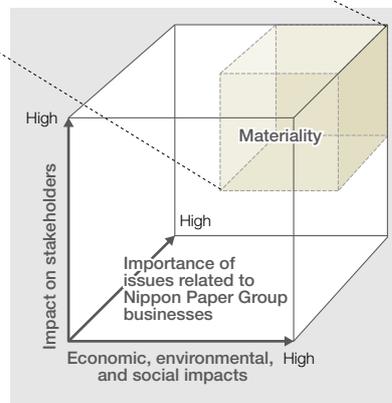
Proper management can make forests into sustainable resources and enable the preservation of biodiversity. Sequestering CO<sub>2</sub> in forests and using wood resources helps to fight global warming. And using renewable wood resources prevents resource depletion.

Creating new products and expanding our activities as a comprehensive biomass company, we manage and operate expansive forests and large-scale production sites. We, therefore, have a significant impact on the local areas and people who work there. Coexistence with these communities, as well as reducing environmental impacts and securing the safety and health of our local employees, therefore, are critical to our own continued existence.

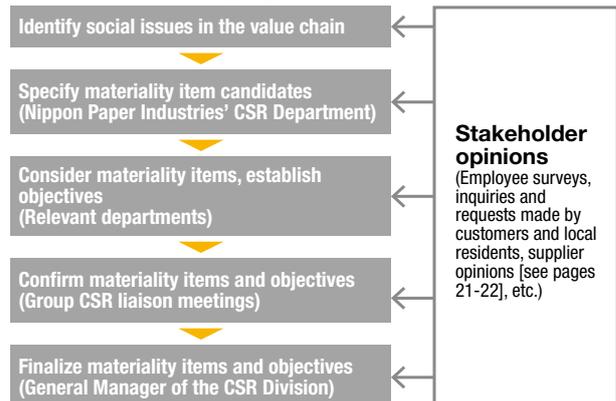
Moreover, the opinions of our stakeholders serve as valuable opportunities to grasp issues that are important for coexisting and growing with society in a sustainable way.

Therefore, the materiality items given above are of particular importance among our initiatives addressing social issues in our value chain (see pages 12–13).

We identify materiality items as described in the diagram to the right.



### Process for Identifying Materiality Items



# Management Responsibility

The opinions of stakeholders are important for bringing attention to issues that could affect the Nippon Paper Group's coexistence with society and efforts to grow sustainably.



Investor briefings

Indicators	Key Objective	Performance (fiscal 2016)
<b>Materiality: Dialogue with Stakeholders</b>		
<b>[Shareholders and Other Investors]</b> Constructive dialogue	Strive to gain understanding of the Nippon Paper Group's corporate strategies and policies, listen to shareholder opinions and to the business analysis views of capital providers, and reflect these perspectives in management	Held 4 briefings on operating results and management, and 176 individual meetings Made timely disclosures via the Nippon Paper Group's website and responded swiftly to inquiries
<b>[Suppliers]</b> Surveys of main raw material (chips and pulp) suppliers, field interviews	Exercise due consideration of human rights, worker rights, local community needs, biodiversity, and legality	Conducted surveys (22 chip suppliers, 14 pulp suppliers), and noted no problems in field interviews
<b>[Customers]</b> Responses to customer questionnaires and inquiries	Respond rapidly and accurately	Responded rapidly and accurately to questionnaires and routine inquiries
<b>[Employees, subcontractors, and others]</b> Privacy guarantee based on strict management of users' personal information, communication content, and other information	Ensure that potential whistleblowers can have confidence to report their concerns internally	Conducted training for Group helpline responders and practiced strict information management Received 11 whistleblower reports in fiscal 2016
<b>[Local Residents]</b> Dialogue and disclosure of environmental information via risk communication meetings and other means	Share environmental risk information with stakeholders	Provided information and gathered opinions in 27 risk communication meetings

## Corporate Governance and Information Disclosure

Basic Stance .....	16
Corporate Governance Structure .....	16
Compensation Paid to Directors .....	17
Personnel & Remuneration Advisory Committee .....	17
Evaluating the Effectiveness of the Board of Directors .....	17
Internal Control System .....	18

Position on Information Disclosure .....	18
Participating in Organizations in Japan and Abroad .....	18

## CSR Management

Management Structure .....	19
----------------------------	----

## Compliance

Compliance Structure .....	20
Personal Information Protection .....	20
Group Internal Whistleblower System .....	20
Respect for Intellectual Property .....	20

## Dialogue with Stakeholders

Basic Stance .....	21
IR Activities .....	21
Dialogue with a Supplier .....	22

# Corporate Governance and Information Disclosure

Further enhancing transparency and practicing fair management, while pursuing sustainable growth and medium-to-long-term increases in corporate value

## Basic Stance

### Striving to achieve sustainable growth and medium-to-long-term increases in corporate value

Nippon Paper Industries Co., Ltd. established its Corporate Governance Policy in November 2015 to achieve sustainable growth and medium-to-long-term increases in corporate value for the Nippon Paper Group in ways that are consistent with the Group Mission (see page 5). The Company is acting in accordance with all of the fundamental principles of Japan's Corporate Governance Code.

Our highest management priority is to achieve even greater transparency toward shareholders and other stakeholders and engage in fair business practices. The Company has adopted an executive officer system and is working to strengthen the oversight function of its Board of Directors to ensure the separation of business execution and management oversight. In addition, as the leader of the Nippon Paper Group, the company is implementing growth strategies, monitoring businesses under its control, and promoting compliance.

 **Corporate Governance Policy**  
<http://www.nipponpapergroup.com/english/ir/governance/>

#### Initiatives for Strengthening Corporate Governance

FY2006	<ul style="list-style-type: none"> <li>Formulated the Basic Policy for Establishing the Internal Control System</li> <li>Shortened director terms to one year, from two</li> </ul>
FY2013	<ul style="list-style-type: none"> <li>Adopted an executive officer system</li> <li>Began appointing independent outside directors</li> </ul>
FY2015	<ul style="list-style-type: none"> <li>Established the Corporate Governance Policy</li> <li>Began evaluating the effectiveness of the Board of Directors</li> </ul>
FY2016	<ul style="list-style-type: none"> <li>Established the Personnel &amp; Remuneration Advisory Committee</li> <li>Increased the number of independent outside directors to two</li> </ul>

## Corporate Governance Structure

### Working to enhance management efficiency and credibility

The Company's Board of Directors is comprised of seven internal directors and two outside directors, for a total of nine directors, as of June 29, 2017. By combining internal directors with outstanding track records and management capabilities in the operations they oversee, and outside directors with high levels of knowledge and experience, the Company has assembled a diverse Board of Directors that is exceptionally well-balanced in terms of knowledge, experience, and capabilities.

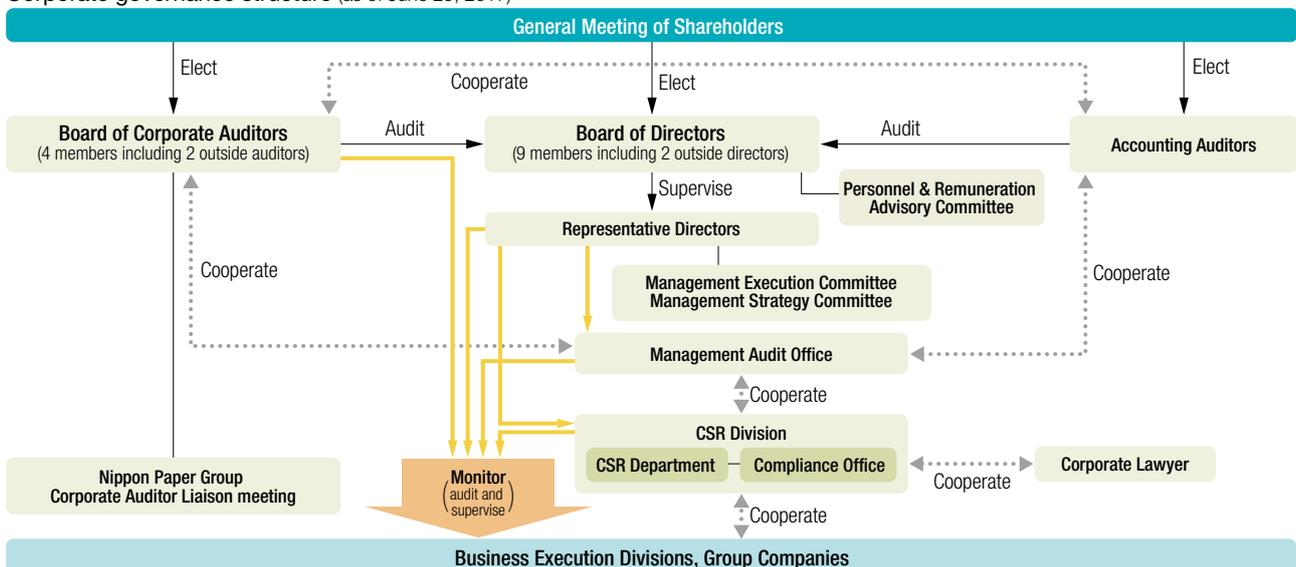
The Management Execution Committee meets weekly, in principle, to support the business execution activities of the president, and to consider important operational matters. The Management Strategy Committee meets as needed to discuss management strategies for particular business areas, and other matters of importance for the Group.

The Board of Statutory Auditors monitors the company's management. Two of the four statutory auditors comprising the board are outside statutory auditors responsible for strengthening the board's monitoring and auditing functions by contributing opinions from a third-party perspective.

#### Appointment of Multiple Independent Outside Directors

In light of their importance, Nippon Paper Industries nominated an additional independent outside director who was approved at the General Meeting of Shareholders held on June 29, 2016. One of the Company's two outside directors is a legal expert and the other has accumulated considerable experience in corporate management, after serving as a government official. The outside directors use their broad knowledge and their understanding of international affairs to supervise and advise the Company's directors in the execution of their duties.

Corporate governance structure (as of June 29, 2017)



## Compensation Paid to Directors

### Determined on the basis of responsibilities and performance

Nippon Paper Industries Co., Ltd. has defined the policy for officer remuneration in its Corporate Governance Policy Article 8.

Fiscal 2016 total remuneration<sup>1</sup> for directors and corporate auditors

Officer class	Number of officers	Total remuneration for all members of the officer class
Directors	9	¥389 million per year
Corporate auditors	5 <sup>2</sup>	¥61 million per year

<sup>1</sup> Rounded down to the nearest million yen.

<sup>2</sup> Includes 1 corporate auditor who resigned during the year ended March 31, 2017.

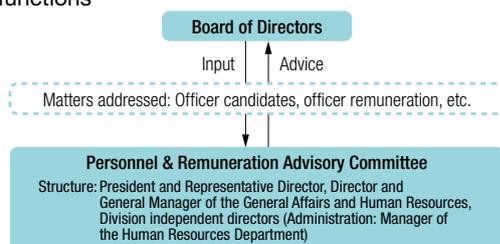
## Personnel & Remuneration Advisory Committee

### Working to enhance management transparency

To further enhance corporate governance, Nippon Paper Industries Co., Ltd. established the Personnel & Remuneration Advisory Committee in April 2016. Created as an advisory body to the Board of Directors, the committee is structured to include independent outside directors as key members.

When requested by the Board of Directors, the Personnel & Remuneration Advisory Committee, with appropriate involvement and input by the two outside committee members, considers matters concerning topics such as the process for nominating Company director and statutory auditor candidates; the quality of, and rationale for, nominations; the criteria for judging the independence of independent outside directors; and the directors' compensation structure. The Board of Directors, after receiving recommendations from the Personnel & Remuneration Advisory Committee, makes decisions on director and statutory auditor nominations, compensation for directors, etc.

#### Personnel & Remuneration Advisory Committee structure and functions



## Evaluating the Effectiveness of the Board of Directors

### Increasing the effectiveness of the Board of Directors

To continuously strengthen the functions of the Board of Directors Nippon Paper Industries Co., Ltd. began in fiscal 2015 to have its Board of Directors engage in analyses and evaluations of their own effectiveness.

Once each year, the Secretariat of the Board of Directors' Meeting asks each director and corporate auditor to complete a survey on matters such as board operations and deliberations. Based on survey results, the Board of Directors analyzes and evaluates its performance and then uses what it has learned to improve its effectiveness going forward.

#### ● Overview of FY2016 Evaluation Results

Based on the results of questionnaires the Company asked each director and statutory auditor to complete regarding the effectiveness of the Board of Directors, in light of the establishment of the Corporate Governance Policy, and the results of amendments, etc. to the criteria for submitting agenda items for Board of Directors' Meetings, the Board of Directors prepared a current-state evaluation of its effectiveness and identified issues to be improved.

#### Current Status

Efforts based on each principle of the Corporate Governance Code have been progressing favorably and the effectiveness of the Company's Board of Directors is appropriate on the whole.

#### Main Points for Improvement

1. Further enhancement of reporting to the Board of Directors  
 As a result of the evaluation in fiscal 2015, the Board of Directors identified the enhancement and reinforcement of the Company's basic policy on management, and of deliberation and reporting on matters related to corporate governance, as an issue to be improved. By making amendments to the Rules for the Board of Directors (put into effect in April 2016), the Company clarified the types of matters that should be deliberated by the Board of Directors, to enhance the quality of deliberations. With respect to the evaluation in fiscal 2016, it was confirmed that the quality of deliberations at Board of Directors' Meetings had been further enhanced. For fiscal 2017, it was decided to further enhance the reporting of operational matters, to strengthen the supervisory function of the Board of Directors.
2. Ensuring training opportunities for directors and statutory auditors

In fiscal 2015 and 2016, the Company invited outside experts as lecturers and held seminars for corporate officers. From fiscal 2017, the Company will work on improving training conditions further by, for example, arranging outside seminars.

# Corporate Governance and Information Disclosure

## Internal Control System

### Complying with statutory and regulatory requirements

In accordance with Japan's Companies Act and related laws and regulations, Nippon Paper Industries Co., Ltd.'s Board of Directors approved the Basic Policy for Establishing the Internal Control System in 2006 and has revised it as necessary since then. As called for by the basic policy, systems that are required for the Board of Directors to perform its duties in accordance with laws and regulations, and with the Company's Articles of Incorporation, and systems that are required for the Nippon Paper Group to properly pursue its business activities have been established and are being used.

#### ● Financial reporting internal controls

To comply with the internal control reporting system requirements stipulated under the Financial Instruments and Exchange Act of Japan, the Management Audit Office assesses the status and operation of financial reporting internal controls. Based on these assessments, it has been determined that effective financial reporting internal controls were in place at Nippon Paper Industries Co., Ltd., and 24 consolidated subsidiaries, as of March 31, 2017.

## Position on Information Disclosure

### Enhancing management transparency through active information disclosure

The Nippon Paper Group constantly strives to enhance the soundness and transparency of its management by disclosing company information in accordance with our Action Charter (see page 19). This policy is provided in the Nippon Paper Group Disclosure Policy adopted in October 2005.

Following the guidelines of this basic policy, we comply with the provisions of the Financial Instruments and Exchange Act of Japan and other relevant laws and regulations. We disclose information in a timely manner, standing on the principles of transparency, fairness and continuity. Furthermore, we disclose information that may not be required under applicable laws, regulations, or timely

disclosure rules, when deemed to be of interest to our stakeholders and other members of society.



#### Information Disclosure Policy

<http://www.nipponpapergroup.com/english/ir/disclosure/policy/>

## Participating in Organizations in Japan and Abroad

### Seeking to connect to and work with external parties

The Nippon Paper Group strives to share information with other companies, international organizations, governmental institutions, labor organizations, and NGOs in countries around the world, and contribute to various activities together with these partners.

#### ● The United Nations Global Compact

Nippon Paper Industries Co., Ltd. announced its decision to support the 10 principles covering the four fields of human rights, labor, environment and anti-corruption and joined the United Nations Global Compact as a signatory in November 2004.



#### United Nations Global Compact

<https://www.unglobalcompact.org/>

### Principal organization memberships

(as of July 2017)

Organization	Position
Japan Paper Association	Chairman
Japan Tappi	Vice President
Forest Management Association	Director
Japan Overseas Plantation Center for Pulpwood	Director
Japan Woody Bioenergy Association	Director
Paper Recycling Promotion Center	Vice President
Japan Association of Milk Packaging and Machinery	Vice Chairman
Committee for Milk Container Environmental Issues	Vice Chairman
Association of Large-scale On-site Power-plant Owners	Managing Director
National Institute of Advanced Industrial Science and Technology Nanocellulose Forum	Chair

#### Comment

#### Working to strengthen corporate governance

**Makoto Fujioka, Outside Director, Nippon Paper Industries Co., Ltd.**

I believe the purpose of corporate governance is to work for the benefit of shareholders and other stakeholders by ensuring highly transparent, fair management and helping the company realize ongoing growth and medium-to-long-term increases in corporate value.

In my career, I have accumulated experience in government, working with economic and industrial matters, and in corporate management. As an outside director, I draw on my public- and private-sector experience and knowledge, and on my international experience, to participate in management oversight and provide advice from an objective perspective.



# CSR Management

Advancing CSR activities that help to build a sustainable society through business endeavors

## Management Structure

### Oversight through the CSR Division

Nippon Paper Industries Co., Ltd. established the CSR Division to oversee the CSR activities of the Group as a whole. The CSR Department and Public Relations Office were set up within the CSR Division. The CSR Department promotes CSR activities based on the Action Charter and works closely with the various divisions and departments.

#### The Nippon Paper Group's Action Charter

1. We shall pursue a sustainable growth for the future to contribute to society through our business activities.
2. We shall abide by the letter and the spirit of laws and regulations, and comply with the highest ethical standards and social codes of conduct, both in Japan and abroad.
3. We shall conduct our business in a fair, transparent and liberal manner.
4. We shall win the trust of customers through the development and provision of socially useful and safe products and services.
5. We shall disclose corporate information positively and fairly to all stakeholders of the Group.
6. We shall actively address environmental issues, and shall endeavor to conserve and enhance the environmental state of our planet.
7. We shall maintain consistency between corporate development and the personal contentment of individual employees, and create a company filled with dream and hope.

#### Supporting CSR activities by Group companies

Nippon Paper Industries Co., Ltd.'s CSR Department hosts regular CSR liaison meetings with personnel in charge of CSR at principal Group companies. These meetings are held to communicate directions being taken with regard to CSR matters and to share opinions. They are also used as opportunities to hear discussions of CSR activity trends by invited consultants, and to hold workshops.

#### Surveying Employees on Important CSR Matters

In February 2017, the Nippon Paper Group conducted a survey to gather input from employees, as stakeholders, on matters of CSR Materiality (see page 14). We considered and identified materiality items for fiscal 2017 in light of factors such as impacts on outside stakeholders (see page 14).

#### Meeting social responsibilities through business activities

The Nippon Paper Group aims to contribute to the development of a sustainable society through its business activities. Toward that end, we are committed to grasping the expectations and demands of our stakeholders, and fulfilling our social responsibilities from the perspectives of business management; forest management and the procurement of raw materials; the environment; customers; human rights, employment, and labor; and local communities.

Meeting social responsibilities through business activities



#### Recognition as an ESG Investment

Nippon Paper Industries Co., Ltd. is included in key ESG (environment, social, and governance) indices in Japan and abroad.

#### Key indices of which Nippon Paper Industries is a component

 <b>FTSE4Good</b>	<b>FTSE4Good Index Series Component since June 2017</b> Developed by FTSE Russell, a member of the London Stock Exchange Group plc MSCI Japan ESG Select Leaders Index
 2017 Constituent MSCI Japan ESG Select Leaders Index  <b>FTSE Blossom Japan</b>	<b>FTSE Blossom Japan Index Component since July 2017</b> Developed for ESG investment conducted by Japan's GPIF (Government Pension Investment Fund)
 <b>ETHIBEL EXCELLENCE</b>	<b>Ethibel EXCELLENCE Investment Register Component since February 2013</b> An investment universe managed by Forum Ethibel, a Belgian organization that promotes socially responsible investment
 <b>EURONEXT VigeoEiris</b>	<b>Euronext Vigeo index: World 120 Component since December 2014</b> An equity index developed by NYSE Euronext, which operates securities exchanges in Europe and the U.S., and by Vigeo Eiris, an enterprise that assesses companies

# Compliance

As a committed partner ensuring that employees are fully informed about compliance, the Nippon Paper Group engages in corporate activities in accordance with laws and social norms

## Compliance Structure

### Promoting compliance throughout the Group

The CSR Division of Nippon Paper Industries Co., Ltd. serves as a facilitator and driving force behind efforts to achieve and reinforce understanding of compliance throughout the Nippon Paper Group.

Each Group company appoints a person to be in charge of compliance within its organization, and Nippon Paper Industries' Compliance Office actively hosts Group Compliance Liaison Meetings to provide all employees in charge of compliance with information on important policies and measures, opportunities to share information, and advice on education and training activities.

#### ● Implementing compliance education

The Nippon Paper Group conducts training on an ongoing basis to further enhance compliance awareness and understanding. We, together with a consultant from outside the Group, conduct practical training that involves group discussions and is tailored to the specific needs of production sites and sales offices.

Education on compliance is also provided through avenues such as stratified training in the form of new-hire training and training for newly appointed managers at principal Group companies.

In fiscal 2016, basic training was conducted for 960



Compliance training

employees, and stratified training and training on topics such as Japan's Antimonopoly Act was conducted for 200 employees.

## Personal Information Protection

### Maintaining a systematic structure and rules

Nippon Paper Industries has taken steps to ensure clear understanding of the structure and rules applicable to the handling of personal information. The personal information of customers, business partners and employees is controlled by clearly stated rules and a manual, and is tracked and managed in control ledgers by individual related departments as required by the Private Information Protection Law. These ledgers contain details of the dates when personal information was obtained and the purposes for holding it, and are reviewed annually to eliminate data for which the holding period has expired and take other actions, as well, to ensure that information is handled properly.

## Group Internal Whistleblower System

### Encouraging reporting via a help line on activity in conflict with compliance

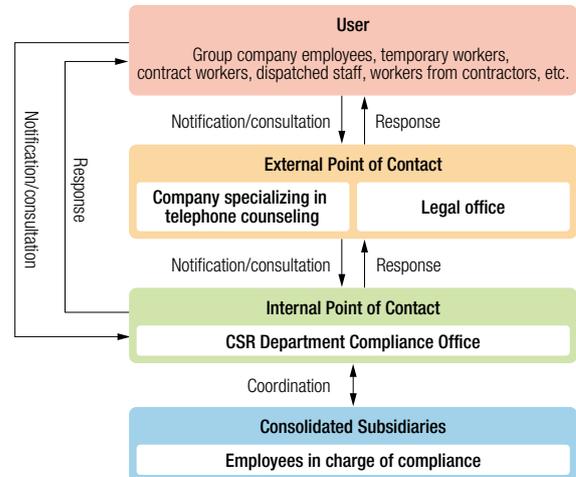
The Nippon Paper Group has established its help line system to allow any employee of the Group to provide direct notification of, or seek advice outside the chain-of-command on, any action in the workplace that could violate laws, social norms or corporate ethics. The Compliance Office located within the CSR Department serves as a point of contact within the Group. We have also established points of contact outside the Group for use by employees as appropriate.

The help line system guarantees the privacy of whistleblowers and takes steps to ensure that they do not suffer because they have reported questionable activity or have sought advice.

#### Trends in the number of notifications received by the help line

Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016
21	26	19	11

#### Flow of the help line system



## Respect for Intellectual Property

### Education programs on intellectual property rights and compliance

The Nippon Paper Group's emphasis on intellectual property is evident not only in research and development but also in all of its business activities, and the Group adheres strictly to all applicable laws and regulations. Members of the Intellectual Property Department of Nippon Paper Industries, and outside patent attorneys, conduct intellectual property education programs for the benefit of Group company employees.

A total of 469 employees attended the 17 programs in fiscal 2016.

# Dialogue with Stakeholders

Actively creating opportunities for dialogue to promote coexistence with society

## Basic Stance

### Actively promoting dialogue

The Nippon Paper Group actively establishes contact points and opportunities for direct dialogue with all stakeholders while regularly providing information on our operations and promoting the exchange of opinions. Each of our business locations actively creates opportunities for regular communication on risks and other matters. And stakeholder opinions are received through channels such as our website, Sustainability Report, and *ShikiOriori*, the CSR communication magazine we publish to provide plain and simple explanations of our CSR initiatives.

We carefully consider the feedback we receive and reflect it in management decision making aimed at enabling the mutually beneficial ongoing development of society and the Nippon Paper Group.



Prize of Excellence at the Environmental Communication Awards\*



*ShikiOriori*

\* The Nippon Paper Group's Sustainability Report 2016 was named winner of the Prize of Excellence at the Environmental Communication Awards 2016, sponsored by the Japanese Ministry of the Environment and the Global Environmental Forum.

## IR Activities

### Promoting dialogue with shareholders and investors

Nippon Paper Industries Co., Ltd. strives to gain understanding of the Group's business direction by engaging shareholders and other investors in constructive dialogue. Furthermore, we reflect the opinions of investors and the business analysis perspectives of capital providers

in our management to promote sustainable growth and medium-to-long-term increases in corporate value for the Group.

#### Results of activities in fiscal 2016

Operating results and management briefings	1 time
Operating results briefings (Teleconference)	3 times
Individual meetings	176 times

#### ● Tours and other events

The Nippon Paper Group conducts annual plant tours to promote a deeper understanding of its business activities. The tours of Nippon Paper Industries' Akita Mill in fiscal 2016 attracted considerable praise from participants.

#### ● General shareholders' meeting, shareholder communications, and IR website

Nippon Paper Industries Co., Ltd. strives to disclose and otherwise provide information in a timely, appropriate manner to enhance dialogue with shareholders at the general shareholders' meeting. In preparing general shareholders' meeting announcements, for example, we provide shareholders with copious amounts of important information, which we strive to make as clear and straightforward as possible. For the general shareholders' meeting held in June 2017, we sent announcements early – 23 days before the meeting date – and disclosed meeting materials even earlier – seven days before we sent the announcements - on our website and through other channels.

In addition, we distribute shareholder communications twice a year and make timely disclosures on our website, which we also use to receive inquiries about the Nippon Paper Group.

#### Trends in dividends per share

(Yen)

	March 2014	March 2015	March 2016	March 2017
Interim dividend	10	20	30	30
Period-end dividend	30	30	30	30

#### Contact points for dialogue with stakeholders

Stakeholder	Major point of contact	Means of communication
Employees (executives, permanent employees, part-time employees, employee families)	Human resource sections	Labor-management councils, labor-management committees, etc.
Customers (business enterprises, consumers, etc.)	Sales sections Product safety sections Customer assistance channels	Individual interviews, inquiries to customer relations sections, etc.
Society and local residents (local communities, NPOs/NGOs, municipalities, the media, students, etc.)	Responsible sections within mills and branches	Environmental explanatory meeting, risk communication, environmental monitoring system, mill presentation meetings, etc.
	Responsible sections within each business segment	Interviews, etc.
	Social contribution sections	Social contribution activities, etc.
Business partners (suppliers, subcontractors, etc.)	Public relations sections	Press releases, interviews, etc.
	Procurement sections Human resource sections	Individual interviews, supplier surveys, etc.
Shareholders (shareholders, investors, etc.)	General affairs sections IR sections	General shareholders' meetings, shareholder communications, explanatory meetings, annual reports, IR site, IR information mail, etc.

# Dialogue with Stakeholders

## Dialogue with a Supplier

### On Sustainable Procurement of Raw Materials

The Nippon Paper Group employees in charge of procurement visited Niwa Mokuzai, a company supplying domestic wood chips to Nippon Paper Industries' mills in the Tohoku region of Japan. During their visit, they asked the company's president, Mr. Ogasawara, about biodiversity, safety and health, and community coexistence initiatives that are critical for his company's success.

(Interviewers: Kenji Ishii and Yoshihiro Kohata of Nippon Paper Lumber Co., Ltd.)



Mr. Ogasawara, President of Niwa Mokuzai Ltd. (left), and Nippon Paper Lumber Co., Ltd. representatives Kenji Ishii (center) and Yoshihiro Kohata (right)



#### Kiyotaka Ogasawara

President  
Niwa Mokuzai Ltd.

#### Company Profile

**Name:** Niwa Mokuzai Ltd.

**Head office:** Takizawa City, Iwate Prefecture

**Main business activities:** Forest management, lumber milling, wood chip production

**Relationship with Nippon Paper Industries Co., Ltd.:**

Has been supplying wood chips to Nippon Paper Industries continuously since 1973.

#### — What have you found to be critical for the continuation of your business?

**Ogasawara:** Stability in business relationships. Maintaining business relationships makes it possible to shrink sales costs, which involve various types of uncertainties, and achieve management efficiencies. This in turn makes it possible to direct resources toward environmentally friendly forest management.

#### — What initiatives has your company taken for the environment and what impact has Nippon Paper Industries had in this sense?

**O:** In our part of Japan, we were the first company to gain SGEC certification (see page 26) and, in our operations, we strive to maintain biodiversity through measures such as protecting soil, protecting trees along streams, and monitoring ecosystems, all in accordance with internal rules. Before conducting thinning operations, we use a checklist to determine whether there are any rare species present (see page 44). We have also obtained CoC certification (see page 26) and have established a distribution system for timber from certified forests. In gaining SGEC certification, there were some hurdles to overcome and Nippon Paper Industries helped us with advice based on their own experience in gaining forest certifications.

#### — What has been the impact of Nippon Paper Industries in terms of health and safety?

**O:** Nippon Paper Industries has provided us with

information on initiatives in other regions and the active discussions we engage in have added new energy to our safety awareness. In addition, when we encounter a problem, Nippon Paper Industries has been considerate in providing advice, based on its stance of solving problems together.

#### — What are your thoughts regarding staff management?

**O:** Well, to begin with, our stable relationship with Nippon Paper Industries enables us to take advantage of management efficiencies. These provide resources that can be applied to compensation and used to promote workforce stability.

#### — What does your company do to promote coexistence with the local community?

**O:** We hold company tours and accept students for internships. Our purpose is to teach local residents, from the time they are children, about the forest and lumber industries, and to have them understand that cutting trees is not equivalent to destroying nature.

#### — What do you expect of Nippon Paper Industries?

**O:** That we do business with Nippon Paper Industries is encouraging for people working in the local community. The cascade use of wood (see page 9), too, is possible because Nippon Paper Industries accepts this concept.

There is an organization for young people working in the wood chip industry in Tohoku and the northern Kanto region\*. Its members are thankful for their relationship with Nippon Paper Industries and, in engaging with the company in plant tours and on other occasions, have come to see business with Nippon Paper Industries as the backbone of their industry. When Nippon Paper Industries' Ishinomaki Mill restarted operations much sooner than anyone expected following the extensive damage it suffered from the Great East Japan Earthquake, local people gained a new sense of just how important Nippon Paper Industries is to their community. Going forward, I want to see the continuation of our business relationship with Nippon Paper Industries and its goodwill for the sustainability of our local community and forests.

\* Mr. Ogasawara serves as the chairman of this organization.

# Forest Management and Raw Material Procurement Responsibility

The Nippon Paper Group, as a comprehensive biomass company pursuing business endeavors that are founded on sustainable forest management and promote sustainable growth by using, and later recycling, every bit of the renewable wood resources it harvests, contributes to better living and cultural progress.

With sustainable forest management, biodiversity can be protected. Because forests act to sequester CO<sub>2</sub>, using wood resources actually helps to prevent global warming.



Company-owned forest  
(Brazil: AMCEL)

Indicators	Key Objectives	Performance (fiscal 2016)
<b>Materiality: Sustainable Procurement of Raw Materials</b>		
Maintenance of forest certifications for all company-owned forests inside and outside Japan	100% of company-owned forests	100%
Ensure that all wood materials for pulp and paper are endorsed under forest certification schemes	100% of wood used as raw material for paper	100%
Overseas chip and pulp supplier questionnaires	100% of chip and pulp suppliers	100% (Overseas chip suppliers: 22; domestic and overseas pulp suppliers: 14)

## Policy and Management

Basic Stance .....	24
Philosophy and Basic Policy .....	24
Sustainable Forest Management .....	24
Framework for Promoting Raw Materials Procurement Management .....	24

## Current Status of Raw Materials Procurement

Current Status of Paper Raw Materials Procurement .....	25
---	----

## Sustainable Procurement of Raw Materials

Basic Stance .....	26
Action Plan for Wood-Based Raw Material Procurement .....	26

## Protecting and Nurturing Japan's Wood Resources

Sustainable Management of Company-Owned Forests in Japan .....	28
Invigorating Japan's Forest Industry .....	28

## Overseas Afforestation

Sustainable Management of Overseas Afforested Areas .....	30
Tree Farm Initiative .....	30

# Policy and Management

Practicing sustainable procurement of raw materials in ways that consider environmental and social concerns in line with our philosophy and basic policy

## Basic Stance

### Pursuing sustainable and stable wood resources procurement

Woodchips and wastepaper, as recycled material, are the main raw materials for pulp and paper. Procurement of these materials entails the support not only of suppliers in and outside of Japan, but also the communities and government authorities of local production areas. Taking into consideration relationships with the environment and society, the Nippon Paper Group recognizes the importance of working closely with suppliers to establish a sustainable supply chain that incorporates production area forest ecosystem, local community, occupational safety and health as well as other concerns.

Accordingly, we have built and implemented a structure and framework that will allow us to sustainably procure renewable wood resources.

## Philosophy and Basic Policy

### Philosophy and basic policy reflecting the opinions of stakeholders

The Nippon Paper Group established its Philosophy and Basic Policy Concerning Raw Materials Procurement in fiscal 2005. In formulating this philosophy and basic policies, a draft proposal was released to the public so as to solicit the opinions of stakeholders in Japan and overseas. The Group considered all of the close to 2,000 comments received, and incorporated several suggestions into revisions made to the draft.

## Sustainable Forest Management

### Practicing proper planning and management

Forestry management considers not only economic, but also environmental and social sustainability. The Nippon Paper Group defines sustainable forest management as:

- 1) Biodiversity is conserved.
- 2) The productivity and soundness of the forest ecosystem is maintained.
- 3) Soil and water resources are conserved.
- 4) Diverse social needs are satisfied.

Proper planning and management are important factors in the sustainable management of forests. A considerable amount of time is required to cultivate trees to their maturity. In putting together a viable sustainable forest management plan, it is important to consider factors including the areas allocated to afforestation and harvesting, the rate of growth, the surrounding environment and the impact on society.

Landscape concerns related to efforts to protect waterside forests and address other such needs must also be examined. Taking full advantage of its expertise in forest management, the Group is promoting proper planning and management.

## Framework for Promoting Raw Materials Procurement Management

### Overseeing raw material procurement for the entire Group

The Nippon Paper Group established the Raw Materials Committee, chaired by the general manager of the Raw Materials and Purchasing Division at Nippon Paper Industries. This subcommittee deliberates on a wide variety of important issues concerning raw material procurement, including the Group's overarching procurement policy.

## Philosophy and Basic Policy Concerning Raw Materials Procurement

(formulated on October 5, 2005)

### Philosophy

We are committed to establishing a reliable raw materials procurement system through global supply chain management in consideration of the environment and society.

### Basic Policy

#### 1. Environmentally friendly raw materials procurement

- (1) We procure woodchips, lumber and pulp from forests under sustainable forest management.
- (2) We use and deal in no illegally logged lumber and we support the eradication of illegal logging.
- (3) We make active use of recycled materials to help build a recycling-oriented society.
- (4) We make appropriate procurement of chemical substances in compliance with relevant laws and regulations.
- (5) We build traceability systems to ensure the above policies are practiced throughout the supply chain.

#### 2. Socially aware raw materials procurement

- (1) We pursue fair deals with suppliers on equal terms.
- (2) We ensure that the entire supply chain has appropriate human rights and labor practices.

#### 3. Promotion of dialogues with stakeholders

- (1) We engage in dialogues with stakeholders to improve the quality of our raw materials procurement in constant consideration of the environment and society.
- (2) We proactively disclose information so that our initiatives are better known.

# Current Status of Raw Materials Procurement

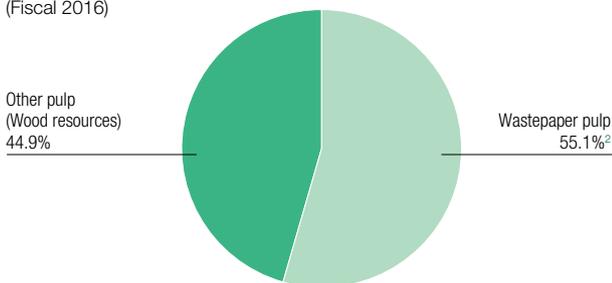
In addition to actively promoting the use of recycled paper, we procure wood resources from sustainably managed forests.

## Current Status of Paper Raw Materials Procurement

### Using wastepaper and wood resources as raw materials

The Nippon Paper Group is engaged primarily in the manufacture of paper products. 55.1 percent of the raw materials are composed of recycled paper and the remaining 44.9% consists of such wood resources as woodchips. Both types of raw materials are used to produce pulp.

Breakdown of main raw materials for paper manufacturing<sup>1</sup> (Fiscal 2016)



1 Consolidated Group companies in Japan  
2 Wastepaper / (Wastepaper + other types of pulp)

#### ● Initiatives aimed at stable wastepaper procurement

With each passing year, the collection of wastepaper has taken on greater importance for reducing waste volumes and reusing materials. For Japan's paper industry, wastepaper is an essential resource accounting for more than half of the raw materials it uses.

Against this backdrop, the Nippon Paper Group has maintained a stable system for procuring wastepaper. This system, the product of many years of collaboration with the wastepaper industry, promotes the recycling of wastepaper.

#### ● Initiatives aimed at stable wood resource procurement

Of the wood raw materials Nippon Paper Industries procures, slightly more than 60% are sourced from overseas and a little below 40%, from Japan. To help ensure stable supplies, overseas procurement is diversified among multiple countries, including Australia.

Geographic breakdown of wood raw materials procured by Nippon Paper Industries Co., Ltd. (FY2016) (Bone dry units, kt = kilotonnes)

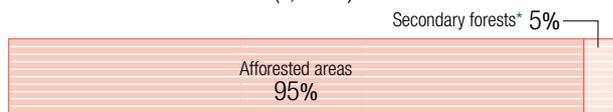


Hardwood resource breakdown (3,032 kt)



\* Forests that have recovered naturally or that have been artificially replanted after an event such as timber harvesting or fire.

Softwood resource breakdown (1,157 kt)



Tree species Nippon Paper Industries Co., Ltd. procured from overseas, and their countries of origin (Fiscal 2016)

#### Hardwood

Country	Percentage*	Species
Australia	24%	Eucalyptus
South Africa	22%	Acacia
Brazil	20%	Eucalyptus, Acacia
Vietnam	17%	Acacia
Chile	16%	Eucalyptus
<b>Total</b>	<b>100%</b>	

#### Softwood

Country	Percentage*	Species
Australia	73%	Radiata pine, Caribbean pine
U.S.A.	19%	Douglas fir
Russia	8%	Yezo spruce
<b>Total</b>	<b>100%</b>	

\* Sums of individual entries may not equal 100% due to rounding.

# Sustainable Procurement of Raw Materials

Practicing sustainable forest management and resource procurement using certifications as benchmarks

## Basic Stance

### Focusing on legal compliance and transparency in the procurement of raw materials

The Nippon Paper Group is a strong advocate of sustainable raw materials procurement that takes into consideration environmental and social concerns. Our procurement of wood raw materials rests on the principles of legality and emphasizes sustainability, clear identification of the origin of wood resources, and full accountability.

When purchasing from external suppliers, we make every effort to enhance our supply chain management capabilities, taking into consideration environmental and social needs. At the same time, we use a system that employs third-party forest certification programs to confirm the propriety of raw materials procurement.

In the context of procurement from company-owned forests, we pursue overseas afforestation projects to increase our plantation timber procurement. Moreover, we practice sustainable forest management by maintaining forest certifications acquired for company-owned forests both in Japan and overseas.

#### Key points of sustainable wood resources procurement

- Sourcing from sustainable forests (sustainability)
- Clearly identifying the origin of timber (traceability)
- Maintaining full accountability (accountability)

### About the Clean Wood Act

Japan's Act on Promotion of Use and Distribution of Legally Harvested Wood and Wood Products (the Clean Wood Act) took effect in May 2017. The act includes criteria for confirming the legality of harvested wood – criteria the

Nippon Paper Group has been meeting in its raw material procurement activities since before the Clean Wood Act took effect. Going forward, the Group intends to register with additional third-party institutions maintaining records in support of legal compliance.

## Action Plan for Wood-Based Raw Material Procurement

### Eradicating illegal logging while promoting environmentally and socially aware procurement

The Nippon Paper Group has put in place its Action Plan for Wood-based Raw Material Procurement, in keeping with the Group's Philosophy and Basic Policy Concerning Raw Materials Procurement. This action plan provides a roadmap that incorporates checks on the legality of woodchips, and consideration for human rights, labor, local communities, and the protection of biodiversity, allowing the Group to practice CSR procurement. This action plan also helps enhance traceability with respect to woodchips procured from overseas while placing considerable emphasis on trade association certification of the legality of woodchips produced in Japan.

Nippon Paper Industries, in connection with annual forest certification audits and audits performed by the Japan Paper Association's illegal logging monitoring project, has third parties perform objective assessments to determine whether it is conducting wood resource procurement in accordance with its basic policies. Suggestions from these assessments are then used to make improvements.



➔ Action Plan for Wood-Based Raw Material Procurement  
<http://www.nipponpapergroup.com/csr/forest/procurement/actionplan/index.html> (Japanese only)

### Overview of major forest certification programs

Certification program name	Details and features
<b>FSC®</b> —Forest Stewardship Council® A forest certification program based on unified global standards (License No. FSC® C001751)	FSC® is a non-profit international member-based organization that certifies that forests are being managed in compliance with its 10 principles and 70 standards. FSC® has adopted the FM and CoC certification system.
<b>PEFC</b> —Programme for the Endorsement of Forest Certification A program that promotes mutual recognition of the forest certification programs of individual countries	PEFC bases its sustainability benchmark on a broad consensus expressed in intergovernmental processes and guidelines. It provides a mutual recognition system that endorses compatibility and comparability of the responsible forest management systems of individual countries. Launched across countries in Europe, the program encompasses the forest certification programs of 49 countries around the world. In similar fashion to FSC®, PEFC has adopted the CoC certification system.  Examples of certifications mutually approved by PEFC (for forests owned by Nippon Paper Industries Co., Ltd.) Australian Forestry Standard (AFS): Australia / CERTFORCHILE: Chile / CERFLOR: Brazil
<b>SGEC</b> —Sustainable Green Ecosystem Council A forest certification program established in Japan	SGEC engages in an evaluation based on seven criteria while taking into consideration Japan's natural environment as well as its social customs and culture. SGEC has also adopted the CoC certification system. Mutual certification with PEFC was approved in June 2016.

#### \* FM and CoC Certification

The forest certification system is composed of two components—the Forest Management (FM) component, which certifies that forests are responsibly managed, and the Chain-of-Custody (CoC) component, which certifies that products from certified forests have been properly processed and distributed. Under the FM certification system, a third party certifies that the management of forests is being undertaken in a sustainable manner based on various objective benchmarks including (1) compliance with regulatory requirements and system frameworks, (2) maintenance and conservation of forest ecosystems and

biodiversity, (3) respect for native and local resident rights, and (4) maintenance and improvement of forest productivity.

CoC certification is a system covering all operators engaged in the processing and distribution of timber materials. In addition to tracking products (certified woodchips) from certified forests in each process including processing and distribution, CoC certification confirms that a risk assessment of all non-certified woodchips has been undertaken. Products display a certification mark in the event that all operators have acquired CoC certification across all processes.

Sustainable wood resource procurement scheme

**Philosophy and Basic Policy Concerning Raw Materials Procurement (see page 24)**

**Action Plan for Wood-based Raw Material Procurement**

	Japanese Resources	Overseas Resources
<b>Basic Policy and Scheme</b>	<ul style="list-style-type: none"> <li>Based on verifications by organizations approved by forest, timber or lumber industry organizations specified in the Guideline for Verification of Legality and Sustainability of Wood and Wood Products established by Japan's Forest Agency in connection with government procurement initiatives to fight illegal logging in accordance with the Law on Promoting Green Purchasing.</li> </ul>	<ul style="list-style-type: none"> <li>Verifications by individual companies using their own approaches, as provided in the Guideline for Verification of Legality and Sustainability of Wood and Wood Products.</li> <li>Based on the Japan Paper Association's guideline for measures against illegal logging.</li> </ul>
<b>Confirmation of Legality</b>	<ul style="list-style-type: none"> <li>Traceability based on the Guideline for Verification of Legality and Sustainability of Wood and Wood Products established by Japan's Forest Agency</li> <li>Confirmation of basic information relating to forest operations. Information examples include compliance with laws and regulations, tree species, and whether forest certifications have been obtained.</li> </ul>	<ul style="list-style-type: none"> <li>Document verifications are performed on a vessel-by-vessel basis to ensure that the area where the wood was harvested and the supplier of the wood are in compliance with relevant laws, and that no illegally harvested wood is included.</li> <li>On-site checks by employees assigned to local offices</li> <li>Questionnaires and local interviews (Every effort is made to enhance traceability by confirming compliance with statutory requirements regarding forest management, tree species, and the acquisition of forest certifications.</li> </ul> <p><small>* In fiscal 2016, it was determined, based on questionnaire responses and shipping and other documents provided by each supplier, that no illegally harvested woodchips or pulp were procured from overseas suppliers.</small></p>
<b>Confirmation of sustainability</b>	<p>Based on information from sources such as results of supplier surveys and local interviews, the following has been confirmed.</p> <ul style="list-style-type: none"> <li>Policies or systems have been established for addressing human rights and labor matters.</li> <li>Social contribution initiatives have been undertaken to improve relations with local communities.</li> <li>Biodiversity surveys have been conducted.</li> <li>Areas requiring special consideration to protect biodiversity have been identified and logging and forest management activities have been modified appropriately.</li> </ul>	
<b>Independent Audits</b>	<p>The following have been implemented for all procured wood resources.</p> <ul style="list-style-type: none"> <li>Annual audits by the Japan Paper Association's illegal logging monitoring project.</li> <li>Annual risk assessments based on the due diligence system of the Programme for the Endorsement of Forest Certification (PEFC), a Forest certification organization.</li> </ul>	

**Implementation Results for the Action Plan for Wood-based Raw Material Procurement (Fiscal 2016)**

	Procurement in Japan	Procurement Overseas
<b>Coverage and Results</b>	414 chip suppliers, 6 pulp suppliers No problems detected under the action plan	22 chip suppliers, 8 pulp suppliers No problems detected under the action plan



Third-Party Sustainable Forest Management Validations

**Forest certification system:** System for the certification by third-party organizations that forests are being sustainably managed



At Nippon Paper Industries Co., Ltd.,

- All company-owned forests in Japan and overseas have received forest certifications.
- All wood-based raw materials have been certified by the PEFC or FSC® (All procured chips have been produced with wood from forests with an FM certification or have undergone a risk assessment for the CoC certification.)

# Protecting and Nurturing Japan's Wood Resources

Maintaining a focus on forest management that takes into consideration the characteristics of each region in an effort to promote sound growth

## Sustainable Management of Company-Owned Forests in Japan

### Practicing sustainable forest management at company-owned forests over an area extending to 90 thousand hectares

Nippon Paper Industries owns approximately 90 thousand hectares of forest in around 400 locations in Japan, the second largest private-sector holdings of forest in the country. SGEC Forest Certifications have been obtained for all of the forest.

For the Nippon Paper Group, forests are not only an important business resource—as a corporate group whose existence is closely tied to the health and conservation of forests, we recognize and work to manage the integrity of the multifaceted functions forests play within society.

#### ● Maintaining company-owned forests in Japan

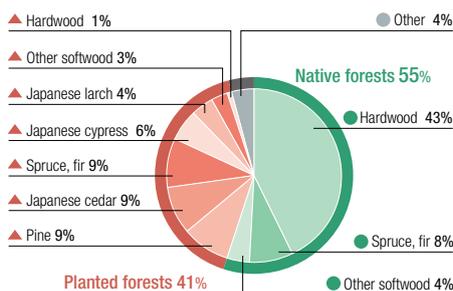
Nippon Paper Industries allocates approximately ¥0.6 billion each year to the maintenance and management of company-owned forests in Japan, which entails the clearing of undergrowth and thinning. As a company which has continued to benefit from and grow through forests and forest products, we are committed to balanced, sustainable forest management that allows forests to fulfill their multifaceted functions—including ones that benefit biodiversity protection and watershed conservation—despite the fact that forests within Japan are not currently economically viable because of the stagnant price of domestic timber.

#### ● Environmental forest designations, biodiversity-conscious forest management

Nippon Paper Industries has designated approximately 20%, or 18 thousand hectares, of forest areas owned in Japan as “environmental forest areas.” In these areas, the logging of trees for the purpose of lumber production is prohibited and the environmental functions of forests (forest ecosystems, watershed conservation, etc.) are conserved.



Sugenuma company-owned forest which includes an “environmental forest area” (Mt. Nikko-Shirane)



## Invigorating Japan's Forest Industry

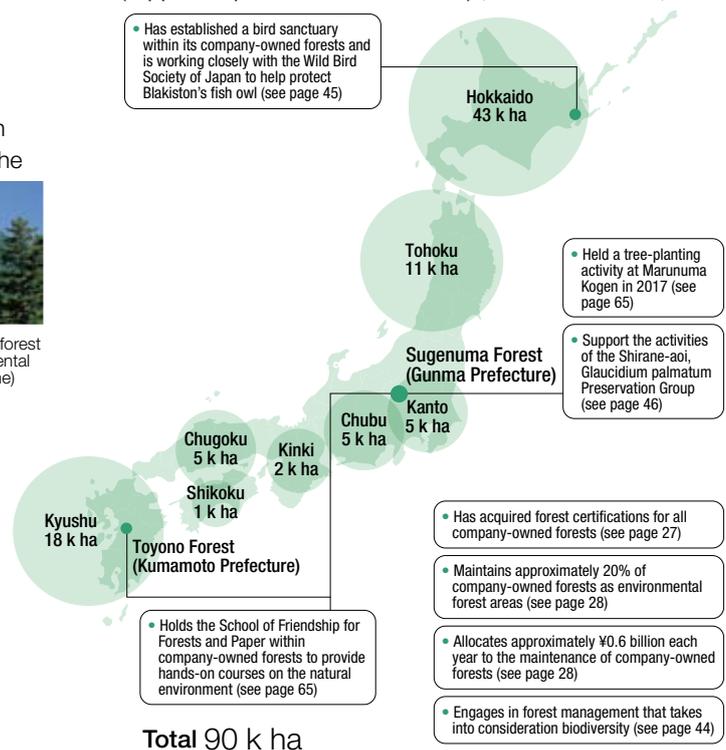
### Actively utilizing domestically produced timber while contributing to the prevention of forest deterioration

In recent years, deterioration of artificially planted Japanese cypress and Japanese cedar forests throughout Japan has become a concern. The reason for this deterioration is low lumber prices that have squeezed forest industry profitability and made it impossible to perform thinning and other necessary maintenance. To invigorate the industry and prevent further forest deterioration, the Japanese government, under its Forest and Forestry Basic Plan, has committed itself to promoting the use of domestically produced wood, and lifting the nation's wood self-sufficiency rate to 50% by 2025.

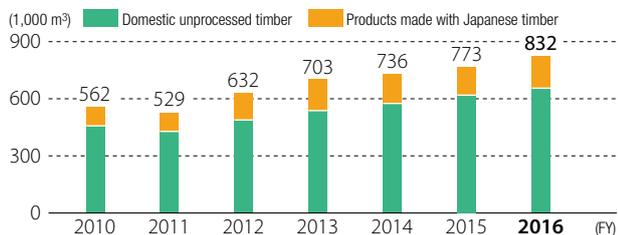
#### ● Promoting the use of domestic timber

With its network for domestic timber collection in Japan, and its ability to handle a comprehensive lineup of products, Nippon Paper Lumber is actively developing its domestic timber business. In fiscal 2016, the company handled approximately 830 thousand m<sup>3</sup> of domestically produced materials, and ranked second in its field in Japan. The company aims to lift this figure to 1 million m<sup>3</sup>, and, to this end, is continuing to develop new applications while working to boost exports.

Distribution of company-owned forests in Japan and composition by tree species (Nippon Paper Industries Co., Ltd.) (As of March 31, 2017)



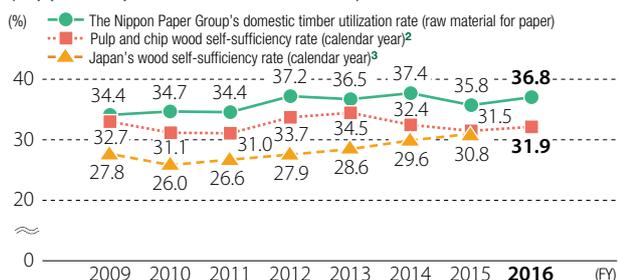
### Domestic timber sales results by product type (Nippon Paper Lumber Co., Ltd.)



#### ● Efforts to use more domestic wood as a raw material for paper

The Nippon Paper Group is working to increase the percentage of domestically produced wood it uses to make paper. Having reached 30% in fiscal 2008, this figure rose to 36.8% in fiscal 2016. We aim to carry on with our efforts to help invigorate Japan's forest industry by using Japanese timber whenever possible.

### Domestic timber utilization rate<sup>1</sup> (Nippon Paper Industries Co., Ltd.)



1 The domestic (Japan) timber utilization rate includes sawmill residues.  
 2 Source: Yearbook of Paper and Pulp Statistics issued by the Ministry of Economy, Trade and Industry of Japan  
 3 Source: Supply and Demand of Lumber (Lumber material self-sufficiency rate) issued by the Forestry Agency of Japan

#### ● Organizing private-sector forest owners in Kyushu

Increasing the competitiveness of Japan's forest industry requires that forest owners work together to maintain an efficient road network and systematic thinning operations. The signing of a memorandum of understanding on the advancement of forest management in Kyushu by Nippon Paper Industries Co. Ltd., the Kyushu Regional Forest Office; Oji Paper Co., Ltd.; Sumitomo Forestry Co., Ltd.; and others in 2009 set the stage for later developments. In March 2015, for example, an area covered by an agreement concerning the promotion of forest maintenance in the Itsuki region of Kyushu was designated as the site for a consolidation test project with the participation of the Japan Project-Industry Council's Forestry Regeneration Committee.

In a separate development, a forest management and lumber production agreement was concluded for the Yatsushiro region in March 2014. This groundbreaking wide-area model agreement calls for private-sector forest owners to manage forests in Kyushu collaboratively. Participants in the agreement include Kumamoto Prefecture, Yatsushiro City, the Yatsushiro Shinrin Forest Cooperative, and Nippon Paper Co. Ltd.

#### Case

### Development of Large Scion Plantation for Specified Japanese Cedar Mother Trees

In 2016, Nippon Paper Industries Co., Ltd. and Nippon Paper Lumber Co., Ltd. embarked on an initiative to develop a large scion plantation in Hitoyoshi City, Kumamoto Prefecture. This initiative is a bid to facilitate the quick propagation and full-scale production of cutting seedlings from Japanese cedar mother trees chosen for their excellent growth ability and lower pollen counts.

Nippon Paper Industries has developed an exclusive technology that enables it to propagate cutting seedlings much more quickly than is possible with conventional methods. Nippon Paper Lumber intends to use this technology to increase seedling production in line with demand and will proactively market seedlings, making itself into a stable source of cutting seedlings in the Kyushu region and a contributor to the steady renewal of Kyushu's forests.

#### Case

### Fukushima "Morino Chonai-kai" – Protecting Fukushima's forests

In Fukushima Prefecture, impacts of the Great East Japan Earthquake have caused forestry management and timber operations to stagnate, thereby endangering the watershed and disaster-prevention roles played by forests. Responding to this situation, Nippon Paper Lumber Co., Ltd. and Office Chonai-kai, an environmental NPO, concluded a memorandum of understanding, under which the Fukushima Morino Chonai-kai was launched in July 2016.

Fukushima Morino Chonai-kai comprises a scheme in which Morino Chonai-kai, which was established by Office Chonai-kai in 2005, will be used to promote the thinning operations necessary for protecting forests. These activities will be supported through sales of paper and paper products.

Under a similar memorandum of understanding with Office Chonai-kai, Toppan Printing Co., Ltd. has agreed to produce Fukushima Restoration Support Desktop Calendars and use 150 yen from the sale of each to support forest protection activities in Fukushima Prefecture.

In pursuit of the Fukushima Morino Chonai-kai scheme, Nippon Paper Lumber Co., Ltd. will purchase material from forest thinning operations in Fukushima and use it as raw material for making paper at its Ishinomaki and Iwanuma mills.



Fukushima Restoration Support Desktop Calendar

# Overseas Afforestation

Growing trees as a renewable resource, and coexisting with local communities

## Sustainable Management of Overseas Afforested Areas

### Developing an afforestation business that contributes to the local community

Recognizing the importance of mutual development the Nippon Paper Group strives to build positive ties with the local communities in and around its forests. We pay particular attention to the concerns of local residents while taking into consideration the cultures and traditions of each region as well as the natural environment and ecosystems. Considerable effort is also placed on promoting educational activities, and creating employment opportunities, within local economies.

- Acquisition of forest certifications (see pages 26-27)
- Engages in forest management that takes into consideration biodiversity (see pages 44-45)
- Coexisting with local communities (Employment support, respect for indigenous people, see page 63)

## Tree Farm Initiative

### Nurturing renewable wood resources

In similar fashion to the cultivation of crops in the field, the Tree Farm Initiative achieves sustainable procurement of raw materials through repeated cycles of growing and

harvesting trees. The Tree Farm Initiative manifests Nippon Paper Industries Co., Ltd.'s concept for overseas afforestation projects.

Presently, the Company oversees 91 thousand hectares (as of December 31, 2016) of afforested areas in Brazil, Chile, Australia, and South Africa.

#### ● Afforestation projects that help the local ecology

The Nippon Paper Group performs afforestation work on grasslands, former farms and pastures and on harvested plantation land. We select species, focusing mainly on fast-growing Eucalyptus, according to individual climatic conditions and materials available for making paper.

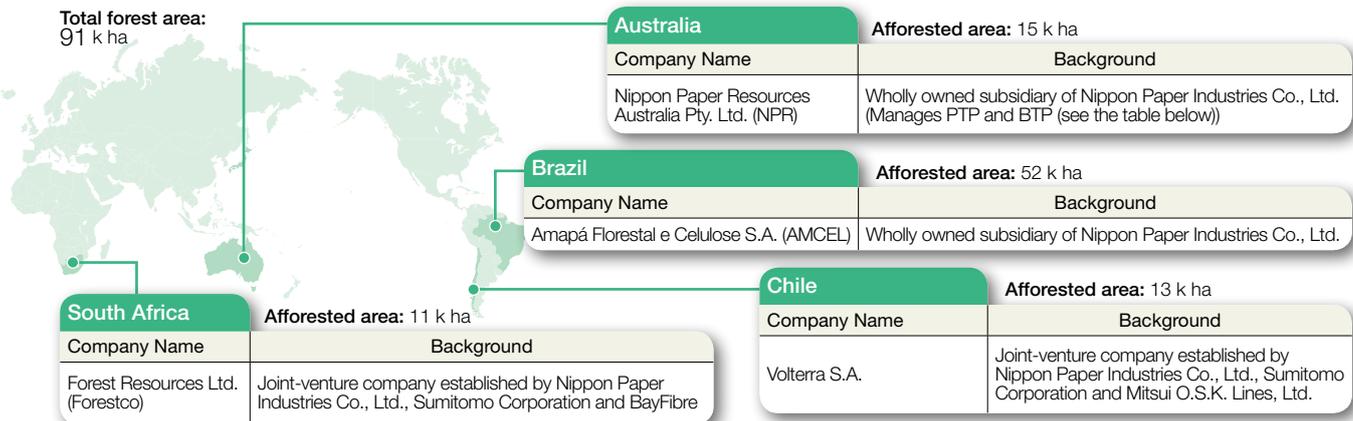
In order to maintain a balance between areas planted with Eucalyptus and the biodiversity needs of each region, we implement appropriate measures and keep vegetation along rivers and water courses where the potential effects on the ecology are large.



Tree planting that preserves riparian forests. (Right) The blue area indicates riparian forests.

Overview of overseas forests under Nippon Paper Group management (as of March 31, 2017)

Total forest area:  
91 k ha



\* "k ha" = thousand hectares

### Status of forest certification acquisition for overseas afforestation project

Overseas plantation project by operating company	Certification system name (License no.)	Date of acquisition
PTP (Australia)	AFS	June 2006
BTP (Australia)	AFS	April 2006
Volterra (Chile)	FSC® (FSC®C120260) CERTFORCHILE	January 2014, December 2007
Forestco (South Africa)	FSC® (FSC®C012171)	April 2003
AMCEL (Brazil)	FSC® (FSC®C023383) CERFLOR	December 2008, September 2014

# Environmental Responsibility

The Nippon Paper Group's social responsibility is to use sustainable forest resources to contribute to the creation of a sustainable society. We protect biodiversity by properly managing forests and help to prevent global warming by making effective use of the ability of forests to sequester CO<sub>2</sub> and by using wood resources efficiently. In transporting raw materials, manufacturing products, and performing other activities that bring our products up to the point of usage, however, we use significant amounts of resources and energy, and generate greenhouse gases and waste. At every stage of the value chain, therefore, we actively work to reduce our environmental impact by, for example, monitoring the effects of our activities to manage them and adopting new technologies and facilities to achieve greater energy efficiency.



10<sup>th</sup> Eco Photo Awards Grand Prize winner –  
"Aquatic Life Exploration Team"

Indicators	Key Objectives	Performance (fiscal 2016)
<b>Materiality: Climate Change Initiatives</b>		
Greenhouse gas emissions	Reduce 10% compared to FY2013 result	Reduced 1.5%
<b>Materiality: Reduction of Environmental Impacts</b>		
Waste recycling rate	Increase to 98% or higher	98.4%
<b>Materiality: Preserving Biodiversity</b>		
Forest certifications for company-owned forests	100%	100%
Check for rare species prior to harvesting in company-owned forests	100%	100%

## Policy and Management ..... 32

Basic Stance / Environmental Action Plan (Green Action Plan) / Environmental Management Promotion Structure / Strengthening Environmental Compliance / Environmental Communication / Environmental Education and Training / Environmental Accounting

## Reduction of Environmental Impacts ..... 36

Material Balance / Measures for Preventing Air Pollution / Initiatives for Preventing Water Pollution / Preventing

Noise, Vibration, and Odors / Preventing Soil Pollution / Water Supply Risk related to Our Water Usage / Recycling Industrial Waste / Controlling Chemical Substances

## Climate Change Initiatives ..... 40

Basic Stance / Progress Report for the Green Action Plan 2020 Environmental Action Plan / Fuel Conversion Led by the Adoption of Biomass Boilers / Initiatives for Saving Energy in Manufacturing Processes / Absorbing and Sequestering CO<sub>2</sub> through Proper Management of Company-Owned Forests / Advancing Energy Efficiency in Logistics

## Promoting Recycling ..... 43

Expanding the Use of Wastepaper / Waste Recycling

## Preserving Biodiversity ..... 44

Basic Stance / Initiatives in Our Core Business Activities / Initiatives Leveraging Our Resources and Technologies

\* The reporting scope for environmental data is described on page 3. In cases where a different reporting scope is used a notification to that effect is provided.

# Policy and Management

We are putting in place a Group-wide environmental management system based on our Environmental Charter and engaging in environmentally friendly corporate activities.

## Basic Stance

### Endeavoring to reduce the environmental impact of our activities taking into consideration the unique characteristics of our business and wide-ranging social issues

To reduce the environmental impact of its production processes, the Nippon Paper Group, in upholding the principles and basic stance expressed in the Nippon Paper Group Environmental Charter, emphasizes environmental performance in selecting equipment and strives to increase daily operating efficiency.

#### The Nippon Paper Group Environmental Charter

(Established on March 30, 2001, and revised on March 30, 2007)

##### Philosophy

The Nippon Paper Group is committed to helping preserve the global environment over the long term and contributing to the development of a recycling based society by carrying out its corporate activities in recognition of the importance of biodiversity.

##### Basic Policy

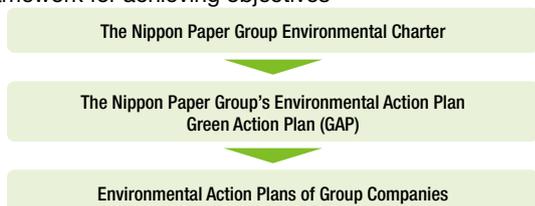
1. Act to counter global warming
2. Protect and develop forest resources
3. Increase use of recycled resources
4. Comply with environmental statutes and work to minimize our environmental impact
5. Develop environmentally friendly technologies and products
6. Engage in active environmental communication

## Environmental Action Plan (Green Action Plan)

### Setting forth specific objectives and actions

The Nippon Paper Group has established its Environmental Action Plan - the Green Action Plan (GAP) – in accordance with the six basic policies expressed in its Environmental Charter. Group companies have each established their own specific environmental action plans to reflect their own individual business circumstances based on the GAP. Their efforts to fulfill these plans are enhancing our ability to accomplish the GAP.

#### Framework for achieving objectives



## Environmental Management Promotion Structure

### Putting in place a group-wide structure

The Management Execution Committee makes decisions on environmental strategy and oversees environmental activities, for the entire Group. Chaired by the executive officer responsible for environmental management, the Nippon Paper Group Environmental Committee applies the philosophy and basic policies of the Environmental Charter, which underpins the environmental management principles of Group companies, by drawing up and monitoring implementation of the Environmental Action Plan, and submitting progress reports to the Management Execution Committee. By deliberating and approving new initiatives, the Management Execution Committee promotes ongoing improvement in the Group's environmental activities.

The Nippon Paper Group's environmental management promotion structure (as of March 31, 2017)



#### ● Strengthening environmental management systems

At the Nippon Paper Group, the environmental departments at our headquarters and production facilities work together to strengthen the environmental management systems.

Nippon Paper Industries, for example, has adopted a system for centrally managing emissions from the boilers of individual mills. This effort illustrates how the company's headquarters and production facilities work together to ensure compliance with laws and regulations, and reduce environmental impact.

#### ● Introducing environmental management systems

As one measure aimed at promoting environmental management, the Nippon Paper Group is introducing various environmental management systems including ISO 14001, the international standard for environmental management, and Eco-Action 21. ISO 14001 certifications have been obtained by 93% of the principal production sites of Nippon Paper Industries Co., Ltd. and its consolidated subsidiaries.



Please refer to the following web page for information on conditions with regard to ISO14001 and Eco-Action 21 certifications.  
[http://www.nipponpapergroup.com/csr/2017.3\\_ISO14001\\_e.pdf](http://www.nipponpapergroup.com/csr/2017.3_ISO14001_e.pdf)

The Nippon Paper Group Environmental Action Plan (Green Action Plan 2020) - Fiscal 2016 Progress Report

	Green Action Plan 2020	Progress	Page
1. Anti-global warming action	Reduce greenhouse gas emissions by 10% compared to fiscal 2013. <sup>1</sup>	•Reduced greenhouse gas emissions by 1.5% compared to fiscal 2013 by updating and consolidating facilities, and moving forward with fuel conversion.	40
	Reduce logistics-generated CO <sub>2</sub> emissions.	•Continuously working to reduce CO <sub>2</sub> emissions by shortening transportation distances and advancing highly efficient modal shift transport.	42
2. Protection and development of forest resources	Advance domestic company-owned forest operations and the overseas afforestation project (Tree Farm Initiative) to ensure the sustainable nurturing of forest resources.	•As of the end of 2016, total afforested areas came to 91,000 ha.	30
	Maintain forest certifications in all proprietary forests, both domestically and internationally.	•Currently maintaining SGEC, FSC <sup>®2</sup> , and PEFC certification for 181,000 ha of company-owned forests in Japan and overseas.	27, 28, 30
	Ensure that all wood materials for pulp and paper are endorsed under forest certification schemes.	•Using only PEFC- or FSC <sup>®</sup> -certified wood materials (including controlled material and controlled wood) for pulp and paper.	27
	Enhance traceability and facilitate the procurement of sustainable forest resources.	•In working to enhance traceability through the use of forest certifications, cleared the requirements of PEFC rules in their entirety and FSC <sup>®</sup> rules to 97% with respect to the assessment of imported wood chip risk in fiscal 2016.	26, 27
	Advance the use of wood fiber produced from domestically grown trees to promote sound growth of forest resources in Japan.	•Nippon Paper Industries Co., Ltd. used domestically produced wood for 37% of its needs.	25, 28
3. Recycling of resources	Promote greater use of wastepaper by achieving advances in wastepaper utilization technologies.	•As a result of vigorous efforts to use wastepaper, wastepaper pulp accounted for 38% of pulp used to produce paper, and 89% of pulp used to produce paperboard.	43
	Increase the waste recycling rate to at least 98%. <sup>1</sup>	•Waste recycling rate came to 98.4% because of efforts to reduce waste generation and to recycle boiler ash.	39
4. Observance of environment-related laws and reduction of environmental load	Use the environmental management system to strengthen environmental management and reduce environmental impact.	•ISO14001 and other environmental management system standards are being implemented in locations with high environmental impact to ensure regulatory compliance and reduce environmental impact.	32
	Properly manage chemical substances in accordance with the Nippon Paper Group Chemical Substance Management Guidelines.	•In locations where chemical substances are being used, records on substance types and amounts are being kept, and safety data sheets are being used, to properly manage chemical substances. •In fiscal 2016, water chillers were updated and recovery facilities were newly installed to reduce chloroform emissions at Nippon Paper Industries Co., Ltd.'s Iwakuni Mill.	39
5. Development of eco-friendly technologies and products	Enhance the more sophisticated use of wood materials.	•Developed Minerpa™, a functional material that is a composite of minerals and cellulose fiber, and offers excellent anti-odor, antibacterial, fire-resistance, and radiation shielding properties. •A high-capacity (annual capacity of 500 tonnes) production facility for industrial TEMPO-oxidized CNF was installed at Nippon Paper Industries Co., Ltd.'s Ishinomaki Mill. Operations began in April 2017. Finalized the decision to install a high-capacity (annual capacity of 30 tonnes) facility to produce CM-CNF at the Gotsu Mill. CM-CNF will be for use as a food and cosmetics additive. Operations scheduled to start in September 2017.	11, 52
	Develop equipment technology for facilitating a departure from reliance on fossil energy.	•Began test production of torrefied pellets, a new biomass solid fuel, in Thailand.	40, 41
	Reduce the environmental load through the provision of ecofriendly products and services.	•Nippon Paper Industries Co., Ltd. advanced the renewable energy business to help reduce its environmental load. It did this by starting to install wind turbines for a wind-power plant (scheduled to begin operating in January 2018) on land adjacent to the Akita Mill. •Sold CfFA <sup>®</sup> concrete admixture (making effective use of pulverized-coal boiler ash from Nippon Paper Industries Co., Ltd.'s Ishinomaki Mill) for use in recovery construction in the Ishinomaki area of Miyagi Prefecture, Japan. •Began sales of NP-PAK Bio paper cartons (made almost totally from plant-derived recyclable biomass material) for chilled liquids.	11, 43
6. Environmental communication	Disclose environment-related information to stakeholders and accelerate environmental communication through dialogue and other means.	•Shared risk information and invigorated dialogue with society through publication of the Sustainability Report and through environmental risk communication efforts undertaken at individual mills.	34
	Proactively participate in and support environment conservation activities.	•Actively participated in environmental protection endeavors including clean-up and greening initiatives organized by local communities, while promoting various activities including mill tours and internships.	64
7. Biodiversity commitments	Advance companywide biodiversity initiatives in accordance with the Nippon Paper Group Basic Policies on Protection of Biodiversity.	•As a fiscal 2016 education activity on the importance of protecting biodiversity, conducted environmental e-learning, under the theme of Forests and Biodiversity, for Group and affiliate employees. •Worked with the Wild Bird Society of Japan to conduct habitat surveys on birds in general, and the Blakiston's fish owl in particular.	34

<sup>1</sup> Production sites in Japan.

<sup>2</sup> FSC<sup>®</sup> Logo License No.FSC<sup>®</sup>C120260, FSC<sup>®</sup>C012171, FSC<sup>®</sup>C023383



# Policy and Management

## Strengthening Environmental Compliance

### Taking action in a two-pronged approach

In order to reduce the environmental impact of its business activities, the Nippon Paper Group is strengthening environmental compliance by placing equal emphasis on preventing problems and on establishing a framework that ensures all problems come to light.

We were not subject to any form of adverse disposition (revocation of licenses, orders to suspend operation or the use of facilities, or fines) with respect to compliance with environmental regulations in fiscal 2016.

#### To bolster environmental compliance

1. **Building systems to prevent problems**
  - Building a workplace that emphasizes the importance of the environment (environmental compliance training)
  - Strengthening the system for identifying applicable laws and regulations
  - Implementing measures from both the facility and technology perspectives
2. **Establishing a framework that ensures all problems come to light**
  - Bolstering environmental audits
  - Strengthening the environmental management structure
  - Engaging in environmental communication and active information disclosure

#### ● Strengthening the framework for reliably identifying laws to be observed

To accurately respond to wide-ranging and relatively frequent changes in environmental legislation, Nippon Paper Industries has retained legal experts as advisors and implemented a legal and regulatory search system.

#### ● Introducing equipment and facilities to prevent environmental accidents

Nippon Paper Industries identifies risks of environmental accidents in terms of both probability and potential impact, and introduces the equipment and facilities needed for prevention. Acting to prevent major chemical and oil spills - considered a top priority again in fiscal 2016 - the company took steps like installing liquid containment walls and surface oil detectors.

#### ● Environmental audits emphasizing legal compliance and risk control

The environmental management guidelines on pollution prevention issued by the Japanese Ministry of the Environment and Ministry of Economy, Trade and Industry serve as the basis for internal audits by the Nippon Paper Group's various business locations, and for environmental audits by Nippon Paper Industry's head office Environment & Safety Department. The latter function as a double confirmation of legal compliance and include inspection of

chemical tanks and other facilities to prevent environmental accidents. A system of mutual audits has also been put in place by the Group as an additional step to strengthen compliance and risk control.

## Environmental Communication

### Reflecting feedback into our environmental activities

The Nippon Paper Group places particular emphasis on sharing risk information with local communities in an effort to build strong ties of trust with them. To this end, the Group engages in environmental risk communication with local residents and government authorities, as provided in the Nippon Paper Group Risk Communication Guidelines. In cases such as the installation of large-scale equipment, we also conduct explanatory meetings to provide a better understanding of any impact on the environment from installation work and operation of the installed facilities.

#### ● Responses to opinions and complaints

In addition to receiving opinions and inquiries via its website, the Nippon Paper Group has established a complaint and inquiry contact at each of its mills. We have also adopted environmental monitoring systems that encourage input from local residents.

Mills that receive complaints move swiftly to determine possible causes, and take remedial action. In those instances where a permanent solution requires an extended amount of time to implement, all appropriate provisional measures are taken as quickly as possible. With each complaint, the Group takes steps to explain the details of remedial action to be taken and to obtain the necessary acknowledgement.

No. of environment-related complaints in Japan (fiscal 2016)

Complaints	No.	Complaints	No.
Noise	1	Vibration	1
Dust and mist dispersal	5	Smoke	0
Odor	2	Other	1
Total 10			

## Environmental Education and Training

### Supporting employees to learn

The Nippon Paper Group provides basic to specialized environmental education covering topics such as wastewater treatment plant operation. In addition, the Group encourages employees to participate in external training and take advantage of other opportunities to gain pollution prevention qualifications and expertise.

To help elevate the environmental protection awareness

of employees, we hold the Nippon Paper Group Eco-Photo Contest and conduct environmental e-learning. These activities take place in the month of June – Environment Month in Japan.

In 2017, large numbers of employees participated in our e-learning programs, which focused on forest certification systems.

## Environmental Accounting

### Environmental conservation expenses amounted to around ¥30.1 billion

Environmental accounting at domestic consolidated companies\*

Environmental conservation costs

(Millions of yen)

Categories	Principal Activities	Investment	Cost
(1) Business area costs			
1. Pollution prevention costs	Maintaining, managing and improving air and water pollution prevention facilities, etc.	1,260	11,119
2. Global environmental conservation costs	Preventing global warming as well as maintaining and managing company-owned forests, etc.	4,037	722
3. Resources circulation costs	Effectively utilizing recycled paper as well as treating, reducing and recycling industrial waste, etc.	428	8,568
(2) Upstream / downstream costs	Recovering pallets, etc.	–	2,097
(3) Administration costs	ISO 14001 inspection, operation and management; environmental information disclosure; employee environmental education; and workplace cleaning initiatives, etc.	–	297
(4) R&D costs	R&D relating to environmentally friendly products as well as the reduction of environmental load imposed by paper manufacturing processes, etc.	–	994
(5) Social activity costs	Local community natural conservation, tree planting, cleaning and landscaping activities, as well as donations and support for environmental organizations, etc.	–	63
(6) Environmental remediation costs	Levy for pollution-related health damage compensation system (SOx), etc.	–	546
<b>Subtotal</b>		<b>5,725</b>	<b>24,406</b>
<b>Total</b>		<b>30,131</b>	

Environmental conservation impacts

Categories	Environmental Impact Indicators		Results	YoY Change
Effects related to resources introduced to business activities	Afforestation projects overseas	Overseas afforestation areas	91 k ha	Up 2 k ha
	Energy-saving measures	Fuel use (Heavy oil equivalent)	–	Up 37,358 kl
Effects related to environmental impact and waste from business activities	Greenhouse gas emissions		7.17 Mt	Up 0.27 Mt
	Air pollutant emissions	NOx emissions (NO equivalent)	8,002 t	Up 167 t
		SOx emissions (SO <sub>2</sub> equivalent)	3,345 t	Up 671 t
		Soot and dust emissions	1,183 t	Down 52 t
	Effluent		881 Mt	Unchanged
	Water contaminant emissions	COD/BOD emissions	53,019 t	Down 238 t
SS emissions		22,124 t	Down 1,072 t	
Final waste disposal		10.7 kt	Down 6.7 kt	
Effects related to goods and services produced from business activities	Product recycling	Recycled paper utilization rate (paper)	38.4%	Up 0.6%
		Recycled paper utilization rate (paperboard)	88.7%	Up 0.1%
	Shipping material recycling	Pallet recovery rate	39.1%	Down 9%

\* "k ha" = thousand hectares

Economic benefits of environmental conservation

(Millions of yen)

Effect	Amount
Income from company-owned forests in Japan	430
Reduced expenses from energy saved	1,344
Reduced disposal expenses through the effective use of waste	4,495
Gain on sales from the recycled waste	451
Reduced expenses through the recycling of shipping materials	49
<b>Total</b>	<b>6,769</b>

\* Accounting standards are based on Environmental Accounting Guidelines 2005.

# Reduction of Environmental Impacts

Ascertaining our material balance and reducing our environmental impact

## Material Balance

### Identifying and reducing the environmental impact of our business activities

The Nippon Paper Group engages in a broad range of paper-related and other business activities driven primarily by the Pulp and Paper Division, which accounts for 83% of

total net sales. Constituting most of the Group's material balance in Japan, this division is responsible for approximately 92% of the Group's water consumption and 96% of its CO<sub>2</sub> emissions there.

Woodchips and recycled paper make up the bulk of raw materials used to make paper. After converting these raw materials into pulp, the pulp is diluted with water to produce

Balance of materials (principal materials) <sup>1</sup>

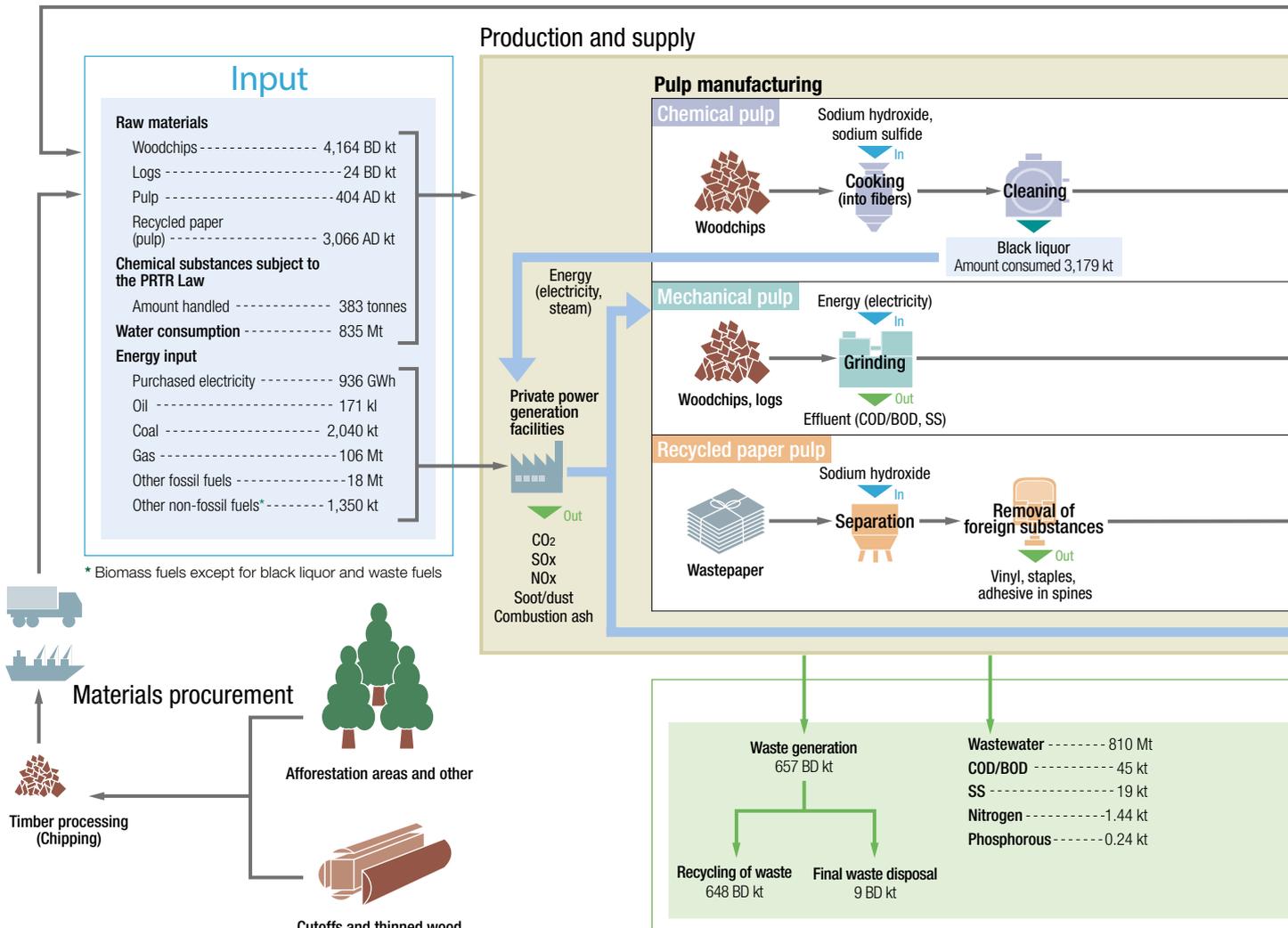
[Units] GWh = Gigawatt hours BDT = Bone-dry tonnes ADt = Air-dry tonnes

Input		
<b>Energy input</b>	Other non-fossil fuels <sup>2</sup> ----- 6,184 kt (Black liquor subtotal: ----- 4,620 kt)	<b>Water consumption</b> ----- 957 Mt
Purchased electricity ----- 2,148 GWh	<b>Chemical substances subject to the PRTR Law<sup>3</sup></b>	River water ----- 769 Mt
Oil ----- 177 Mt	(Amount handled) ----- 12,012 t	Industrial water ----- 133 Mt
Coal ----- 2,626 kt		Well water ----- 55 Mt
Gas ----- 243 kt		Public water supply ----- 1 Mt
Other fossil fuels ----- 18 kt		<b>Raw materials</b>
		Woodchips ----- 5,361 BDT kt
		Logs ----- 724 BDT kt
		Pulp ----- 478 ADt kt
		Recycled paper (pulp) 3,139 ADt kt
		Base paper ----- 113 BDT kt

<sup>1</sup> In fiscal 2016, the scope of organizations covered in calculating the balance of materials was changed to include Amapá Florestal e Celulose S.A. (AMCEL) and Nippon Dynawave Packaging Company, and exclude Nippon Paper Industries

USA Co., Ltd.  
<sup>2</sup> Biomass fuels and waste fuels  
<sup>3</sup> Japan only

Material balance in the Pulp and Paper Business in Japan (principal materials)

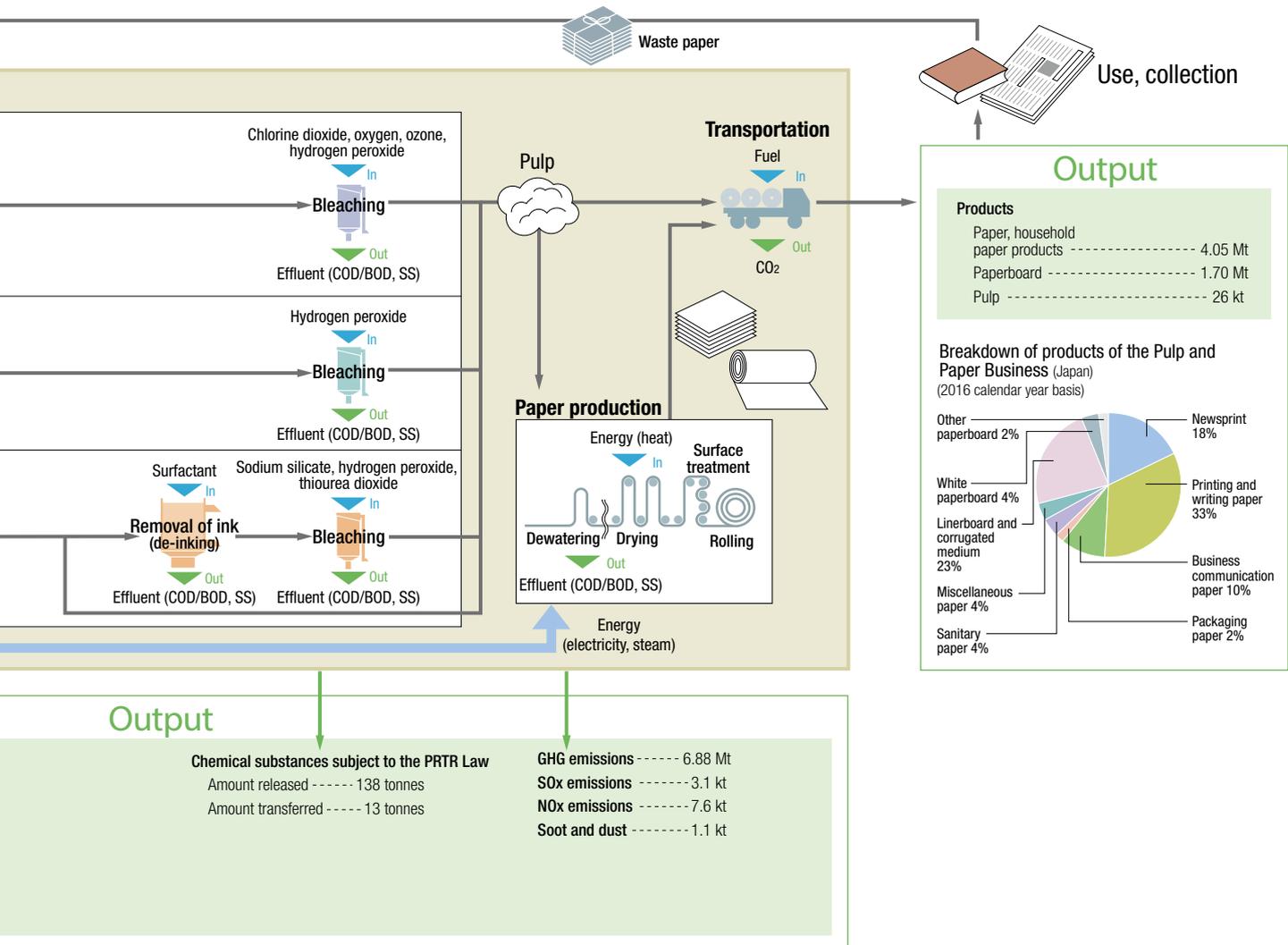


pulp slurry and then formed as wet thin sheets. The water is then removed by drying to make paper. In the pulp and papermaking processes, steam is used as a heat source and electricity as a power source. Pulp and paper mills are equipped with boilers that combust fuel to generate steam, and generators that create electricity with turbines driven by steam.

Unfortunate byproducts of the pulp and paper manufacturing process are effluents containing water contaminants as well as steam containing air pollutants and CO<sub>2</sub>. Moreover, the fuels combusted by boilers produce ash waste. With this in mind, the Nippon Paper Group strives to reduce the environmental impact of these pollutants.

## Output

<b>GHG Emissions</b> ----- 8.21 Mt	<b>Wastewater</b> ----- 933 Mt	<b>Total Waste Generated</b> ----- 911 BD kt	<b>Products manufactured</b>
<b>SOx emissions</b> ----- 3.8 kt	Public water ----- 923 Mt	Final disposal subtotal ----- 106 BD kt	Paper, household paper -- 4.47 Mt
<b>NOx emissions</b> ----- 9.4 kt	Sewerage ----- 10 Mt	Recycled subtotal ----- 805 BD kt	Paperboard ----- 2.16 Mt
<b>Soot and dust</b> ----- 1.4 kt	<b>COD/BOD</b> ----- 62.5 kt		Pulp ----- 227 kt
<b>Chemical substances subject to the PRTR Law<sup>3</sup></b>	<b>SS</b> ----- 25.5 kt		Paper container ----- 100 kt
Amount released ----- 191 tonnes	<b>Nitrogen</b> ----- 1.48 kt		Chemical products ----- 111 kt
Amount transferred ----- 83 tonnes	<b>Phosphorous</b> ----- 0.25 kt		Building materials ----- 68 kt
			Electricity ----- 1,191 GWh



# Reduction of Environmental Impacts

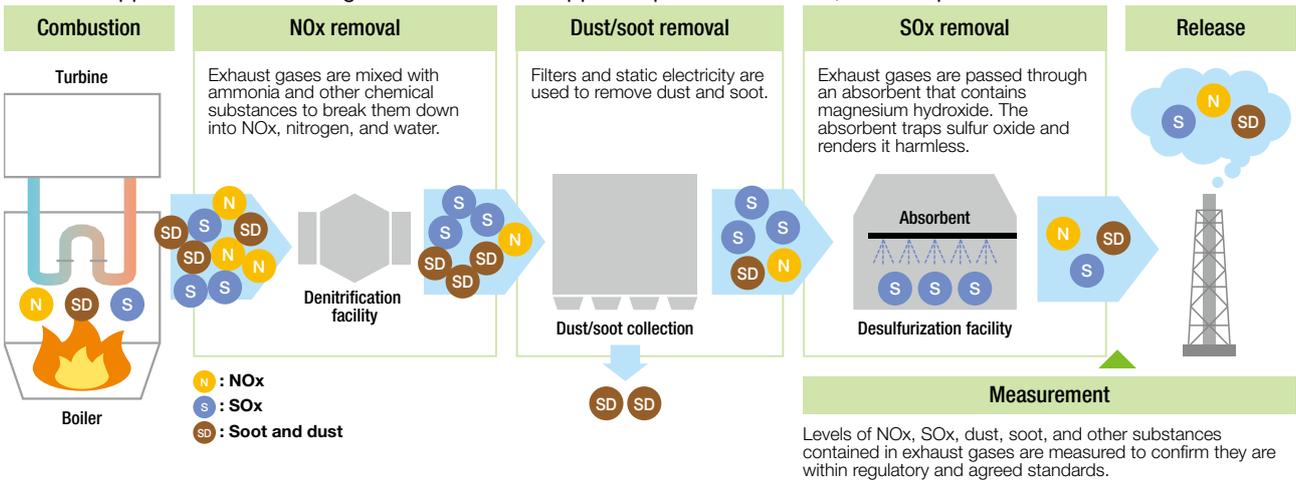
## Measures for Preventing Air Pollution

### Using chemical substances and filters to reduce emissions of air pollutants

The Nippon Paper Group uses boilers and turbines to generate power internally at its paper mills. The steam

emitted by boilers includes greenhouse gases, nitrogen oxide (NOx), sulfur oxide (SOx), soot, dust, and other air pollutants. To lower its environmental impact, the Group uses denitrification, desulfurization, dust collection, and other equipment to bring these pollutants within regulatory standards and standards agreed upon with local governments.

Standard Approach for Processing Gas Emissions at Nippon Paper Industries Co., Ltd.'s Paper Mills



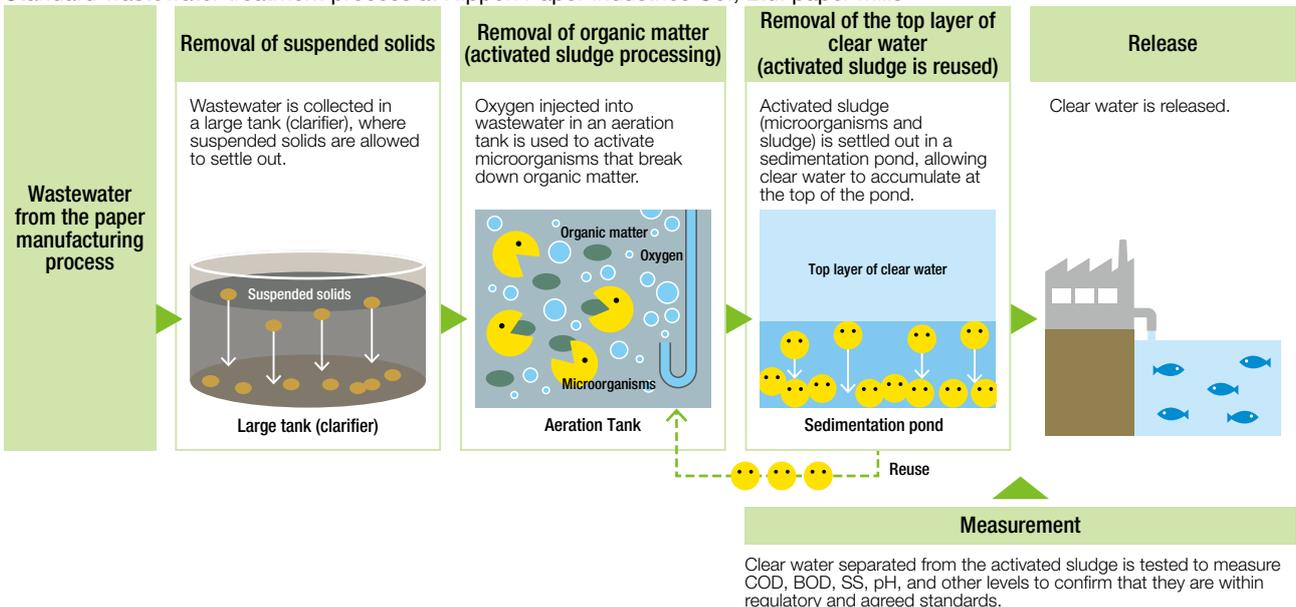
## Initiatives for Preventing Water Pollution

### Lowering discharges of water pollutants through the use of microorganisms

Wastewater from the production of paper contains suspended and organic matter originating from the minute pulp fibers, filler, and other materials that did not remain in

the paper. The Nippon Paper Group uses wastewater treatment facilities employing microorganism and other technologies to reduce levels of water pollutants measured, for example, in terms of COD, BOD, and SS levels. Through these measures and pH management, we are keeping pollutant levels within regulatory standards and standards agreed upon with local governments.

Standard wastewater treatment process at Nippon Paper Industries Co., Ltd. paper mills



**Preventing Noise, Vibration, and Odors**

**Putting in place measures to reduce the impact on areas in proximity to mills**

**● Prevention of noise and vibration**

Pulp and paper mills use large machines incorporating numerous motors and pumps that generate noise and vibration. Acting even when complaints have not been received, each mill takes steps such as installing sound insulation facilities or relocating machinery whenever an issue is determined to have arisen.



Before installation of sound insulation wall (left) and after (right) (Fuji Mill, Nippon Paper Industries)

**● Prevention of odors**

When making kraft pulp, foul odors from substances such as hydrogen sulfide, methyl mercaptan, methyl sulfide, and methyl disulfide can be generated. In addition to installing facilities that contain odors or break down the substances that emit them, we regularly measure odor levels and conduct patrols of surrounding areas to discover issues as early as possible.

**Preventing Soil Pollution**

**Fiscal 2016, another year free of soil contamination**

The raw materials and chemicals used by Nippon Paper Group mills contain almost no heavy metals, trichloroethylene or other soil contaminants.

Fiscal 2016 was another year in which there were no instances of contaminated soil generated at Group companies.

**Water Supply Risk related to Our Water Usage**

**No Threats to Water Supplies**

Presently, we have received no information from either government authorities or local communities that water usage by Nippon Paper Group company mills is having negative environmental impacts. Our operations are posing little risk to water supplies in Japan.

In addition, simple risk assessments performed by third parties have not indicated that water supplies are seriously threatened by our operations.

**Recycling Industrial Waste**

**Working to make effective use of waste, while reducing waste generation**

**● Green Action Plan 2020 (GAP 2020) Progress Report**

Under GAP 2020 (see page 33), the Group is working to increase its waste recycling rate to at least 98%.

To reduce the amount of industrial waste sent for final disposal by burial in landfills or by other means, we have undertaken various initiatives. These include, for example, revising production processes and using boiler ash as a construction material and for other purposes. As a result, our waste recycling rate rose to 98.4% in fiscal 2016.

**Waste generated and final waste disposal in Japan**



**Controlling Chemical Substances**

**Working to make effective use of waste, while reducing waste generation**

**● Responding to the PRTR Law**

The Pollutant Release and Transfer Register (PRTR) is a mechanism for businesses to use in tallying and reporting to authorities the wide variety of potentially hazardous chemical substances that are either emitted from their factories or transferred from their factories in waste.

Through risk communication meetings the Nippon Paper Group holds at its mills, we explain to local residents how chemical substances subject to the PRTR Law are being managed, and we provide updates on emissions and transfers.

**Amounts of substances subject to the PRTR Law handled, released and transferred**



Amounts of substances subject to the PRTR Law released and transferred  
[http://www.nipponpapergroup.com/csr/2017.3\\_PRTR\\_e.pdf](http://www.nipponpapergroup.com/csr/2017.3_PRTR_e.pdf)

# Climate Change Initiatives

Reducing greenhouse gas emissions at every stage of our business activities

## Basic Stance

### Working to build a low-carbon society

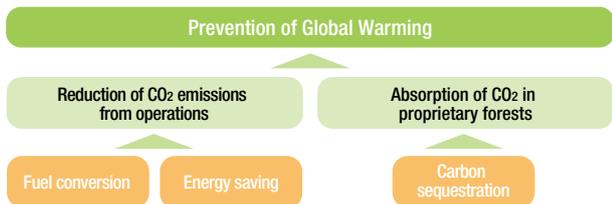
Keidanren (Japan Business Federation) and the Japan Paper Association both support the creation of a low-carbon society, and the Nippon Paper Group, as a member of both organizations, actively works to prevent global warming.

The Paris Agreement, signed in 2016, has taken effect and is expected to have a global impact on conditions surrounding the problem of climate change. For its part, the Nippon Paper Group will continue to strengthen measures supporting the creation of a low-carbon society.

#### ● Three core initiatives

As a part of our efforts to prevent global warming across every stage of our business activities, we are (1) converting to non-fossil energy by employing boilers that use biomass and waste fuels, (2) conserving energy in each of our production and logistics processes, and (3) managing proprietary forests properly to ensure CO<sub>2</sub> absorption/sequestration (see pages 40-42).

#### Nippon Paper Group environmental initiatives

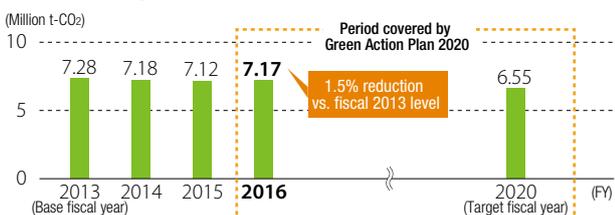


## Progress Report for the Green Action Plan 2020 Environmental Action Plan

### Working to achieve objectives

In its Green Action Plan 2020 (see page 33), the Nippon Paper Group has established the objective of reducing greenhouse gas emissions 10% compared to the fiscal 2013 level. In fiscal 2016, the first year covered by the plan, we vigorously moved forward with investments aimed at saving energy by, for example, consolidating facilities and updating equipment. As a result, our fiscal 2016 greenhouse gas emissions declined 1.5% compared to the fiscal 2013 level, despite lower production in our paper pulp operations.

#### Greenhouse gas emissions (Japan)\*



\* For companies covered by the Energy Conservation Act. These consist of certain consolidated group companies in Japan and certain nonconsolidated subsidiaries in Japan.

## Fuel Conversion Led by the Adoption of Biomass Boilers

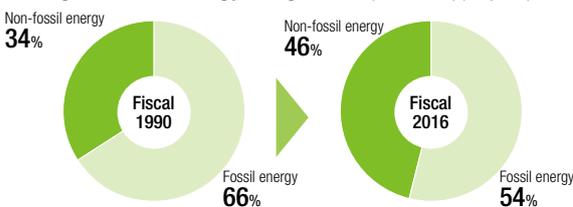
### Actively using biomass and waste fuels to reduce fossil energy usage

The Nippon Paper Group has installed two types of boilers—high-efficiency boilers and boilers capable of burning construction waste and other woody biomass fuels; used tires; RPF\*; and other waste fuels. Our use of these fuels allows us to reduce our usage of fossil fuels. This fuel conversion initiative helps to prevent global warming and slow the depletion of fossil resources.

As a result of energy saving activities and fuel conversion, the Group's fossil energy usage ratio in Japan fell to 54% in fiscal 2016, compared to 66% in fiscal 1990.

\* RPF (Refuse paper and plastic fuel): Fuel derived from paper that is unusable as recycled paper and from waste plastic.

#### Change in fossil energy usage ratio (calories)(Japan)

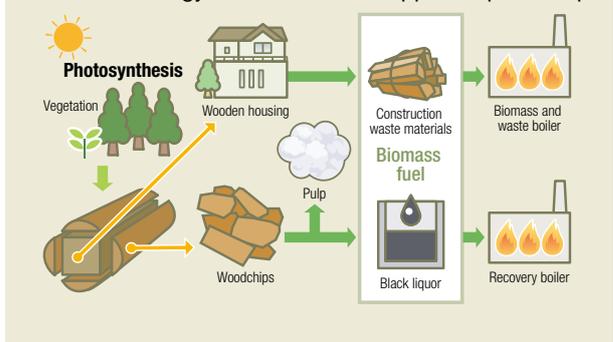


## One of the largest corporate users of biomass energy in Japan

The Nippon Paper Group actively applies biomass energy from sources such as black liquor and construction waste. The amount consumed accounts for up to 7%\* of non-fossil energy (excluding nuclear and hydroelectric power) used in Japan. The Nippon Paper Group is one of the largest corporate users of biomass energy in Japan.

\* In-house data prepared by Nippon Paper Industries Co., Ltd. using energy supply information (fiscal 2015 finalized information) published by the Natural Resources and Energy Agency.

#### Biomass energy utilization at the Nippon Paper Group



● **Development of a new biomass solid fuel**

Trees absorb CO<sub>2</sub> as they grow. When woody biomass fuel made from trees is burned, the CO<sub>2</sub> that results is CO<sub>2</sub> that was absorbed from the atmosphere and sequestered as the trees were growing, so there is no net impact on atmospheric CO<sub>2</sub> – woody biomass fuel, in other words, is carbon neutral.

Given this carbon-neutral characteristic of woody biomass fuel, the co-firing of woody biomass is being advanced to reduce the CO<sub>2</sub> emissions of coal-fired boilers. Woodchips and wood pellets, however, cannot be efficiently crushed and there are other issues, for example, with water repellency when stored outdoors.

To address these challenges, Nippon Paper Industries has applied torrefaction technology to carbonize woody biomass at a relatively low temperature to develop a new biomass solid fuel that has pulverization properties similar to those of coal and retains most of its energy value.



New woody biomass solid fuel made with torrefaction technology

**Initiatives for Saving Energy in Manufacturing Processes**

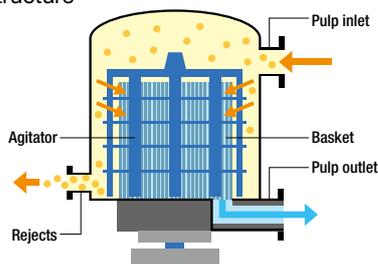
**Actively adopting energy-saving facilities**

Wastepaper pulp used as a raw material for paper includes extraneous material such as glue used in the assembly of magazines. Before this pulp can be used to make paper, therefore, it must be put through a screening process. In the screening process, wastepaper pulp is sent into a vessel through an inlet pipe. Within the vessel, the pulp is filtered through a basket with countless slits. Material too large to pass through the slits remains on the outside of the basket, where it is removed by a revolving agitator.

To reduce its energy consumption, Nippon Paper Industries Co., Ltd.'s Ishinomaki Mill has installed highly efficient filtering facilities that employ lightweight agitators equipped with modified fins to remove extraneous material at low RPM.

This is just one example of how the Nippon Paper Group adopts new facilities or updates existing facilities to continuously improve its energy-saving performance.

**Agitator Structure**



**Absorbing and Sequestering CO<sub>2</sub> through Proper Management of Company-Owned Forests**

**Sequestering atmospheric CO<sub>2</sub> in forests and wood products**

● **Sequestering CO<sub>2</sub> with 181 thousand hectares of forests in and outside Japan**

As trees grow, they absorb and sequester CO<sub>2</sub> from the atmosphere. It is widely recognized, therefore, that the proper protection of forests helps prevent global warming.

The Nippon Paper Group manages 181 thousand hectares of forests, 90 thousand hectares in Japan and 91 thousand hectares across four countries abroad. Through sustainable forest management, the Group maintains the CO<sub>2</sub> absorption and sequestration capabilities of trees. These forests, both in and outside Japan, continuously sequester approximately 33 million tonnes of CO<sub>2</sub>.

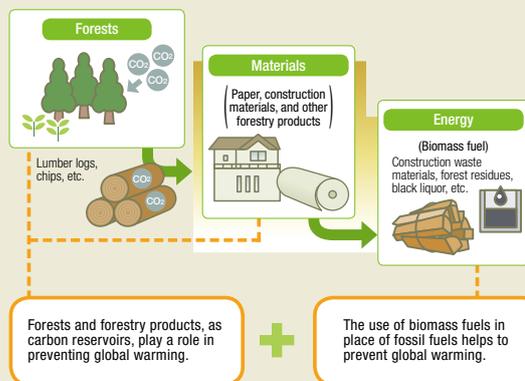
We are helping to prevent global warming not only by restricting CO<sub>2</sub> emissions but also by protecting forests.

**Sequestering CO<sub>2</sub> in various wood products**

CO<sub>2</sub> sequestered in trees as carbon remains sequestered even after trees have been processed into products like construction materials and paper. Products made from wood, therefore, work to prevent increases in atmospheric CO<sub>2</sub> concentrations. Using wood products and actively recycling wastepaper, in other words, by fixing CO<sub>2</sub> for extended periods of time in products, helps to hold down increases in atmospheric CO<sub>2</sub> concentrations.

Moreover, when wood products like construction materials reach the end of their useful lives they can be used as carbon-neutral biomass fuel, the burning of which does not increase atmospheric CO<sub>2</sub>.

**Helping to prevent global warming through the cascade-use of wood\***



\* "Cascade-use" refers to the full use of an individual tree for applications across the quality scale, from ones requiring very high quality to others for which quality is not a consideration, for maximum efficiency in resource usage.

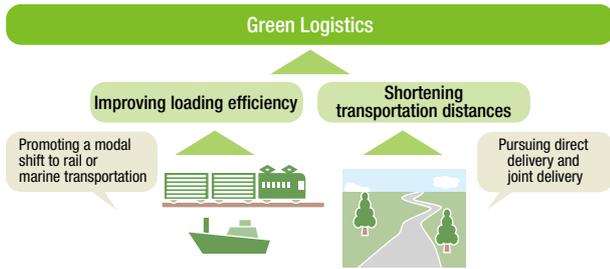
# Climate Change Initiatives

## Advancing Energy Efficiency in Logistics

### Working to promote green logistics

The Nippon Paper Group focuses mainly on the two core initiatives of improving its loading efficiency and shortening transportation distances to reduce logistics-related CO<sub>2</sub> emissions.

#### Logistics-related initiatives



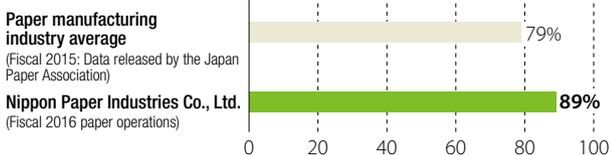
#### Promoting a modal shift in transportation to secure high loading efficiency

With a modal shift rate\* of 89% in its operations in fiscal 2016, Nippon Paper Industries remains a top performer in the implementation of this transportation approach.

##### \* Modal shift rate:

The percentage of rail or marine (including coastal shipping and ferries) transport in general cargo transported over 500 kilometers.

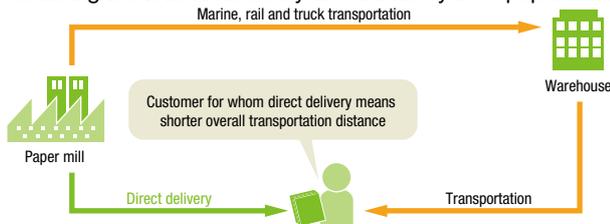
#### Comparison of modal shift rates



#### Working with logistics service providers to shorten transportation distances

The Nippon Paper Group is working with logistics service providers to bypass warehouses and deliver products directly to customers. This effort is intended to reduce CO<sub>2</sub> emissions by shortening overall transportation distances.

#### Reducing the total distance by direct delivery from paper mills



#### Obtaining Green Management Certifications

Green Management Certifications are awarded and registered by the Foundation for Promoting Personal Mobility and Ecological Transportation. Companies that undertake at least a certain minimum level of initiatives based on the Green Management Promotion Manual are eligible for these certifications.

Within the Nippon Paper Group, 16 business locations of 8 Group companies have received Green Management Certification. The Nippon Paper Group is actively implementing ecological driving, vehicle inspection and maintenance, reduction of vehicle disposal and waste generation, proper waste handling and recycling, and other practices consistent with green management.



Green Management Certification logo

#### Green Management Certifications (As of July 1, 2017)

Company
NIPPON PAPER LOGISTICS, Kyokushin Transport, Nanko Logistics Support, Hotoku, NP Unyu Kanto, NP Unyu Fuji, NP Unyu Kansai, and NP Unyu Iwakuni

\* Consolidated and non-consolidated subsidiaries in Japan

### Excellence Award Received under the Chiyoda Ward Global Warming Action Plan System

Nippon Paper Industries Co., Ltd. was named a winner of an Excellence Award by Tokyo's Chiyoda ward. Under its Global Warming Action Plan System, the ward, which has been selected by the Japanese government as an Environmental Model City, assesses the global warming action plans announced by eligible businesses. It then presents awards to the businesses with the best plans. Nippon Paper Industries Co., Ltd. was also named a winner in the Environmental Education Category in fiscal 2012.

For its fiscal 2016 Excellence Award, the Company received particularly high praise for its efforts to save electricity and other forms of energy, and for the contributions of its environmental education and internal and external information dissemination efforts toward the development of environmentally aware human resources. Taking this formal recognition by Chiyoda ward as an affirmation of its environmental initiatives, the Company has redoubled its commitment to pursuing various initiatives and information dissemination efforts to protect the environment.



Presentation of the Excellence Award by the Mayor of Chiyoda ward, Tokyo

# Promoting Recycling

Contributing to the development of a recycling-based society

## Expanding the Use of Wastepaper

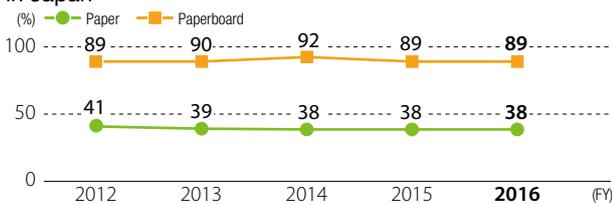
### Actively promoting paper recycling

Despite efforts to secure forest resources through sustainable forest management, wastepaper continues to be an important resource for the paper industry.

The Nippon Paper Group is promoting paper recycling by working with customers to build wastepaper recycling systems, and by collaborating with citizens' and industry groups to conduct educational activities on wastepaper collection. The Group has also been working to further expand the use of wastepaper by developing technology for using types of paper that have proven difficult to recycle.

As paper and paperboard demand grows outside Japan, it is becoming more difficult to procure sufficient amounts of wastepaper in Japan. We, however, will continue with efforts to expand both wastepaper collection and the kinds of wastepaper that can be recycled.

Recycled paper utilization rate by the Nippon Paper Group in Japan



### Collecting Paper-Pak cartons

Nippon Paper Industries Co., Ltd., a member of the Committee for Milk Container Environmental Issues (an organization composed of container manufacturers and manufacturers of dairy products), is helping to achieve the committee's goal of increasing the beverage carton collection rate to at least 50% by 2020.

To increase collection rates and promote recycling, the Company's Paper-Pak Sales Division has conducted three Paper-Pak carton recycling campaigns targeting Group employees. Participation rose on each occasion and employees have come to embrace the campaigns. During a two-month period in 2016, Group employees contributed approximately 16,300 Paper-Pak cartons from their households.

Going forward, we will continue efforts to place collection boxes at Group business locations and promote activities for Paper-Pak carton recycling outside the Group.

Paper-Pak carton recycling campaign results

Fiscal Year	Participants	Paper-Pak Cartons Collected
1st Campaign (December 2013 - January 2014)	129	5,721
2nd Campaign (September-November 2014)	201	16,512
3rd Campaign (August-September 2016)	255	16,277

### Expanding the production of products made with wastepaper pulp in Australia

Australian Paper, located in the Australian state of Victoria, is that country's only company manufacturing eco-friendly copier paper – a product that incorporates wastepaper pulp. And, responding to the country's heightened environmental awareness, the company is increasing its production of eco-friendly products.

In fiscal 2015, Australian Paper began operations at facilities that are capable of producing 50,000 tonnes of wastepaper pulp annually, and it is working to expand and enhance its line of products incorporating wastepaper pulp.



REFLEX brand copier paper incorporating wastepaper pulp

Beginning in 2016, Australian Paper is putting to work its expanded capabilities to make products incorporating wastepaper pulp and strengthening its relationship with PLANET ARK – the country's best-known environmental NPO - to contribute to the building of a recycling-oriented society by promoting even greater use of recycled products.

## Waste Recycling

### Making effective use of waste

Advancing efforts to make effective use of ash and other manufacturing byproducts (see page 39.)

#### Case

### Project for making and selling CfFA® (Carbon-free Fly Ash), a concrete admixture made with coal ash

In April 2016, Nippon Paper Industries Co., Ltd. began manufacturing and selling CfFA®, a concrete admixture made from coal ash - a byproduct from the coal-fired power plant at the Company's Ishinomaki Mill.

CfFA® consists of fly ash from which unburned carbon, a material that can have a negative effect on concrete quality, has been removed through a heat modification process.

Characterized by consistent quality, CfFA® has already been used to make national highway tunnels, breakwater tetrapods, seawalls, and other structures.

Going forward, the Company will focus on having CfFA® contribute to disaster recovery and infrastructure construction in the Tohoku region of Japan.



Breakwater tetrapods in a drainage outlet at Nippon Paper Industries Co., Ltd.'s Ishinomaki Mill.

# Preserving Biodiversity

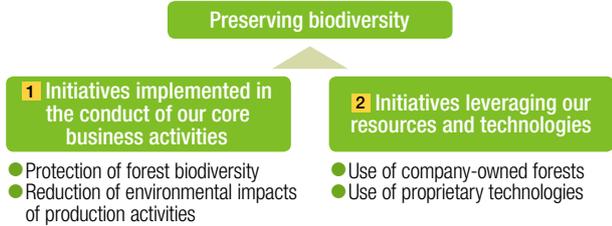
Pursuing activities that protect the ecosystems of company-owned forests and leverage proprietary resources and technologies

## Basic Stance

### Formulation of a new basic policy

The business activities of the Nippon Paper Group entail the cultivation and utilization of forests and, therefore, have an inherently significant and wide-ranging impact on forest biodiversity. We recognize that the sustainable use of forests is fundamental to our existence and development as a going concern. The basic philosophy of the Nippon Paper Group Environmental Charter (see page 32) states that the Nippon Paper Group will engage in corporate activities that recognize the importance of biodiversity. Our Basic Policies on the Preservation of Biodiversity, established in April 2016, provides guidance for the pursuit of such activities.

#### Nippon Paper Group initiatives



## 1 Initiatives in Our Core Business Activities

### Pass thriving forests on to future generations

In pursuing sustainable forest management (see pages 28 and 30), the Nippon Paper Group conducts biodiversity surveys in company-owned forests. We also strive to

reduce our impact on biodiversity by, for example, treating wastewater and controlling greenhouse gas emissions in our manufacturing processes.

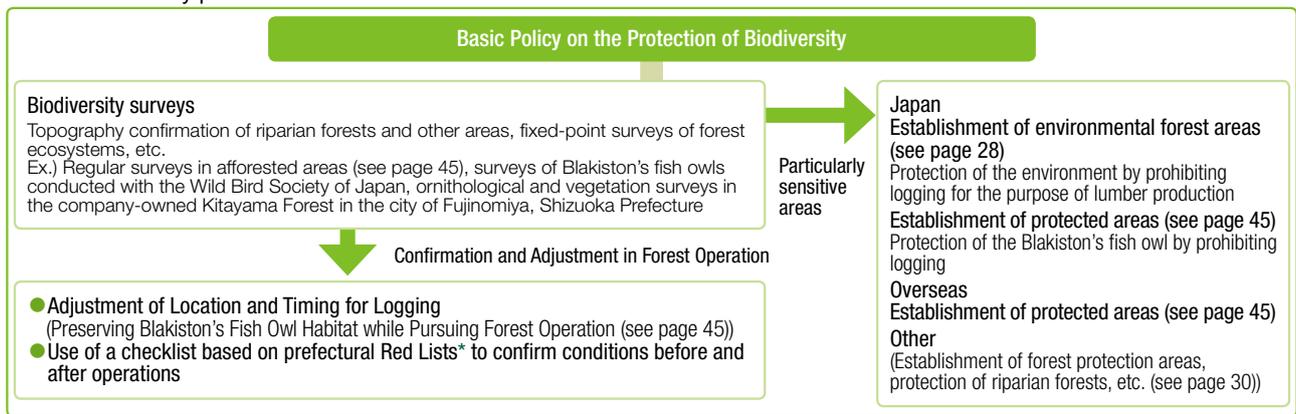
**Basic Policy on the Preservation of Biodiversity**  
(Established April 1, 2016)

**Principle**  
The Nippon Paper Group, a corporate group to which forest resources are of fundamental importance, appreciates the natural gifts bestowed by biodiversity and, by preserving biodiversity, aims to help create a sustainable society that can continuously enjoy ecosystem services.

**Basic Policy**

1. Recognizing the protection of biodiversity as a critical social issue, we will work to pursue business activities that are in harmony with the sustainable use of ecosystem services.
2. In supply-chain management, we acknowledge the impacts on biodiversity of cross-border use of ecosystem services, and will manage our ecosystem service usage properly.
3. In an effort to reduce environmental impacts on biodiversity, we will actively work to recycle and save resources.
4. We will promote the development of technologies, products, and services that contribute to the preservation of biodiversity and the sustainable use of ecosystem services.
5. Endeavoring to raise employees' awareness of biodiversity, and collaborating with stakeholders, we will contribute to the building of a society that nurtures biodiversity.

#### Forest biodiversity protection scheme



\* List of threatened animal and plant species in Japan.

**Forest certification programs (see pages 26-27)**  
Forest certifications have been awarded to Nippon Paper Industries in recognition of its practice of biodiversity-friendly forest management in all of its company-owned forests in Japan and overseas.

Breakdown of company-owned forests in Japan according to IUCN (International Union for Conservation of Nature) categories  
[http://www.nipponpapergroup.com/csr/IUCN2017\\_e.pdf](http://www.nipponpapergroup.com/csr/IUCN2017_e.pdf)

## Case

### Preserving Blakiston's fish owl habitat while pursuing business activities – Collaborating with the Wild Bird Society of Japan

In 2010, Nippon Paper Industries entered into an agreement with the Wild Bird Society of Japan where approximately 126 hectares of forestland owned by the company in the Nemuro region of Hokkaido was identified as a sanctuary for Blakiston's fish owl. This sanctuary is home to three confirmed braces of this endangered species.

In May 2015, we signed a memorandum of understanding\* for the pursuit of business activities while

preserving Blakiston's fish owl habitat in company-owned forests located in the Kushiro region of Hokkaido. After collaborative surveys conducted in an atmosphere of mutual trust, we have agreed to standards for methods and timing for continuing lumber production, while also protecting habitat and breeding activity, without establishing protected areas.

\* The activities pursued under this memorandum of understanding were presented with a 2015 Biodiversity Action Award by the Japan Committee for the United Nations Decade on Biodiversity.

#### Surveys undertaken with the Wild Bird Society

Fiscal Year	Survey Description
2010	Large trees suitable as Blakiston's fish owl habitat
2011	Bird species habitat
2012	Nesting survey focusing on white-tailed eagles and Steller's sea eagles, and an audio survey of nocturnal bird species
2013	Mammals and Blakiston's fish owl habitat
2014	Geographic activity scope of the Blakiston's fish owl
2015	Blakiston's fish owl habitat, other bird species habitat
2016	Blakiston's fish owl habitat, other bird species habitat



(Photo courtesy of the Wild Bird Society of Japan)

#### Blakiston's fish owl

Standing 70 to 80cm high and weighing 3 to 4.5 kg, Blakiston's fish owl is the world's largest owl, with a wingspan of 180 cm. Formerly numbering over 1,000 and found throughout Hokkaido, Blakiston's fish owls are now found mainly in the eastern parts of Hokkaido, with confirmed numbers of around 140, making up 50 braces. Blakiston's fish owl was identified as a national protected species in 1971, and placed on the Red List of critically endangered species by Japan's Ministry of the Environment.

## Case

### Conducting biodiversity research overseas (AMCEL S.A, Brazil and Volterra S.A., Chile)

AMCEL S.A., located in the Brazilian state of Amapa, owns approximately 310 thousand hectares of land and has set aside 170 thousand hectares as a conservation area.

Volterra S.A., in Chile, owns approximately 19 thousand hectares of forests and has designated about 5 thousand hectares as protected forests.

These areas are home to large numbers of plant and animal species, many of which are rare or endangered. Protecting them, therefore, is very meaningful. Both AMCEL and Volterra undertake surveys and other initiatives to research and monitor biodiversity in the areas they are protecting.



Vegetation survey



Releasing yellow-spotted Amazon River turtles



Pudu (a "near-threatened" species on the IUCN Red List)



Water-quality survey

#### Initiatives by afforestation companies in South America

Activity	Description
<b>AMCEL S.A.</b>	
Regular water inspections	Installation of equipment for monitoring the quality and level of water in the afforestation area, and performance of regular water inspections
Cooperation in a wildlife release program	Annual provision of the conservation area for use in a wildlife release program being conducted by the Brazilian Institute for the Environment and Renewable Natural Resources
Collaboration with the Federal University of Para	Ongoing monitoring by AMCEL following a joint mammalian habitat survey in cooperation with the university's Department of Biological Sciences in afforested and other areas. Ongoing monitoring of fish populations in waters adjacent to afforested areas in cooperation with the university's ecology research laboratory since 2016.
Collaboration with the local environmental research institution in Amapa state	A vegetation survey was initiated in a protected area to determine the distribution and status of plant life.
Collaboration with the Sao Paulo Research Foundation	Ongoing reproduction and survival surveys for yellow-spotted Amazon River turtles, an endangered species native to South America, were initiated in 2014 in protected and other areas.
<b>Volterra S.A.</b>	
Joint activity with the Universidad de Concepcion	Biodiversity surveys are being conducted on company land. The 2013 survey identified rare species including the endangered Chilean pine ( <i>Araucaria araucana</i> ).
Wildlife surveys in the company's protected forests	Using camera traps and other tools, surveys have identified mammals (including pumas) and bird species. The 2015 survey confirmed the existence of the "near-threatened" pudu and several rare species.
Regular river surveys	To research impacts of forest operations on ecosystems, surveys of river water quality and biodiversity are performed on a regular basis in company-owned afforested areas.

# Preserving Biodiversity

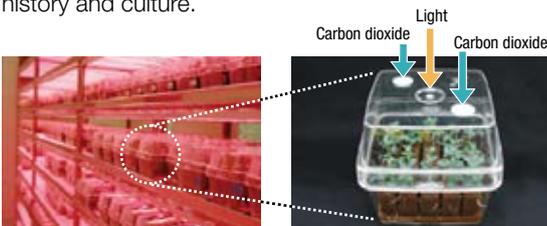
## 2 Initiatives Leveraging Our Resources and Technologies

### Contributing to the protection of a variety of plant species

#### ● Applying proprietary technology

Nippon Paper Industries Co., Ltd. is working to protect precious plant species. It does this by using a proprietary technology that encourages cuttings to take root in containers kept in a special cultivating room.

This technology encourages rooting by using a special cultivating room and cultivation containers to create ideal conditions for photosynthesis. It has proven effective even for producing seedlings of species that have been difficult to propagate with traditional methods. Nippon Paper Industries, therefore, is using it to propagate endangered plant species, to create offspring of beloved sakura trees in various places throughout Japan, and to undertake other initiatives that help to protect biodiversity and preserve history and culture.



Even plant species that normally fail to root by cutting are able to root



#### ● Use of company-owned forests

##### Case

### Supporting the activities of the Shirane-aoi wo Mamoru Kai

Shirane-aoi (*Glaucidium palmatum*: Japanese wood poppy) is designated as a “threatened II” species in the Red Data Book for Gunma Prefecture. To protect and breed this plant species, the Shirane-aoi Preservation Group was set up in December 2000, mainly at the initiative of Gunma Prefectural Oze High School and the residents of the village of Katashina in Tone-gun, Gunma Prefecture. As recognition of its achievements to date, it received the Greenery Day Minister of the Environment’s Prize for Meritorious Service Related to the Natural Environment in April 2014.

Since its inception, Nippon Paper Development, which manages Nippon Paper Industries’ Sugenuma Forest, has supported the operation of the Shirane-aoi Preservation Group, and Nippon Paper Industries has offered a portion of the Sugenuma Forest as a plantation site for Shirane-aoi. Since 2002, the Group has called for volunteers to participate in planting, seed collection, and other activities.



Planting Japanese wood poppies

##### Case

### Agreement for Citizen-Participation-Based Forest Management -Collaborating with the Iriomote Island Ecotourism Association

In August 2017, Nippon Paper Industries Co., Ltd. entered into an agreement with the Okinawa District Forest Office - the local arm of the Forestry Agency’s Kyushu Regional Forest Office - to carry out forest conservation activities such as the eradication of non-native plants in the approximate 9 ha of national forest on Iriomote Island. At the same time, the Company concluded an agreement regarding collaborative activities with the Iriomote Island Ecotourism Association, an NPO that has been working to preserve the natural environment and traditional culture of Iriomote Island since 1996.

Iriomote Island is covered with highly diverse forests, including Japan’s largest mangrove forest and subtropical broad-leaved trees, providing a habitat for precious animal and plant species. One such species is the Iriomote wild cat, which has been designated a special national treasure and is listed as an endangered species IA. However, large numbers of invasive non-native plants have been found over an extensive area of the island.

Nippon Paper Industries will collaborate with the Iriomote Island Ecotourism Association to promote forest conservation activities, harnessing the experience the Company has developed over many years of managing its own forests throughout Japan and through its collaboration with the Wild Bird Society of Japan to protect the Blakiston’s fish owl (an endangered species type IA) in a company-owned forest in Hokkaido.



Agreement signed with the head of the Okinawa District Forest Office



Agreement signed with the Iriomote Island Ecotourism Association

# Responsibility to Customers

Stakeholder opinions are critical for bringing to our attention issues that are important for coexisting with society and growing sustainably.

We now receive large numbers of customer questions regarding environmentally and socially conscious raw material procurement and product development.

The Nippon Paper Group is committed to providing products that respond to customer concerns and desires.



Paper gallery at headquarter of Nippon Paper Industries

Indicators	Key Objectives	Performance (fiscal 2016)
<b>Materiality: Enhancement of Product Safety</b>		
Initiatives to reduce product safety risk	Strengthening of the product safety management system	<ul style="list-style-type: none"> <li>Convened two meetings of the Group Product Safety Committee, which made decisions on Group-wide measures, shared information among Group companies, and discussed safety matters.</li> <li>Established a management system for brands used for food products, and conducted audits to confirm operating conditions at mills making products under these brands.</li> </ul>
	Establishment of a product safety management system for new products	Specified risk management items for new products that cannot be handled under the existing management systems.
<b>Materiality: Providing environmentally and socially conscious products</b>		
Forest certification coverage (the provision of products with forest certifications)	Company-owned forests with forest certifications: 100%	100%
	Ensure that all wood materials for pulp and paper are endorsed under forest certification schemes	100%

## Policy and Management

Basic Stance .....	48
Identifying Customer Needs .....	48
System for Advancing New-product Development .....	48
Initiatives for Quality Stabilization .....	48
The Stable Supply of Products .....	49

## Enhancement of Product Safety

Product Safety Management System	50
Approach toward Product Safety .....	50

## Providing Environmentally and Socially Conscious Products

Development of Environmentally Friendly Products .....	51
Providing Products that Help to Overcome Challenges for Society .....	52

# Policy and Management

In addition to the development of various products that are indispensable to everyday life, we continue to pursue quality which meets the expectations of customers

## Basic Stance

### Providing reliable products and services

The Nippon Paper Group engages in a broad spectrum of businesses including paper, films, healthcare products, chemical products, lumber, and construction materials, to serve a wide range of both corporate customers and consumers as it continues to develop and grow in tune with society.

Providing stable supplies of products that are indispensable to everyday life, and applying the Group's strengths to develop products that please customers, are how we fulfill our basic responsibility to play a useful role for society. Assuring quality and safety, we will continue to live up to the trust society places in our products and services.

## Identifying Customer Needs

### Proactive communication

The Nippon Paper Group engages in proactive communication to identify customer needs across a wide range of areas. We receive numerous inquiries from customers about the tree species, countries of origin, and legality of our raw materials. In response, we explain measures we have put in place to address these matters and provide information on third-party evaluations of our activities (see page 27).

We also actively welcome customers for inspections and tours of mills and plants to give them a first-hand view of production facilities and, thereby, gain their understanding of our production activities.

#### ● Nippon Paper Industries Co., Ltd.'s Paper-Pak Sales Division

Nippon Paper Industries' Paper-Pak Sales Division conducts technical lectures for customers (dairy and beverage companies) providing them with information on how to properly use filling machines. At the same time, the division continuously strives to improve its products based on valuable feedback from customers.

#### ● Nippon Paper Industries Co., Ltd.'s Packaging Communication Center

Nippon Paper Industries aims to help enrich daily life through packaging made from woody biomass. One of the products we are developing, the SHIELDPLUS® series of paper-based packaging materials with outstanding barrier properties, was the only paper-industry product included by Japan's Ministry of Agriculture, Forestry and Fisheries in a collection of examples of highly functional containers and packaging that reduce food loss. Nippon Paper Industries is committed to working with processing companies and product manufacturers to provide the world with innovative packaging material and new processing technologies.

#### ● Nippon Paper Crecia Co., Ltd.

Nippon Paper Crecia conducts surveys to gather data on customer satisfaction and needs, and then uses what it learns to create measures of success in serving customers.

## System for Advancing New-product Development

### Building a system for accelerating development

The Nippon Paper Group has established its New Product Development Committee to accelerate business structure transformation (see pages 10-11). New product development teams operating under the committee identify research themes and present them in committee meetings held every three months. For themes approved by the committee, formal projects are established and provided with human, financial, and other resources.

The committee is chaired by the General Manager of the Corporate Planning Division and its membership is composed of the president of Nippon Paper Industries and the other members of the Management Execution Committee (see page 16). Depending on the meeting agenda, presidents of subsidiaries or affiliates, and heads of relevant divisions, may participate in committee meetings in order to speed progress toward commercialization.

## Initiatives for Quality Stabilization

### Properly managing quality for individual products

Each Group company actively promotes efforts aimed at acquiring ISO 9001 certification and engages in quality management suited to the characteristics of its products.



#### ISO 9001 certification status

[http://www.nipponpapergroup.com/csr/2017.3\\_ISO9001\\_e.pdf](http://www.nipponpapergroup.com/csr/2017.3_ISO9001_e.pdf)

#### ● Quality audits at companies making paper containers for liquids

Nippon Paper Industries' Paper-Pak Sales Division performs annual quality audits of production companies. Audits are performed by a team which includes the division head and are a part of efforts to pursue continuous quality improvement based on identified actual conditions (including the "5Ss"\*) in production facilities.

In addition to the quality audits, production companies also undergo food sanitation investigations focusing in particular on measures for dealing with critical microorganisms, foreign matter, and pest control.

\* The 5Ss mean sorting, setting-in-order, shining, standardizing, and sustaining, respectively. The 5Ss are used to maintain or improve workplace environments.

● **Quality assurance systems in the paper and paperboard divisions**

Nippon Paper Industries has adopted a Service Engineer (SE) system to shorten the distance between customers and production facilities. Under this system, SEs listen directly to customers' voices. They do this, for instance, by visiting customers and conducting quality patrols in which they observe printing and processing lines where paper is used. To create even closer customer relationships, we revamped our quality assurance systems in 2013, assigning technical experts to sales divisions. In addition, to enable swift responses to diverse customer needs, regular quality-information meetings and other means are used to promote collaboration between sales and technical divisions.

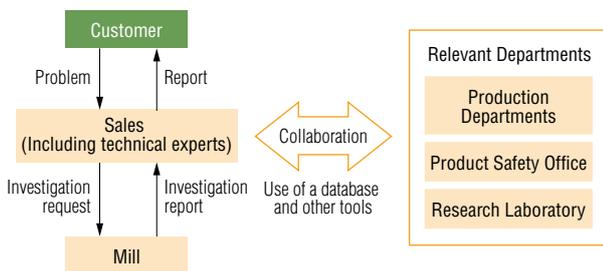
● **Responding to instances of defective products**

For defective products, action is taken by individual Group companies.

In the Paper and Paperboard Division of Nippon Paper Industries Co., Ltd., for example, sales technicians act as the central contact point, working with the relevant mill and head office departments to develop solutions by using tools such as a database of safety-related problems.

At Nippon Paper Crecia Co., Ltd., which sells consumer products, contact information for the Customer Service Office is provided on all products and the Customer Service Office itself is placed directly under the president to ensure that all issues raised by customers are reported. Furthermore, the company's website is configured to accept customer queries and comments. The company consistently acts in good faith to ensure that customers are fully satisfied.

Product defect response system (Paper and Paperboard Division)



● **Verification and audit of wastepaper pulp blending ratios and use of thinned wood**

Nippon Paper Industries has established a management system for providing customers with guarantees that products are made with a certain percentage of wastepaper pulp content and with wood from forest thinning.

Steps are taken to manage and review production procedures at each of the Group's mills, based in part on the standards and criteria of the ISO 14001 environmental

management system. The proper operation of content management systems is confirmed in internal and external audits, and customers verify that products are being manufactured to content specifications.

**The Stable Supply of Products**

**Stable supply systems optimized by product**

To secure on-demand-supply, we devote considerable effort to maintaining stable production by securing reliable procurement of raw materials, and systematically maintaining and upgrading our production facilities. Sales departments and production units coordinate their activities to provide customers with reliable supplies of products by developing flexible production plans that avoid waste, and managing inventories appropriately.

● **Stable supply of newsprint**

Newspapers are a highly public information medium, so the need for the stable supply of newsprint is especially strong. The paper industry, therefore, has prepared regional emergency manuals for use when supply operations cannot be conducted in the usual manner.

In the event of a disruption to communication and transportation systems as a result of a major disaster, paper companies follow these manuals to ensure the smooth supply of newsprint.

● **Addressing natural disaster risks**

The Nippon Paper Group, having learned much from past natural disasters, has developed practical guidelines for addressing natural disaster risks. Working from these guidelines, each mill and plant has examined its natural disaster response measures and revised its disaster response manual.

For its part, Nippon Paper Industries, in preparation for a major disaster that could disable its headquarters, has established a backup facility that could immediately take over headquarters functions. The company also conducts training in the transfer of functions from its headquarters to the backup facility.

● **Business continuity management system**

Nippon Paper Industries' Paper-Pak Sales Division has developed its own business continuity guidelines and established its own management system, so that it can maintain production even in times of emergency. The division is moving ahead with procurement of key raw materials from multiple manufacturers. It has also diversified its production across multiple production sites to lower its disaster risk exposure. In fiscal 2016, emergency-response education and training were conducted at the head office and production sites.

# Enhancement of Product Safety

Responding to customer faith by establishing the Product Safety Management System to enhance safety

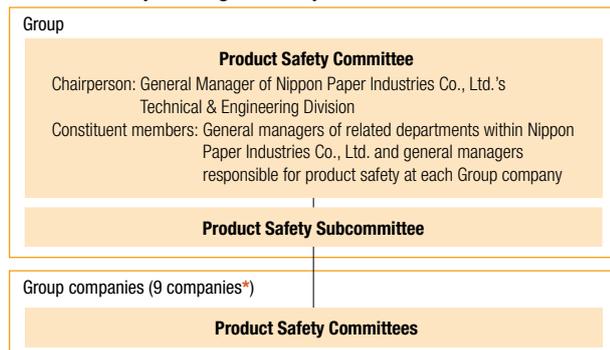
## Product Safety Management System

### Establishing a Group system

The Nippon Paper Group Product Safety Committee, chaired by the General Manager of Nippon Paper Industries Co., Ltd.'s Technical & Engineering Division oversees all activities concerning product safety. The committee deliberates and makes determinations on important matters concerning product safety policies and activities.

Reporting directly to the committee, the Product Safety Subcommittee monitors and manages activities at each Group company. Drawing on information and the exchange of opinions among Group companies, the subcommittee also deliberates on optimal responses to matters of concern and submits its findings to the Product Safety Committee. Each Group company establishes its own product safety committee and engages in appropriate product safety activities.

### Product safety management system



\* Nippon Paper Industries Co., Ltd., Nippon Paper Crecia Co., Ltd., Nippon Paper Papylia Co., Ltd., Nippon Paper Lumber Co., Ltd., Kitakami Paper Co., Ltd., Nippon Seitai Corporation, NP Trading Co., Ltd., Nippon Paper Development Co., Ltd., Akita Jujo Chemicals Co., Ltd. (As of March 31, 2017)

### Philosophy and Basic Policy on Product Safety

(established on October 1, 2004, revised on August 1, 2014)

**Philosophy**  
We pledge to work to improve safety at every stage of the life cycle of our products, from design to manufacture, supply, and disposal, and to provide products and services that the public can trust.

**Basic Policy**

1. To provide safe products and services in response to the continued trust of our customers.
2. To respect related laws and standards in order to guarantee the safety of our products and services. We pursue safety not only as expected under Japanese laws but also from a global perspective.
3. To provide customers with precise information on the safety, features, and correct usage of our products.
4. To set up a product and service safety management structure and ensure that all group employees have a thorough awareness of the importance of product safety.

## Approach toward Product Safety

### System for legal and regulatory management and compliance

The Nippon Paper Group, acting in compliance with laws, including Japanese laws such as the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, PRTR Law, and Food Sanitation Act, works to ensure product safety by employing management approaches adapted to the characteristics of particular operations and products.

### Product safety management approach

**Overall Level**

- ISO 14001 Environmental Management
- Management of chemical substances included in raw materials

**Brands for Food Products (Paper and Paperboard businesses)**

- Product safety management guidelines for paper and paperboard with direct exposure to food products
- Specification of brands and production facilities subject to safety management measures; implementation of enhanced facility- and management-system-based measures to prevent contamination by insect and other foreign matter; promotion of hygiene management; chemical substance management based on Japan Paper Association voluntary standards; and annual confirmation of the functional status of the above measures.

**Food, beverages, and their containers (Paper-Pak Division)**

- HACCP<sup>1</sup> hygiene management (Food containers)
- Adoption and enhancement of facilities that emphasize production environment hygiene, the use of defect-detection devices to monitor products, and wearing of clothing to prevent contamination by hair
- FSSC 22000<sup>2</sup> food safety standard
- Food defense measures
- Prevention of intentional threats to food safety by equipping paper-pak manufacturing plants with entry and exit controls, cameras for quality control, tight controls on access to chemicals, and other such security measures.

<sup>1</sup> HACCP  
An acronym for "Hazard Analysis and Critical Control Point"

<sup>2</sup> FSSC 22000  
FSSC 22000 is a food safety management system certification scheme integrating the ISO 22000 international food safety management system standard, which calls for implementation of HACCP, the ISO/TS 22002 prerequisite program on food safety, and other requirements.

### Acquisition of FSSC 22000 certifications (as of March 31, 2017)

Company Name	Mill, Operating Division, Production Company
Nippon Paper Industries Co., Ltd.	Gotsu Mill <sup>3</sup> , SOKA PAPER-PAK CO., LTD., EGAWA PAPER-PAK CO., LTD., MIKI PAPER-PAK CO., LTD., ISHIOKA KAKO CO., LTD.
Nippon Dynawave Packaging Co.	

<sup>3</sup>CMC (carboxymethyl cellulose), cellulose powder, and stevia and licorice sweeteners (all for use in food)

### • Halal certification obtained

In March 2017, Halal certification<sup>4</sup> was obtained for the nucleic acid (RNA-M) and dissolving pulp produced at the Gotsu Mill. Halal certification enables exportation of these products to Islamic countries. Preparations to gain the certification for CMC (carboxymethyl cellulose) are currently underway.

<sup>4</sup> Halal certification  
Halal certification is presented for products that, upon inspection of raw materials, production processes, ingredient and product storage conditions, and other matters, have been determined to be in keeping with Islamic law. Products exported to Islamic countries should be Halal certified.

# Providing Environmentally and Socially Conscious Products

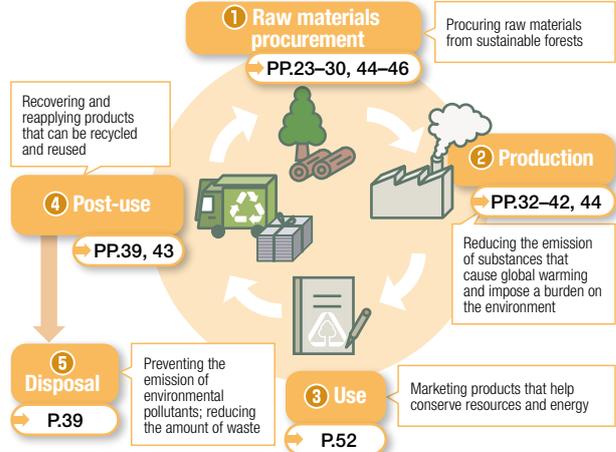
We provide products that meet customer demands including forest certified products

## Development of Environmentally Friendly Products

### Considering every stage of the product lifecycle

Nippon Paper Group products use wood raw materials - renewable biomass resources - and are recyclable. Building on the fact that our products have a low environmental impact by their very nature, we strive to develop products that are cognizant of the environment at every stage beginning with raw material procurement and proceeding through production, consumption, post-consumption, and disposal.

Points of environmental concern from a product lifecycle



### 1 Environmentally Friendly Raw Materials Procurement

#### Case

#### Providing certified paper by starting with properly managed forests (Nippon Paper Group)

The forest certification system is composed of two components—the Forest Management (FM) component, which certifies that forests are sustainably managed from environmental, social, and economic perspectives, and the Chain-of-Custody (CoC) component, which certifies that

products from certified forests have been properly processed and distributed. The Nippon Paper Group has obtained CoC certifications at its principal mills, and provides certified paper products.

Status of CoC certification acquisition at principal production sites (as of March 31, 2017)

Company Name	FSC®	PEFC
	Mill, Production Company (License no.)	Mill, Production Company
Nippon Paper Industries Co., Ltd.	Kushiro Mill (FSC®C129049); Hokkaido Mill (Yufutsu, Asahikawa, Shiraoi) (FSC®C00952); Akita Mill (FSC®C133166); Iwanuma Mill (FSC®C134786); Nakoso Mill (FSC®C020977); Kanto Mill (Soka) (FSC®C133163); Kanto Mill (Ashikaga) (FSC®C133164); Fuji Mill (Yoshinaga) (FSC®C133678); Otake Mill (FSC®C132226); Iwakuni Mill (FSC®C115436); Yatsushiro Mill (FSC®C133585)	Hokkaido Mill (Shiraoi), Akita Mill, Ishinomaki Mill, Fuji Mill, Otake Mill, Iwakuni Mill, Yatsushiro Mill
Other Nippon Paper Group companies	SOKA PAPER-PAK CO., LTD., EGAWA PAPER-PAK CO., LTD., MIKI PAPER-PAK CO., LTD., ISHIOKA KAKO CO., LTD. (FSC®C128733); Nippon Paper Papyrus Co., Ltd. (Harada Mill, Kochi Mill (FSC®C005984); Nippon Paper Crecia Co., Ltd. (Kaisei Mill, Koyo Mill, Kyoto Mill, Tokyo Mill (FSC®C124287)); Kitakami Paper Co., Ltd. (Ichinoseki Mill (FSC®C133225)); Nippon Dynawave Packaging Co. (FSC®C131932); Siam Nippon Industrial Paper Co., Ltd. (FSC®C125026); Jujo Thermal Oy (FSC®C012566); Paper Australia Pty Ltd. (Maryvale Mill (FSC®C002059))	SOKA PAPER-PAK CO., LTD.; EGAWA PAPER-PAK CO., LTD.; MIKI PAPER-PAK CO., LTD.; ISHIOKA PAPER-PAK CO., LTD.; Nippon Paper Papyrus Co., Ltd. (Harada Mill, Kochi Mill); Nippon Dynawave Packaging Co.; Jujo Thermal Oy; Paper Australia Pty Ltd. (Maryvale Mill)

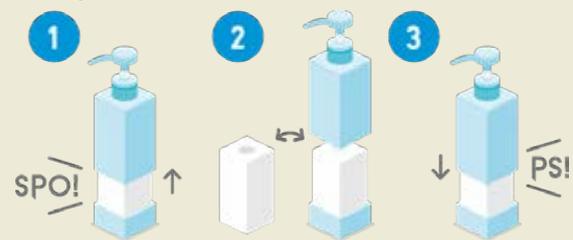
### 1 5 Environmental consciousness in raw material procurement and waste handling

#### Case

#### SPOPS® Paper Containers Replacing the Refill Pouch (Nippon Paper Industries Co. Ltd.)

In fiscal 2016, Nippon Paper Industries Co., Ltd. completed development work on SPOPS®, a replaceable paper container designed to take the place of plastic pouches for refills of shampoo and other products. Commercialization efforts for this new product are now moving forward. With SPOPS®, there is no need for pouring from a pouch into a dispenser; product refills are accomplished simply by replacing a cartridge. PAPER-PAK manufacturing technology is what makes the SPOPS® approach to product refills possible. SPOPS® makes daily life more convenient by simplifying refills. And because it uses paper - a recyclable material - and contributes to greater efficiency in distribution, SPOPS® also has a lower environmental impact than do plastic pouches.

Refilling with SPOPS®



“SPO!” is the sound made when an empty SPOPS® cartridge is separated from the dispenser. “PSI” is the sound made when a new cartridge is installed in the dispenser. Together, they form the product name “SPOPS®.”

# Providing Environmentally and Socially Conscious Products

## ①-⑤ Environmental consciousness throughout the product lifecycle

### Case

#### SHIELDPLUS oxygen- and flavor-barrier materials (Nippon Paper Industries Co., Ltd.)

Nippon Paper Industries Co., Ltd. is developing SHIELDPLUS, an environmentally friendly packaging material made from paper, which is recyclable and ultimately renewable.

Performing as well as existing products, SHIELDPLUS offers outstanding barrier properties and is seen as a substitute for aluminum and barrier-film options. As a replacement for aluminum, SHIELDPLUS enables the use of metal detection devices for inspection procedures. As a replacement for barrier film, SHIELDPLUS reduces the use of plastic, which is made from petroleum, a depletable resource. It, therefore, results in lower CO<sub>2</sub> emissions, from manufacturing through disposal, than do conventional packaging materials made only from plastic.

In addition to its outstanding barrier properties, SHIELDPLUS offers environmental benefits that make it appropriate for use under a wide range of circumstances and for various types of packaging applications.



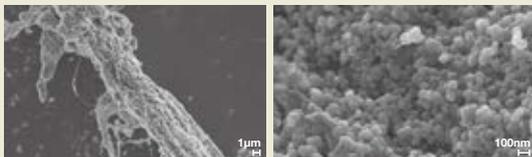
Examples of SHIELDPLUS applications

## ④ ⑤ Post-use environmentally friendly disposal

### Case

#### MinerPa™ - A new, recyclable material made from wood fiber with a high mineral content (Nippon Paper Industries Co., Ltd.)

In January 2017, Nippon Paper Industries Co., Ltd. completed development of MinerPa™, a new functional material with mineral particles densely bonded onto the surface of wood fiber. In so doing, it has succeeded in creating a product that retains the reusability and thermal recyclability of wood fiber while also offering various functions and characteristics of minerals. Going forward, attention will focus on application development and commercialization in areas such as fire-resistant and radiation-shielding construction materials, and nursing-care and sanitary products for which deodorizing and antibacterial functions are required.



Surface of MinerPa™ fiber

## Providing Products that Help to Overcome Challenges for Society

### Responding to changing quality demands

### Case

#### Super Jet Fiber insulation material (Nippon Paper Lumber Co., Ltd.)

Nippon Paper Lumber manufactures Super Jet Fiber, a residential heat insulation material that, because it is made primarily of recycled newspapers, is close to a natural material.



Super Jet Fiber (insulator)

As a blown-in thermal insulation material, Super Jet Fiber offers the benefits of low environmental impact and high insulating efficiency, which have made it increasingly popular for use in ZEH (net zero energy houses).

### Case

#### A product line for a wide range of needs (Nippon Paper Crecia Co., Ltd.)

Nippon Paper Crecia goes to great lengths to develop products that respond to customer needs. It pays meticulous attention to feedback received through its Customer Service Office and sales channels, and works to develop products that meet newly emerging needs and performance demands.



KLEENEX® tissue PREMIUM



SCOTTIE® Fine Triple length Kitchen towel



POISE® SARARAKYUSUI Panty liner Skin care

### Case

#### Participation in the "ifia® JAPAN2017," Fine Chemical Trade Show (Nippon Paper Industries Co., Ltd. Chemical Sales Division and Innovative Material Sales Division)

The Chemical Sales Division is focusing on food, health food, and beverage applications. Participating in "ifia® JAPAN2017," Japan's largest food ingredient/additive



Nippon Paper Industries tradeshow booth

tradeshow, the division featured information on wood-derived CMC (carboxymethyl cellulose) and cellulose powder, and the natural sweetener, Stevia. It also gave a presentation on a new material, cellulose nanofiber.

# Human Rights, Employment and Labor Responsibility

Large numbers of people work in the Nippon Paper Group's expansive company-owned forests and large-scale production sites. Securing their safety and health is the Nippon Paper Group's top priority.



第8回 日本製紙グループ 小集団活動発表大会  
一人のひらめき、みんなの気づき、集めて改善 小集団活動!



Nippon Paper Group presentation conference for Small Group Activity

Indicators	Key Objectives	Performance (fiscal 2016)
<b>Materiality: Occupational Safety and Health</b>		
Number of serious occupational accidents Frequency rate for occupational accidents requiring time off from work	Prevention of injuries to any person at a mill site ● Elimination of serious occupational accidents ● Frequency rate for occupational accidents requiring time off from work = 0.30 or less	No serious occupational accidents Frequency rate for occupational accidents requiring time off from work = 0.39

## Policy and Management

Basic Stance .....	54
Philosophy and Basic Policy .....	54
Initiatives in Respect of Human Rights .....	54

## Occupational Safety and Health

Basic Stance .....	55
System to Promote Occupational Safety and Health .....	55
Status of Occupational Accidents .....	56
Efforts regarding Safety and Disaster Prevention .....	56
Efforts regarding Hygiene and Health .....	56

## Creating Workplaces that Support Diverse Human Resources

Basic Stance .....	57
Recruitment and Employment .....	57
Women in the Workplace .....	58
Promoting Work-Life Balance .....	59
Initiatives Aimed at Developing Human Resources .....	59
Fair Evaluation and Compensation .....	60
Industrial Relations .....	60

# Policy and Management

Building a healthy and safe workplace environment in which employees, who serve as the driving force behind the Group's corporate activities, can take full advantage of their individual capabilities while conforming to the highest ethical standards

## Basic Stance

### Focusing on the optimal application of diverse human resources while ensuring safety and disaster prevention

The Nippon Paper Group respects human rights and aims to develop a working environment that makes the most of a diverse range of human resources. Work-style reform, for example, has gotten much attention in recent years, and we are moving proactively to help ensure that employees can maintain work-life balances that suit them.

We also make every effort to maintain and enhance safe working environments and to take all appropriate measures for safety and disaster preparedness.

## Philosophy and Basic Policy

### Aiming to be a company where employees can look to a better future

Gaining the trust of society and fulfilling our responsibilities requires that Nippon Paper Group employees act with high morals and strong motivation. Promoting employee awareness and behavior consistent with that belief, helping individual employees improve their capabilities, and rewarding performance are among our most important

#### Philosophy and Basic Policy on Human Rights, Employment and Labor

(established on October 1, 2004)

##### Philosophy

Respecting fundamental human rights at all times and making the most of the individuality and capabilities of a diverse range of human resources, we aim to create a company overflowing with dreams and hope.

##### Basic Policy

#### 1. Respect for human rights

We pledge to respect fundamental human rights and not to engage in any behavior that disregards such rights, including discrimination based on matters such as nationality, race, place of birth, sex, religion, medical conditions or disabilities, sexual harassment and the abuse of power. We also pledge to manage personal information appropriately in order to prevent infringements on privacy.

#### 2. Prohibition of forced and child labor

We pledge not to force any employees to carry out unreasonable work. We also pledge not to employ children aged under the minimum employment age stipulated in local laws and regulations.

#### 3. Promotion of personnel training and skill development

We pledge to promote personnel training and skill development programs to help improve individual employees' abilities and skills through the establishment and maintenance of structures to make the most of the individuality and capabilities of a diverse range of human resources.

responsibilities. The Group established its Philosophy and Basic Policy on Human Rights, Employment and Labor based on this understanding.

## Initiatives in Respect of Human Rights

### Confirming, verifying, and educating with the help of a third-party perspective

#### ● Exchanging opinions with Amnesty International Japan

In 2014, divisions in charge of procuring wood chips and managing labor relations at Nippon Paper Industries each met with Amnesty International Japan to share opinions. The meetings helped us to deepen our understanding of global trends in human rights issues. They also gave us an opportunity to explain and discuss conditions at the company and prioritize our actions going forward.

Later, in fiscal 2015, we embarked on an examination of human rights conditions at subcontractors in Japan and at overseas chip suppliers. Based on examination results, we are making changes by employing PDCA cycles as we continue our dialogue with Amnesty International Japan.

#### ● Paying attention to human rights issues at affiliated companies in Japan

In fiscal 2015 and 2016, Nippon Paper Industries Co., Ltd. examined human rights issues at affiliated companies in Japan. Fiscal 2015 was set aside for self-examinations and in fiscal 2016 the results of that work were summarized in reports, and responses to issues were considered.

#### ● Concern for human rights across the supply chain

Concern for human rights and labor across the entire supply chain is clearly defined in the Nippon Paper Group's Philosophy and Basic Policy Concerning Raw Materials Procurement, and the Group conducts supplier surveys and interviews regarding these concerns (see pages 24 and 27). Furthermore, employees responsible for procurement perform on-site checks of human rights conditions. These were conducted in South Africa in fiscal 2015 and in Australia and Vietnam in fiscal 2016. Each, supplemented with interview results, provided information on matters such as health, hygiene, safety, disaster preparedness, and local environmental concerns. In managing forests, the Group devotes significant attention to protecting the culture and traditions of residents in each region of its overseas afforestation operations (see page 30).

#### ● Education and training

In pursuit of personnel management cognizant of human rights, the Nippon Paper Group has employees responsible for personnel matters participate in training courses hosted by government agencies. The Group is also conducting human rights education for personnel in charge of CSR, new hires and newly appointed managers.

# Occupational Safety and Health

By working daily to uncover inherent risks, maintaining a workplace environment in which employees can go about their duties without undue anxiety

## Basic Stance

### Securing safety and health, and preventing disasters

Providing a safe work environment is a basic responsibility of any business. In fulfilling this responsibility, the Nippon Paper Group advances initiatives focused on safety and health, and disaster preparedness.

Maintaining an unwavering daily commitment to uncovering and minimizing risks is key to that effort. Consistently engaging in sound management while responding to the trust of employees is also important for building a pleasant and comfortable workplace that helps to maintain and improve employees' health. We have created labor safety and health systems and continuously strive to prevent accidents and provide safe, pleasant working environments, based on the Philosophy and Basic Policy on Safety and Health Measures established in 2004.

#### Philosophy and Basic Policy on Safety and Health Measures

(established on October 1, 2004)

##### Philosophy

In addition to acknowledging that it is the company's duty to guarantee safety and health, and to strive to develop pleasant, improved working conditions, we pledge to work ceaselessly to prevent any and all accidents, minor or major.

##### Basic Policy on Safety and Health

1. To respect the Industrial Safety and Health Law.
2. To establish self-imposed standards and step up daily management.
3. To set up a management structure and clearly define roles, responsibilities, and authority.
4. To strive to improve safety and health training.
5. To develop and maintain a safe, pleasant working environment.

##### Basic Policy on Safety and Risk Prevention

1. To respect laws and regulations pertaining to safety and risk prevention.
2. To establish self-imposed standards and step up daily management.
3. To set up a management structure and clearly define roles, responsibilities, and authority.
4. To strive to improve safety and risk prevention education and training.
5. To work in cooperation with related government and local communities and share information.

## System to Promote Occupational Safety and Health

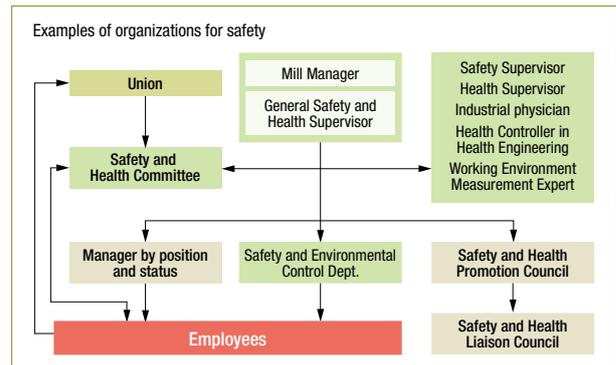
### To build a safe workplace environment

The Nippon Paper Group has established the Safety and Disaster Prevention Committee, which coordinates Group-wide occupational safety and health, disaster prevention

and security measures.

At Nippon Paper Industries, labor and management occupational safety and health meetings are held once each year. The persons responsible for occupational safety and health from the head office, mills, and labor union come together to discuss a variety of issues, including the annual occupational safety and health management plan. Safety and health committees are also established at each mill and office. These committees deliberate on and determine important management matters and activity policies. Employees are notified of the details of decisions through department meetings and internal mill newsletters and then execute the determined activities.

### System to promote occupational safety and health



### Occupational safety and health management system

In 2009, the Nippon Paper Group implemented its own system for continuously pursuing occupational safety and health management activities at the organization level.

Under this system, a three-tiered approach is used for risk assessments by employees and at the management level,



Sharing expertise on safety (Nippon Paper Industries, Hokkaido Mill)

and information on risks and management measures, such as mutual risk assessments within a business location, is shared. To raise safety standards across the Group, events are held to share expertise in performing risk assessments.

### Mill safety audit system

The Nippon Paper Group conducts mill safety audits to raise the level of safety management. In addition, mutual safety audits among the Group companies were introduced in 2010. Audits are being improved from the bottom up by promoting closer communications within the Group.

# Occupational Safety and Health

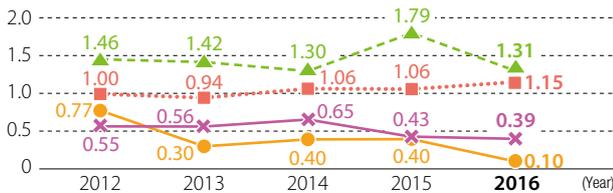
## Status of Occupational Accidents

### Eliminating occupational accidents

In fiscal 2016, the Nippon Paper Group (including subcontractors)\* experienced no serious occupational accidents and its frequency rate for occupational accidents requiring time off from work came to 0.39, with an occupational accident severity rate of 0.03. Despite a decrease in occupational accidents among Group employees, there was no decline in accidents involving employees of subcontractors and other companies performing work at Group production sites. To help ensure the safety of all workers, we are taking steps to enhance communication and coordination with subcontractors and other companies and devoting even greater attention to safety patrols and the provision of education and guidance.

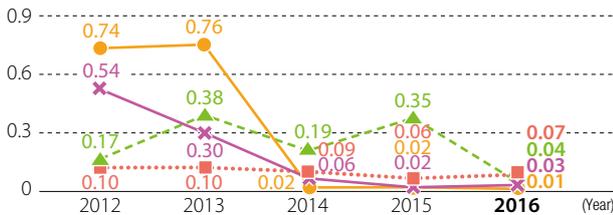
#### Frequency rate for lost-worktime injuries

Indicates how often occupational accidents occur, in terms of the number of accidents causing injuries or deaths per million work hours.



#### Occupational accident severity rate

Indicates the seriousness of occupational accidents, in terms of the number of workdays lost per 1,000 work hours.



Legend: Nippon Paper Group (orange circle), Pulp, paper and processed paper product manufacturing industry (green triangle), Manufacturing industry (red square), Nippon Paper Group (including affiliates) (purple cross).

\* The manufacturing facilities of Nippon Paper Industries Co., Ltd., Nippon Paper Creca Co., Ltd., Nippon Paper Papyrus Co., Ltd., and Kitakami Paper Co., Ltd.

## Efforts regarding Safety and Disaster Prevention

### Working steadily from various angles

#### ● Safety education

In its efforts to ensure high safety awareness, the Nippon Paper Group places considerable weight on safety education for all employees, including those in management.

Nippon Paper Industries puts in place an annual Occupational Safety and Health Management System plan at each of its mills and offices, which then implements various education programs covering every stage of an employee's career from initial hiring through to supervisor training. Constantly renewing safety awareness, we are endeavoring to achieve accident-free workplaces.

#### ● In-plant safety measures

Based on its mission of eliminating all personal injuries within its mills, Nippon Paper Industries has implemented safety patrols and education initiatives in collaboration with the labor union and subcontractors. In safety patrols, we provide instructions and guidance for immediately correcting unsafe conditions. As a principal employer, we also provide information, reference materials, venues, and other resources, and have confirmed that subcontractors are conducting safety education properly. Furthermore, we enhance workplace safety by providing guidance on, and encouraging voluntary efforts, including risk prediction and risk assessment before engaging in work.

#### ● Natural disaster and fire countermeasures

In preparation for natural disasters, each location of the Nippon Paper Group has created disaster preparedness manuals reflecting local hazard map information and the characteristics of their particular operations and geographic location. They also cooperate with local fire departments and other public safety authorities to conduct regular disaster preparedness training.

At Nippon Paper Industries, individual business locations undergo regular disaster prevention surveys by a company specializing in risk assessment.

#### ● Traffic safety initiatives

The Nippon Paper Group actively participates in traffic safety education and in various traffic safety campaigns of local police authorities. Every effort is made to ensure that all employees remain conscious of the need to drive safely.

## Efforts regarding Hygiene and Health

### Taking into consideration the importance of mental and physical health

The Nippon Paper Group strives to keep its employees healthy and to detect health problems in their early stages. For example, at Group companies that are members of the Nippon Paper Industries Health Insurance Union, examinations focusing on lifestyle diseases are performed together with regular physical examinations. In addition, industrial physicians regularly visit workplaces and the Group uses the results of these visits in efforts to improve working environments. The Group also provides medical examinations for the spouses of employees.

#### ● Tackling mental health

Nippon Paper Industries has organized Internet-based mental health care and counseling services for all employees. Under this system, employees are asked to complete an annual survey designed to detect needs for mental health care services.

# Creating Workplaces that Support Diverse Human Resources

With a deep respect for fundamental human rights and the unique characteristics of each individual, the Nippon Paper Group consistently recruits new graduates and actively employs women and people with disabilities.

## Basic Stance

### Developing a dynamic organization where diverse employees can demonstrate their capabilities

Employees with different personalities stimulating one another and helping each other deepen their knowledge serve to invigorate the workplace. Amid forecasts of a drop in Japan's working-age population, diversification of workforces is becoming increasingly vital to ensuring ongoing growth. Our aim is to be a vigorous organization emphasizing the spirit of Challenge, Fairness, and Teamwork - the values included in the Group Mission we definitively stated in 2015.

## Recruitment and Employment

### Advancing discrimination-free hiring

The Nippon Paper Group employs over 13,000 employees in and outside of Japan. In its efforts to fulfill its responsibilities to communities, the Group strives to ensure stable employment while continuously recruiting new employees.

Furthermore, based on its Philosophy and Basic Policy on Human Rights, Employment and Labor, the Group promotes discrimination-free recruitment and employment. The Group employs a selection process that bases decisions on test and interview results. Factors including nationality, place of birth, gender and level of school completed have no place in selection decisions.

#### ● Hiring of people with disabilities

With uneven hiring performance at its various business sites, Nippon Paper Industries Co., Ltd. did not achieve the statutory 2.0% employment rate for people with disabilities. To achieve a steady improvement in performance, action plans for hiring people with disabilities will be developed and executed at individual business sites.

#### The rate of employment of people with disabilities



#### ● Promoting the employment of elderly persons

The Nippon Paper Group has implemented its Reemployment System to respond to the needs of a super-aging society and to facilitate the passing on of skills. In fiscal 2002, Nippon Paper Industries introduced a reemployment system to allow employees to work up to the age of 65. And in response to the amended Law Concerning Stabilization of Employment of Older Persons, in effect from April 2013, the Company prepared new rules that allow employees of retirement age to continue working based on their desire and skills, at least until they begin to receive pensions.

## Employment data

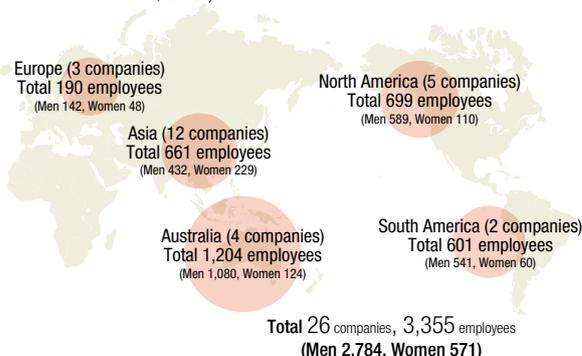
	Units	FY2016
No. of employees on a consolidated basis <sup>1,2</sup>	Persons	13,057
Men	Persons	11,691
Women	Persons	1,366
Overseas	Persons	2,810
Men	Persons	2,468
Women	Persons	342
Percent of upper management from the local community	%	74.1
New graduates hired <sup>3</sup>	Persons	265
Men	Persons	239
Women	Persons	26
Mid-career hired <sup>3</sup>	Persons	163
Men	Persons	141
Women	Persons	22
Average age of employees <sup>1,3</sup>	Age	43.3
Men	Age	43.3
Women	Age	43.1
Average years of employment <sup>1,3</sup>	Years	19.1
Men	Years	19.2
Women	Years	18.2
Turnover rate <sup>1,3</sup> (Includes employees leaving at the mandatory retirement age)	%	2.9
Dispatched workers <sup>1,3</sup>	Persons	77
Men	Persons	27
Women	Persons	50

<sup>1</sup> Fiscal year end

<sup>2</sup> Data scope: Consolidated companies

<sup>3</sup> Data scope: Consolidated companies in Japan

## Numbers\* of overseas subsidiaries and employees by region (as of December 31, 2016)



\* Overseas subsidiaries (including non-consolidated subsidiaries)

## Performance in reemploying workers who reach the mandatory retirement age<sup>1,2</sup>

(Regular employees of Nippon Paper Industries and consolidated companies in Japan)

Fiscal years	2011	2012	2013	2014	2015	2016
Nippon Paper Ind. Employees seeking reemployment	44	57	51	112	172	185
People reemployed	43	67	53	112	172	185
Consolidated companies in Japan People reemployed	—	—	—	309	327	331

<sup>1</sup> Beginning with fiscal 2014, figures cover consolidated companies in Japan and management employees. Until fiscal 2013, figures covered only non-management employees at Nippon Paper Industries.

<sup>2</sup> Depending on staffing conditions and other factors, the company may request employees to continue working beyond the retirement age, and some employees have agreed to do this. This is why the number of people reemployed sometimes exceeds the number of retirees requesting to be reemployed.

# Creating Workplaces that Support Diverse Human Resources

## Women in the Workplace

### Creating greater opportunities for women

Organizational invigoration, and securing human resources against the backdrop of a declining birthrate, are two considerations that add to the importance of giving women opportunities to succeed in the workplace. The Nippon Paper Group, with the establishment of a Human Resources Planning Office in fiscal 2015, is creating conditions that promote their participation here.

#### Case

#### Diversity seminar (Nippon Paper Industries Co., Ltd.)

Creating work environments that embrace diversity and enable women and all other employees to exercise their full potential is essential for maintaining and strengthening competitiveness. Nippon Paper Industries Co., Ltd., therefore, held a diversity seminar in September 2016 to provide managers with an opportunity to examine the importance of promoting diversity.

In the first part of this two-part seminar, representatives from the CSR Division and the Human Resources Planning Office of the Personnel Dept. provided an overview of social trends and the Company's career development initiatives for women. In the second part of the seminar, Naoko Ishihara, the then editor-in-chief of Works magazine, published by the Recruit Works Institute, gave a talk on why maintaining and strengthening competitiveness relies on diversity in work approaches for all employees. Over 100 managers participated in the seminar and, based on their enthusiasm in asking questions, found that it provided much to think about.

### Responding to the Act on Promotion of Women's Participation and Advancement in the Workplace

In working to create conditions that enable women to advance their careers, Nippon Paper Industries Co., Ltd. established in April 2016 an Action Plan based on the Act on Promotion of Women's Participation and Advancement in the Workplace.

#### Action Plan based on the Act on Promotion of Women's Participation and Advancement in the Workplace

(Adopted by Nippon Paper Industries Co., Ltd. in April 2016)

1. Make women at least 25% of new graduate hires for career-track positions.
2. For career-track women hired 8 to 12 fiscal years ago\*, achieve an average continuous employment rate that is at least 80% that of the rate for men.
3. To expand the range of roles performed by women at production sites, identify issues that would arise with the assignment of women to each workplace, consider solutions for these issues, and develop concrete plans for the workplaces to which women will be assigned.

\* Women who joined the company during the fiscal years 2004 to 2008.

### Female management participation and recruiting

At Nippon Paper Industries a large proportion of jobs is in mill settings and so low recruitment of women in the past is a major reason for their low participation in our management ranks now. To remedy this situation, and double the participation of women in management by fiscal 2020, we are expanding the range of workplaces to which women are assigned.

Percentage of female employees in management (consolidated entity in Japan)



Beginning with fiscal 2013 percentages have been adjusted retroactively to exclude associate directors, employees commissioned for specific purposes, employees on temporary assignment from other companies, and other non-full-time personnel to present percentages of only full-time employees.

1 Figures are for the Nippon Paper Group's consolidated companies in Japan.

2 Includes all managers of sections and higher level organizational units as of December 31.

### Hiring for career-track positions (Nippon Paper Industries Co., Ltd.)

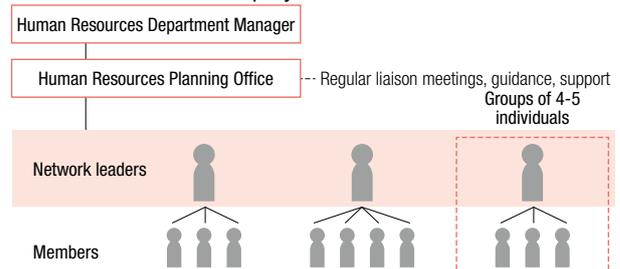
Fiscal years	2012	2013	2014	2015	2016
Career-track hires	43	56	34	52	65
Women	6	8	7	11	11
Men	37	48	27	41	54
Percent women	14	14	21	21	17

\* Figures reflect total new hires (including mid-career hires) by category for each fiscal year.

### Follow-up system

At Nippon Paper Industries Co., Ltd., female career-track employees are organized in a network that spans the company, crossing organizational unit and workplace boundaries. Within the network, veteran employees collaborate with the Human Resources Planning Office to help their younger colleagues address concerns and build careers. In addition, we conduct career training aimed at helping female career-track employees overcome career building challenges with the assistance of their immediate supervisors.

#### Female career-track employee network



## Promoting Work-Life Balance

### Realizing a balanced workplace environment

The Nippon Paper Group strives to establish an ideal workplace environment that allows employees to reach their full potential while balancing work and family needs.

Nippon Paper Industries, for example, has introduced flextime work hours for its head office, research facilities, branches, and the administrative sections of its mills.

#### ● Work-style reform approaches

To encourage work-style reform, Nippon Paper Industries Co., Ltd. is striving to reduce the overall number of hours workers spend on the job. The Company believes that helping individual employees maintain a desirable work-life balance will result in more vibrant working environments and that the time and energy employees gain will ultimately result in added growth for the Company.

#### ● Helping employees balance work and child care

The Nippon Paper Group revised its action plan, in April 2016, and strives to support its employees in maintaining work and child-care balance in accordance with Japan's Act on Advancement of Measures to Support Raising Next Generation Children.

As one example, Nippon Paper Industries has implemented systems that exceed the provisions stipulated under Japan's Child Care and Family Care Leave Act. This includes extensions to the exemption period for overtime working hours, the application period for child care and paid leave for child rearing. Based on these actions, we have been designated by Japan's Minister of Health, Labour and Welfare as a company that supports child rearing and have obtained the right to display the Kurumin mark.

#### Data on balancing work and personal lives

	Unit	2016
Employees taking child-care leave <sup>1</sup>	Persons	26
Men	Persons	0
Women	Persons	26
recently giving birth	%	100
who returned to work	%	100
Employees taking maternity/paternity leave <sup>1</sup>	Persons	186
Men	Persons	160
Women	Persons	26
Average number of days taken for maternity/paternity leave <sup>1</sup>		
Men	Days	3.0
Women	Days	64.9
Employees taking nursing-care leave <sup>1</sup>	Persons	1
Total number of working hours <sup>2</sup>	Hours	1,927
The rate of annual paid leave taken by employees <sup>2</sup>	%	68.3

<sup>1</sup> Data scope: Consolidated companies in Japan

<sup>2</sup> Data scope: Non-management employees of Nippon Paper Industries

## Initiatives Aimed at Developing Human Resources

### Support for the improvement and exercise of professional skills

The Nippon Paper Group has identified five key elements for providing employees with equal opportunities for learning and for creating a framework enabling ambitious, capable individuals to further enhance their skills.

#### (1) Support for self-development and voluntary skill acquisition

The Nippon Paper Group supports employee self-development and voluntary skill acquisition through means such as group training and rewards for acquiring professional qualifications. In addition, job-level-based training, such as that for new hires and new managers, is conducted jointly by Group members to promote the development of employees throughout the Group. And training is pursued from a broad perspective; job-level-based training at mills, for example, is conducted not just for a single mill but together with neighboring mills.

Furthermore, Group employees can meet self-determined skill needs by taking any of approximately 150 correspondence courses and joint training. Every employee



Internal training session

is offered not only the ability to choose courses they want to take but also precious, mutually stimulating opportunities for joint training with colleagues from other Group companies.

#### Training time for individual employees (Consolidated companies in Japan)

7.6 hours/year

#### (2) Assignment of the right people to the right positions

Nippon Paper Industries periodically surveys employees to ascertain what kind of job assignments they wish to have. Based on the results of these surveys, every effort is made to match employee strengths with job types.

In addition, the Nippon Paper Group has implemented an internal recruitment system. Under this system, individual employees can consider their skills and how they want to develop their career, and then apply for a position posted by a Nippon Paper Group member.

#### (3) Development of employees capable of acting on a global stage

Nippon Paper Industries and other Group companies have put in place programs such as one for overseas study. This program is supported by the dispatch of personnel to overseas education institutions and by overseas assignments to the various offices of Nippon Paper Group. Through actions such as this, the Company is striving to strengthen awareness and education, so that all of its career-track employees will be capable of taking on overseas assignments.

# Creating Workplaces that Support Diverse Human Resources

## Case

### Adoption of an overseas internship / training system

As part of its effort to develop human resources capable of undertaking overseas assignments, Nippon Paper Industries Co., Ltd. has adopted an overseas-company internship system for administrative employees. The goal of this system is to boost employee interest in working overseas by having them experience daily life and culture while working for a period of one month at an overseas company (mainly in Asia) that is not a member of the Nippon Paper Group. In fiscal 2016, the first year of the program, 11 employees participated in internships in three countries.

## Case

### Implement small group activities globally

The Nippon Paper Group is implementing small group activities in and outside Japan. The purpose of these activities is to achieve improvements in areas such as operations, quality, and costs. In fiscal 2016, Nippon Paper Industries Co., Ltd. held its 24<sup>th</sup> company-wide presentation meeting, while the Group held its eighth presentation meeting, with participation by 10 Group companies located in Japan and overseas. The presentations helped attendees to better understand their own workplaces and consider good practices from other workplaces in Japan and abroad.

#### (4) Reinforcement of production frontline capabilities

Human resource capabilities at the production frontline represent the heart of the manufacturing process. The Nippon Paper Group passes on to each generation the technologies and skills nurtured over a lengthy period to maintain and improve the capabilities of its human resources.

Nippon Paper Industries created a committee to strengthen frontline capabilities in fiscal 2006. Nippon Paper Industries has organized and is operating systems under which technologies and skills that should be carried forward at individual production sites are identified, and training is prioritized based on analyses of the strengths and weaknesses of, and skills needed by, individuals.

#### (5) Support for the planning of lives and careers

Given the hike in the public pension eligibility age and increasing diversification of lifestyles, employees must consider a number of factors when planning their careers and life after retirement. Therefore, core companies within the Nippon Paper Group offer Life Plan Seminars to enhance employee understanding of each company's and the government's programs, as well as the need to develop meaningful life plans that include health management.

## Fair Evaluation and Compensation

### Evaluation based on skills and performance

As part of its efforts to practice fair and transparent personnel evaluations, Nippon Paper Industries lays out clear evaluation criteria and conducts review sessions, in which managers provide feedback on performance evaluations, for all non-management employees. Review sessions are an opportunity to ensure that employees understand and accept evaluation results and for setting the skill development direction for individual employees. For decisions on promotions to management and other positions, the assistance of outside companies specializing in human resource assessment is called upon to enhance objectivity.

## Industrial Relations

### Improving the workplace environment through labor and management consensus

The Nippon Paper Group strives to maintain a sound relationship with its employees. Labor unions have been formed at Nippon Paper Industries and the majority of its consolidated subsidiaries. Irrespective of the existence of a labor union, however, every effort is made to maintain smooth industrial relations at all Group companies.

For example, under the common objective of building a better company, Nippon Paper Industries has established a variety of committees that cover such fields as the operations of labor and management agreements, and staffing adjustments. Labor-management agreements provide the basis for a variety of initiatives, as well as efforts to improve the workplace environment. On the top of these endeavors, regular central meetings of both sides' leaders provide a forum to discuss diverse issues including corporate management and working conditions.

At Nippon Paper Industries, there are 4,766 labor union members (as of March 31, 2017). Workplaces are union shops and all of the employees covered by collective bargaining agreements are union members.

#### ● Discussions of working conditions

Major changes to working conditions, such as alterations to personnel systems and personnel downsizing, are in principle implemented on the basis of prior discussions between labor and management. Nippon Paper Group companies do not unilaterally impose changes on employees.

Routine communication is critical for gaining employee understanding of company actions. The Group strives to engage in dialog with employees and labor union to provide such information as financial results.

# Responsibility to Communities

As a comprehensive biomass company creating new products and growing its businesses, the Nippon Paper Group manages broad expanses of forests and owns large-scale production sites, so it has significant impacts on local communities and the people who live and work in them.

Coexistence with these communities is critical to our own continued existence.



Planting trees at Marunuma Kogen

Indicators	Key Objectives	Performance (fiscal 2016)
<b>Materiality: Coexistence with Local Communities and Society at Large</b>		
Communication opportunities	Gaining understanding of the Nippon Paper Group's business activities, in local communities and society at large	Welcomed local school, neighborhood association and other groups for tours, and engaged in other activities, such as joint sponsorship of events
Evaluations by stakeholders	As a member of society, we shall proudly promote activities that contribute to social development. (Philosophy for social contribution activities)	Gathered various opinions and evaluations from stakeholders connected with our activities (To be used to improve activities)

## Policy and Management

Basic Stance ..... 62

## Coexistence with Local Communities and Society at Large

- Employment Support ..... 63
- Respect for Indigenous People ..... 63
- Environmental Protection Activities ..... 63
- Advancing Science and Technology ... 63
- Promoting Social Welfare Activities ..... 64
- Cleaning activities ..... 64
- Providing Opportunities to Tour Group Companies and Their Mills ..... 64

## Corporate Identity Sharing

Utilizing Company-Owned Forests ..... 65

# Policy and Management

The Nippon Paper Group engages in a variety of social contribution activities to garner the trust of and remain close to local residents.

## Basic Stance

### Coexisting with local communities, contributing to the advancement of society as a whole

As one of its members, the Nippon Paper Group aims to contribute to society as a whole. While continuing to provide needed products, we would like to play a useful role in protection of the global environment and in the advancement of culture and local communities. We are confident that building a consistent track record along those lines will earn the trust of society and allow us to continue our business activities in coexistence with local communities.

The initiatives we engage in, both inside and outside Japan, include cleanups of the areas around our mills and plants, support for vocational training in afforestation areas, and other locally focused activities; and operation of the School of Friendship for Forests and Paper, mill tours, and other activities making use of forests and other Group resources.

#### Philosophy and Principles for Social Contribution Activities

(established on April 1, 2004)

##### Philosophy

As a member of society, we shall proudly promote activities that contribute to social development.

##### Principles

1. We shall pursue activities that contribute to cultural heritage and development.
2. We shall pursue activities that contribute to conservation and improvement of the environment.
3. We shall pursue activities that contribute to the development of communities.

#### Specific activity themes

- Increase the community involvement of Group company mills and overseas affiliates
- Promote activities that effectively utilize the resources and expertise of each Group company
- Promote corporate citizenship activities in which our employees play an active role
- Effectively use the company-owned forests in Japan (about 90,000 hectares)
- Employ effective PR inside and outside the Group

#### Structure for promoting social contribution activities

The CSR Division takes the lead in promoting Group-wide social contribution activities. Each Group company appoints a person responsible for overseeing social contribution activities. Each responsible person develops a thorough understanding of social contribution activities undertaken to date, and works to upgrade and expand their content and details.

#### The Nippon Paper Group's principal social contribution activities

Principal activities	Specific examples	Page
<b>Local community activities</b>		
Cleaning activities	Appreciation event at Asahiyama Zoo	64
Local community safety and disaster prevention	Children's "emergency 110" patrol project (110 is the number to dial for emergency assistance in Japan)	—
	Traffic safety initiatives	56
	Participation in fire brigades	—
Preserving local community cultures	Supporting Asukayama Takigi Noh plays	—
Respect for indigenous people	Making wild herb habitat available to indigenous people	63
Holding and participating in local events	Participating in and sponsoring local events	—
	Opening of recreational facilities to the public	—
	Holding summer festivals and other events	—
Social welfare activities	Copier-paper sale in support of the Pink Ribbon Campaign	64
	Participating in and cosponsoring social welfare events	—
	Purchasing products made by social welfare groups	—
	Provision of a venue for a charity horse race	—
Community education	Holding of CSR lectures (public seminars)	—
Advancing science and technology	Supporting the Fujihara Foundation of Science	63
Disaster relief activities	Donations of money and emergency supplies	—
<b>Environmental activities</b>		
Tree planting activities	Marunuma Highland Tree-Planting	65
Preserving biodiversity	Utilizing the Group's cultivating cuttings in container tech	46
	Conducting business activities while protecting Blakiston's fish owl habitat	45
	Supporting the activities of the Shirane-aoi Preservation Group	46
	Promoting Fukushima Morino Chonai-kai activities	29
Environmental protection activities	River cleanup activities	63
Promoting recycling activities	Operating the Recycle Plaza Shiyukan	—
	Supporting the recycling activities of organizations	—
	Recycling Paper-Pak containers	43
	Recycling wood waste	—
Accountability to local communities	Environmental risk communication	34
<b>Educational activities</b>		
Providing opportunities to tour group companies and their mills	Mill tours and paper making	64
Utilizing company-owned forests	Holding the School of Friendship for Forests and Paper	65
Employment support	Internships, and programs that allow students to experience a workplace	64
	Sponsoring workshops	63
Classes taught by employees	Cooperation in teaching school classes	64
Music appreciation	Inviting students to concerts	—
	Baseball tournaments	—
	Ice hockey championships	—
Providing educational opportunities through sports	Cosponsoring the Fukuchiyama Marathon	—
Providing products to classrooms	Provision of paper products, printed materials and publications	—

# Coexistence with Local Communities and Society at Large

Continuing to pursue business activities in coexistence with local communities

## Employment Support

### Case

#### Sponsoring workshops in line with local desires (Brazil, AMCEL S.A.)

AMCEL, which holds expansive land, strives to maintain harmonious relationships and to further dialogue with local residents. As part of that effort, it asked local communities what work- or daily-life-related topics they would like to learn about, and in 2014 began to host workshops based on the responses received.

In fiscal 2016, workshops were held on filtering water for drinking, baking bread, eating a healthy diet, farming fish, making traditional pottery, and knitting. Led by AMCEL-invited experts, these workshops took place in five areas, Amapá, Santana, Ferreira Gomes, Itauba, and Tartarugalzinho, and lasted 3-6 days each. Participants, who numbered over 600 in total, indicated that they were very pleased with the workshops and felt that what they learned would be useful in daily life.



Workshop on eating a healthy diet



Class on knitting

## Environmental Protection Activities

### Case

#### Cleaning up the Suikawa River (Kitakami Paper Co., Ltd.)

In fiscal 2004, Kitakami Paper Co., Ltd. embarked on activities aimed at cleaning up the riverbed of the Suikawa River, which the company uses to provide water for its operations and dispose of industrial wastewater. These activities take place once or twice a month and involve 20-30 of the company's employees and employees of affiliated companies. In the past, local residents had experienced problems that originated with wastewater from Kitakami's mill. In 2001, therefore, the company installed oxygen-activated sludge treatment facilities to stabilize water quality, and, in 2002, it entered into an environmental protection agreement with Ichinoseki City, the location of its mill, to strictly manage water quality.

In addition, the company meets annually with an organization of Ichinoseki community leaders focused on looking after the Suikawa River. In these meetings, the company has won praise from the citizens' group for its sincerity in acting to clean the Suikawa riverbed and control the quality of its wastewater.



Cleaning the Suikawa riverbed

## Respect for Indigenous People

### Case

#### Making wild herb habitat available to indigenous people (Chile, Volterra S.A.)

The Mapuche are indigenous people who have inhabited southern Chile since well before the arrival of Europeans and maintained their own distinct traditions and culture. In recent years, availability of native wild herbs the Mapuche value for medicinal purposes has declined with the development of land for agriculture, housing, and other purposes.

Volterra, as part of its preservation activities on company-owned land, is protecting habitat for the scarce herbs and has made it available for their use.



Ñanco, a wild herb used by the Mapuche

## Advancing Science and Technology

### Case

#### Supporting the Fujihara Foundation of Science (Nippon Paper Industries Co., Ltd.)

Considered the "Nobel Prize of Japan," the Fujihara Award, presented by the Fujihara Foundation of Science, a public interest incorporated association, recognizes outstanding contributions to science and technology by Japanese scientists. Nippon Paper Industries lends financial support to the Foundation to promote science and technology.

At the 58th Fujihara Awards presentation ceremony, held in June 2017, Dr. Susumu Kitagawa, Deputy Director-General and Distinguished Professor at the Kyoto University Institute for Advanced Study, and Dr. Akira Isogai, a Professor at the University of Tokyo Graduate School of Agricultural and Life Sciences, were each presented with a certificate and gold medal, together with 10 million yen.



Dr. Susumu Kitagawa (center) and Dr. Akira Isogai (2nd from right)

# Coexistence with Local Communities and Society at Large

## Promoting Social Welfare Activities

### Case

#### Copier-paper sales in support of the Pink Ribbon Campaign (Nippon Paper Industries Co. Ltd.)

In fiscal 2016, Nippon Paper Industries Co., Ltd. became an official supporter of the Pink Ribbon Campaign. The campaign, an endeavor aimed at raising breast-cancer awareness, is a project of J. POSH (Japan Pink-Ribbon of Smile and Happiness campaign), a Japanese NPO. To support the campaign, the Company launched a new brand of copier paper - Pink Ribbon PPC. Products sold under this brand include a pink ribbon, the symbol of breast-cancer awareness, on their packaging as a means of helping to boost recognition of the Pink Ribbon Campaign. Furthermore, the Company is donating a portion of the sales of Pink Ribbon PPC copier paper to J.POSH.

The Company is proud to have its copier paper - one of its longest-selling products - play a role in enhancing recognition of the Pink Ribbon Campaign.



Pink Ribbon PPC

## Cleaning activities

### Case

#### Appreciation event at Asahiyama Zoo (Nippon Paper Industries, Co., Ltd., Hokkaido Mill - Asahikawa)

Every spring, the Hokkaido Mill - Asahikawa holds a volunteer event to express appreciation for Asahiyama Zoo in Asahikawa City.

This event, which began in fiscal 2009, is also meant as a gesture of appreciation to the local community. In fiscal 2017, the ninth annual event drew participation from 130 mill and affiliated company employees and their family members.

Asahiyama Zoo is positioned on a slope and its paths become treacherously slick with snow and ice in the winter. The zoo, therefore, spreads sand on the paths to help prevent visitors from slipping and falling. In spring, after the snow and ice have largely melted, volunteers remove the sand for reuse the coming winter. Adults and even small children gather before opening time, perform their work using bamboo brooms and shovels, and finish before the first visitors arrive.



Volunteers removing sand at Asahiyama Zoo

Through this activity, the Hokkaido Mill - Asahikawa is making a valuable, ongoing contribution to the Asahiyama Zoo and local community.

## Providing Opportunities to Tour Group Companies and Their Mills

In fiscal 2016, 14,374 people (including 6,884 students and teachers) toured Nippon Paper Group facilities worldwide.

### Case

#### Welcoming local junior high school students to experience a workplace (Nippon Paper Development Co., Ltd.)

Since fiscal 2005, the Tokyo metropolitan government has held "Work Work Week Tokyo," an annual event that allows junior high school students to experience a workplace. This is an opportunity for every public junior high school student in Tokyo to take up to a five-day leave from school to experience a workplace - for example, in a local shopping district, manufacturing or other company, or public facility.

Nippon Paper Development Co., Ltd. operates Oji Ekimae Sun Square, a commercial facility in Tokyo's Kita ward. There, the company welcomes students from local junior high schools that have prearranged their visits, and lets them get a taste of a wide variety of jobs, beginning at the reception counter.

Following each year's event, polite letters of thanks are received from students. For employees these letters serve as additional motivation to maintain Oji Ekimae Sun Square as a place that is loved by, and continues to contribute to, the local community.



Inspecting and cleaning facilities at Oji Ekimae Sun Square

### Case

#### Mill tour and classroom presentation (Nippon Paper Crecia Co., Ltd.)

Every year, Nippon Paper Crecia Co. Ltd.'s Kaisei Mill conducts a mill tour and gives a social studies class presentation to help local elementary school students learn about the people who work at the mill and what they do. In its most recent presentation, mill employees, responding to the school's request for a talk on the efforts and innovation that go into responding to consumer demands, explained how the mill makes products that meet consumer needs. They also let students handle samples of Kleenex® AQUAVEIL moisturizing tissues to feel the smooth, supple texture created in response to consumer feedback. After each presentation, all of the students send letters of thanks to the mill. They also recognize mill employees and greet them when they happen to see them. Building this kind of relationship with the local community is valuable and the Kaisei Mill will be proactive in maintaining it.



Kaisei Mill employee giving a classroom presentation

# Corporate Identity Sharing

Conducting activities that enable local residents and employees to physically experience the essence of the Nippon Paper Group

## Utilizing Company-Owned Forests

### Case

#### Conducting the annual School of Friendship for Forests and Paper (Nippon Paper Industries Co. Ltd., Nippon Paper Development Co., Ltd.)



Walk in a forest owned by Nippon Paper Industries

The School of Friendship for Forests and Paper is a hands-on course on the natural environment utilizing forests (approximately 90,000 hectares) owned by Nippon Paper Industries in Japan. With the aim of introducing participants to the beauty and abundance of forests owned by the company, the school is also an opportunity to experience the connection between forests and paper, an essential item for everyday life. This initiative was first launched in the Sugenuma forest of Gunma Prefecture in October 2006.

The common programs that make up the school draw heavily on the knowledge and experience of employees. With Group employees serving as guides, for example, participants enjoy walking through the forest and making paper from twigs they pick up. Participants are gathered

Comments from elementary school children (September 2016)



A ceremonial photograph of all involved parties

We made paper from wood we picked up in the forest. Now I know how paper is made.

All the flowers and trees made me happy.

from general public with the cooperation of the Japan Philanthropic Association. Since its inception at the Sugenuma company-owned forest, through fiscal 2016, the school has been conducted 21 times, for a total of 700 participants, including parents and children, and students from local schools.

Since 2007, the Toyono School of Friendship for Forests and Paper has been held in Nippon Paper Industries' Toyono forest in Kumamoto Prefecture. Organized mainly by the company's Yatsushiro Mill, particular emphasis is placed on activities deeply rooted in the local community. One program of this school incorporates such activities as a mill tour and is one example of how activities are modified to accommodate the needs of each region.

### Case

#### Marunuma Highland Tree-Planting 2017 held (Nippon Paper Industries Co., Ltd.)

Nippon Paper Industries is advancing initiatives aimed at leaving a thriving forest to future generations. As part of that effort, tree-planting activities were begun in the company's Sugenuma Forest in Gunma Prefecture in May 2010. The sixth iteration of this activity—the Marunuma Highland Tree Planting 2017—took place in May 2017. The number of participants—both Nippon Paper Group people and others, mainly from Tokyo—came to about 100 in all.

Under the guidance of staff, participants used transplanting trowels to plant 1,000 seedlings of six types of trees, including Japanese beech and Japanese oak.



Participants planting trees

This was a precious experience for kids and parents.

## Shaping the Future with Trees

# Outline of the Nippon Paper Group

## Company Profile (As of March 31, 2017)

Trade Name Nippon Paper Industries Co., Ltd.  
 Incorporation August 1, 1949  
 Capital ¥104.873 billion  
 Address 4-6 Kandasurugadai, Chiyoda-ku, Tokyo, Japan  
 Telephone +81-3-6665-1111  
 Listing Tokyo Stock Exchange (Securities code 3863)

Shares issued 116,254,892  
 Shareholders by category Financial institutions 42.32%, foreign investors 24.73%, individuals and others 20.93%, other Japanese corporations 9.94%, securities companies 1.78%, treasury stock 0.28%  
 Shareholders' equity ¥393,486 million  
 Total liabilities ¥953,974 million

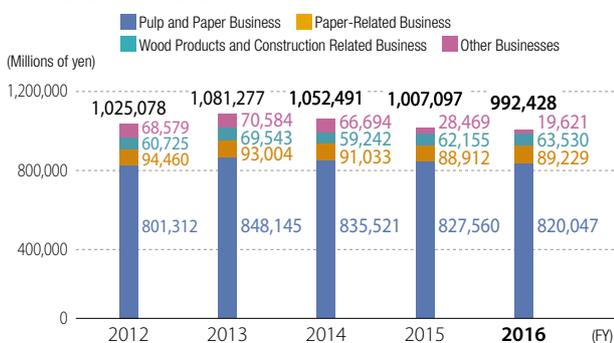
## The Status of Debt Ratings (As of March 30, 2017)

Rating and Investment Information, Inc. (R&I)  
 Long-term bonds: BBB+

Japan Credit Rating Agency, Ltd. (JCR)  
 Long-term bonds: A

## Major Financial Indicators Trends

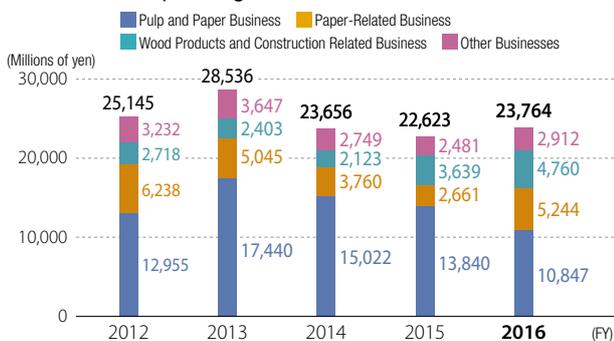
### Consolidated net sales



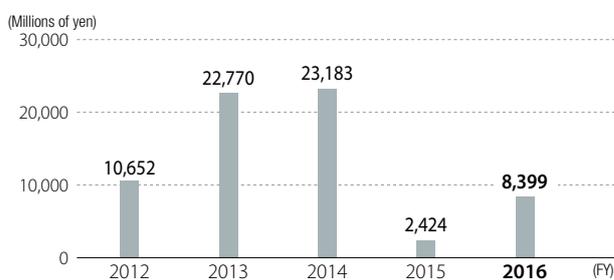
### Consolidated ordinary income



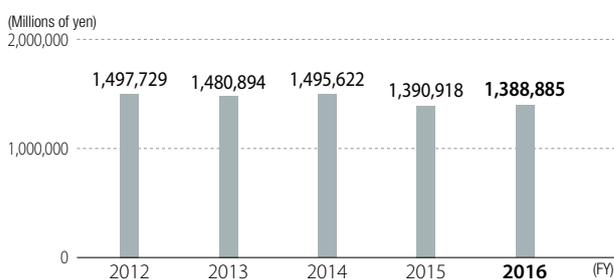
### Consolidated operating income



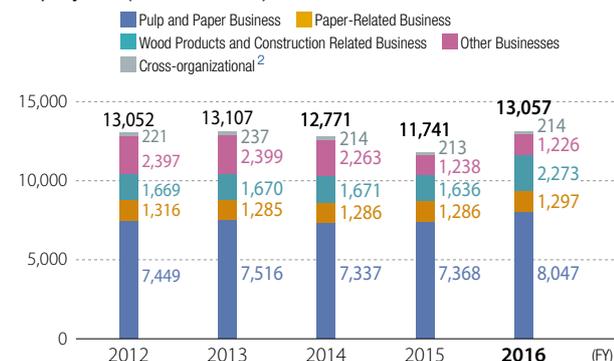
### Consolidated net income or loss



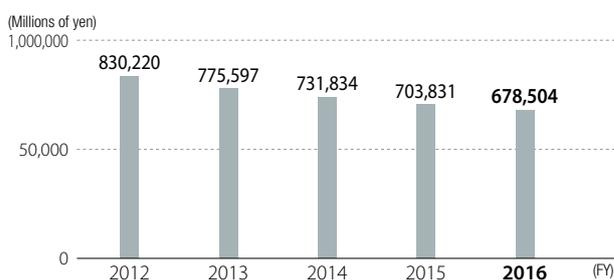
### Total assets (consolidated)<sup>1</sup>



### Employees (consolidated)<sup>1</sup>



### Interest-bearing debt (consolidated)<sup>1</sup>



<sup>1</sup> Fiscal year-end data

<sup>2</sup> Employees responsible for multiple divisions



**Yoshinao Kozuma**  
Professor, Faculty of  
Economics, Sophia  
University

### Profile

After leaving the doctoral program at the Sophia University Graduate School of Economics, Professor Kozuma became a research assistant at the Nagoya Institute of Technology and worked at the Limperg Instituut, Inter-University Institute for Accounting and Auditing, in the Netherlands, as a guest researcher funded by the Dutch government. He became an associate professor at the University of Shizuoka School of Administration and Informatics, and then took up his current position as professor in the Faculty of Economics at Sophia University. He has held successive positions as the chair or member of various CSR- or environment-related advisory panels, study groups, and research conferences for the Ministry of the Environment; the Ministry of Economy, Trade and Industry; the Ministry of Land, Infrastructure, Transport and Tourism; the Cabinet Office; and the Japanese Institute of Certified Public Accountants. In fiscal 2017, Professor Kozuma chaired a committee considering revisions to the Environmental Reporting Guidelines issued by Japan's Ministry of the Environment.

## Third-Party Comments

A key point for judging the quality of sustainability reporting is the appropriateness of reporting boundaries. In the case of a publicly listed company, reporting boundaries, even for a CSR report, which is a voluntary disclosure, must cover the entire corporate group, in the same way that financial statements are prepared on a consolidated basis. In Japan, where many companies find it difficult to follow this simple, reasonable rule in setting their CSR reporting boundaries, the Nippon Paper Group is a precious example of a company preparing CSR reports on a consolidated basis. The Nippon Paper Group places great emphasis on transparency and its commitment to thorough disclosure is manifested in its extension of the environmental information reporting scope to cover all principal manufacturing sites, including nonconsolidated subsidiaries.

Many points concerning the Nippon Paper Group's value chain activities also bear special mention. Though it is now common practice for CSR management to include the value chain in the management scope, actual practice is often perfunctory and ineffective. In the case of the Nippon Paper Group, however, the company has continuously undertaken multidimensional assessments of both value-chain impacts of, and issues stemming from, its business activities. For the fiscal year under review, the company also examined connections between these business activities and SDGs. Regarding CSR procurement, a key tool for managing supply chain risk, the Nippon Paper Group collects information through surveys and interviews, but it also goes to great lengths to gather information through other means as well. For example, it uses stratified surveys and confirmation procedures to ensure it does not purchase illegally logged timber, and dispatches employees responsible for procurement to supplier locations to visually confirm that human and labor rights are being protected throughout the supply chain.

One reporting item of special interest for the fiscal year under review is the assessment of water supply risk related to the company's water intake. Until now, reporting on water management has focused mainly on water quality. Across the globe, however, the crux of the matter when it comes to water risk is the serious impacts industrial users of water can have on local water systems. Environmental management to reduce these impacts, therefore, is critically important. The Nippon Paper Group's disclosures on this matter, however, provide no insight on conditions at their overseas manufacturing sites, where the risks are greatest. This point bears improvement going forward. Another aspect of the 2017 report that stood out was the company's use of a 3D, integrated materiality assessment of impacts on stakeholders, sustainability, and business activities. This approach for presenting information is unique and deserves praise.

Looking to the future, two areas in which the company should improve its performance are employment of people with disabilities, a point I have previously cited, and accident-prevention for employees of affiliates and subcontractors. Regarding the former, in particular, the company's performance is below the legally mandated employment percentage and trending lower year by year. This is a concern especially in light of the phased raising of the legally mandated employment percentage set to begin in April 2018.

## Action in Response to Third-Party Comments

The Sustainability Report discusses the Nippon Paper Group's CSR initiatives. Sustainability Report 2017 presents SDGs that have great relevance for the Group in its value chain and it clearly shows how we remain cognizant of these SDGs as we pursue R&D from a medium-to-long-term perspective. It improves on prior reports by presenting information that is more extensive and clearly stated. This is achieved, for example, by including more extensive coverage of matters such as corporate governance and by using illustrations to explain processing of exhaust gas and wastewater. At the same time, the report has been slimmed down by relying on the Nippon Paper Group's website for disclosures of information including the guideline comparison table and detailed data section.

Professor Kozuma gave positive assessments of the propriety of our reporting boundaries, our value chain activities, CSR procurement initiatives, and other aspects of our CSR endeavors. We see this as resulting from the steady stream of improvements we have made over the years. At the same time, we clearly recognize that we must make additional efforts to improve our employment of people with disabilities – a point Professor Kozuma commented on last year, as well – and to prevent occupational accidents. The Nippon Paper Group is committed to meeting its corporate social responsibilities, so that we can coexist with society. We look forward to hearing your candid opinions and comments on this report.



**Kazufumi Yamasaki**  
Executive Vice  
President,  
Representative Director  
and General Manager of  
the CSR Division  
Nippon Paper Industries  
Co., Ltd.



## Nippon Paper Industries Co., Ltd.

Head Office: 4-6 Kandasurugadai, Chiyoda-ku, Tokyo 101-0062, Japan

Issued: December 2017

Previous issue: December 2016

Next issue: December 2018

Inquiries: CSR Department

Phone: +81-3-6665-1015 Fax: +81-3-6665-0309

Website: <http://www.nipponpapergroup.com/english/csr/>

### Cover Photograph



Blakiston's fish owl in a forest owned by Nippon Paper Industries Co., Ltd.  
Photo courtesy of the Wild Bird Society of Japan



The cost of the paper used in this report includes a portion of expenses for the use of timber discarded in forests following tree thinning.

#### The Paper Used in This Report

Covers: U-Lite Green 70 (PEFC), Base weight: 157 g/m<sup>2</sup>  
Text pages: U-Lite Green 70 (PEFC), Base weight: 104.7 g/m<sup>2</sup>



Waterless printing with vegetable oil ink.