



NIPPON PAPER GROUP

# Sustainability Report 2018





## Major Operating Companies and Production Sites (As of March 31, 2018)

### Consolidated Subsidiaries

#### Paper and Paperboard Business

Nippon Paper Papyrus 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., SUN OAK CO., LTD., Kitakami Paper Co., Ltd., Daishowa North America Corporation, Nippon Paper Industries USA Co., Ltd., Dyna Wave Holding Asia, Jujo Thermal Oy, and Siam Nippon Industrial Paper Co., Ltd.,

#### Daily-Life Products Business

Nippon Paper Crecia Co., Ltd., Nippon Dynawave Packaging Co., Nippon Seitai Corporation, Kyoei Seitai K.K., and FLOWRIC CO. LTD.

#### Energy Business

Nippon Paper Ishinomaki Energy Center 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., N&E Co., Ltd., Daishowa Uniboard Co., Ltd., Nanei Co., Ltd., Nichimoku Fancy Materials Co., Ltd., Amapá Florestal e Celulose S.A.\* (and 1 subsidiary), and Nippon Paper Resources Australia Pty Ltd.

\* Referred to as AMCEL in this report.

#### Other Businesses

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

### Group Companies

	Japan	North America	Australia	Asia	Europe	South America	Africa	Total
Consolidated subsidiaries	27	4	4	4	3	2	0	44
Non-consolidated subsidiaries	63	0	0	7	1	0	0	71
Affiliates	31	1	0	3	1	1	1	38
Equity-method affiliates	9	1	0	1	0	0	0	11

### Production Sites

● : Nippon Paper Industries Co., Ltd. ■ : Consolidated subsidiaries ▲ : Non-consolidated subsidiaries

#### Paper and Paperboard 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 Papyrus Co., Ltd.

- 15 Harada Mill
- 16 Suita Mill
- 17 Kochi Mill

##### ■ Kitakami Paper Co., Ltd.

- 18 Ichinoseki Mill

##### ■ Paper Australia Pty Ltd.

- 19 Maryvale Mill

##### ■ Jujo Thermal Oy

- 20 Kauttua Mill

##### ■ 21 Siam Nippon Industrial Paper Co., Ltd.

#### Daily-Life Products Business

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

- 1 Hokkaido Mill (Yufutsu)
- 2 Ishinomaki Mill
- 3 Higashimatsuyama Mill
- 4 Gotsu Mill
- 5 Iwakuni Mill

##### ■ Nippon Paper Crecia Co., Ltd.

- 6 Tokyo Mill
- 7 Kaisei Mill
- 8 Kyoto Mill
- 9 Koyo Mill

##### ▲ Nippon Paper Liquid Package Product Co., Ltd.<sup>1</sup>

- 10 Egawa Mill
- 11 Ishioka Mill
- 12 Miki Mill

##### ■ Nippon Seitai Corporation

- 13 Asahikawa Mill
- 14 Maebashi Mill
- 15 Saitama Mill
- 16 Niigata Mill
- 17 Kyoto Mill
- 18 Kyushu Mill

##### ■ Kyoei Seitai K.K.

- 19 Hokkaido Plant
- 20 Koganei Plant

##### ■ 21 Nippon Dynawave Packaging

##### ▲ Akita Jujo Chemicals Co., Ltd.

- 22 Head Office Plant

#### Energy Business

##### ● Nippon Paper Industries Co., Ltd.<sup>2</sup>

- 1 Kushiro Mill
- 2 Otake Mill
- 3 Yatsushiro Mill

##### ■ Nippon Paper Ishinomaki Energy Center Ltd.<sup>3</sup>

- 4 Ishinomaki Hibarino Power Plant

#### Wood Products and Construction Related Business

##### ■ Nippon Paper Lumber Co., Ltd.

- 1 N&E Co., Ltd.

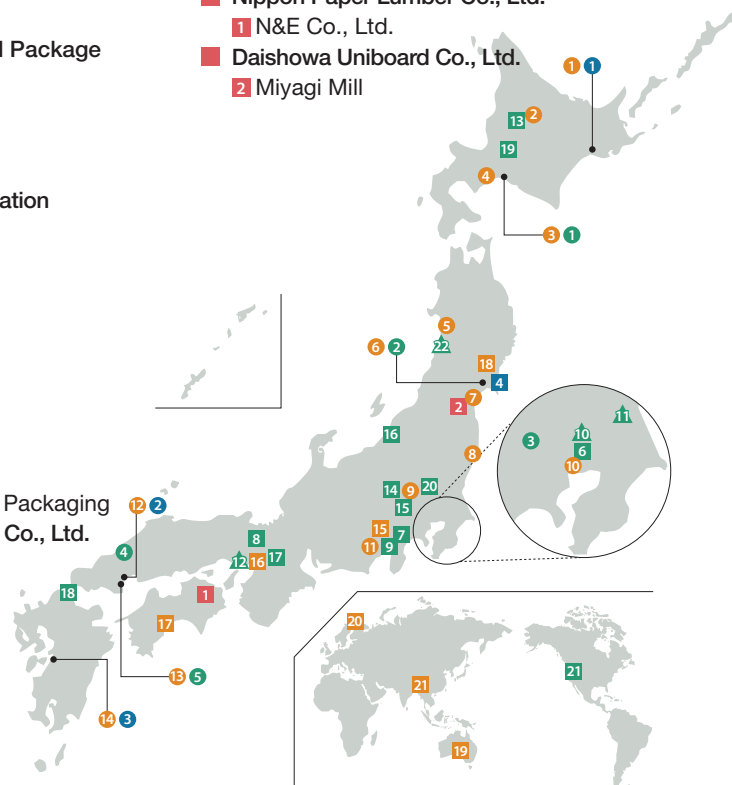
##### ■ Daishowa Uniboard Co., Ltd.

- 2 Miyagi Mill

1 Nippon Paper Liquid Package Product Co., Ltd. was established in October 2017, consolidating EGAWA PAPER-PAK CO., LTD.; MIKI PAPER-PAK CO., LTD.; and ISHIOKA KAKO CO., LTD. Production at SOKA PAPER-PAK CO., LTD. was suspended in July 2017.

2 Also sells excess electric power generated by individual mills.

3 No sales were recorded for fiscal 2017.



## 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 has been prepared in accordance with the GRI Standards: Core option.

### Period Covered

Fiscal 2017: April 1, 2017–March 31, 2018

Includes information from before April 1, 2017 and after March 31, 2018. 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, 2018 for Nippon Paper Industries Co., Ltd. and all 44 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 17 companies, including 2 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 95%.)

(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: Nippon Paper Liquid Package Product Co., Ltd. and Akita Jujo Chemicals Co., Ltd.

### Referenced Guidelines

- *Environmental Reporting Guidelines* (2018) of the Ministry of the Environment
- *Sustainability Reporting Standards* 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.

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# As a comprehensive biomass company shaping the future with trees, the Nippon Paper Group will contribute to the building of a sustainable society.

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

The Nippon Paper Group is a comprehensive biomass company that sustainably nurtures and manages forests and effectively uses and recycles their biomass resources, wasting nothing in the process, to pursue a wide range of businesses.

Trees sequester CO<sub>2</sub> from the atmosphere as they grow, and forests can be sustainable if they are properly managed. The use of renewable wood resources, therefore, helps to fight global warming and resource depletion. By sustainably managing domestic company-owned forests and overseas afforestation areas, the Nippon Paper Group is preserving ecosystems and biodiversity.

Under its slogan, “shaping the future with trees,” the Nippon Paper Group will use this sustainable business model to properly respond to customer needs, so that it can develop its businesses over the long term and continue to be a company that is indispensable to society.

### **We are reorganizing our paper business production structure and making capital investments in growth areas to reform our business portfolio for greater corporate value creation.**

Under our Fifth Medium-Term Business Plan, covering the period April 1, 2015 to March 31, 2018, we took steps to strengthen the profitability of existing businesses, expand in growth areas, and launch new businesses, all in pursuit of business structure transformation, one of the plan's themes. Though an unexpectedly large decline in domestic demand and sharply higher fuel prices greatly impacted our ability to strengthen the profitability of existing businesses, we achieved steady progress in sowing seeds for new businesses. In addition to implementing measures basically in line with plans, we started a production test facility and mass production facility for the cellulose nanofiber product CELLENPIA®; began sales of SHIELDPLUS®, a new packaging material with outstanding barrier properties; and finalized the decision to establish a demonstration plant for Minerpa®, a new functional material made of fine mineral particles bonded to wood pulp.

In fiscal 2018, we are beginning to implement our Sixth Medium-Term Business Plan, covering fiscal years 2018 to 2020. Initiatives under this new plan will be pursued under two themes: 1) Reorganize the production structure of the paper business and make maximum use of in-house facilities; and 2) Expand business in growth areas and commercialize new businesses early on. In the paper business, a total of 10 paper machines and coaters will be taken off-line to bring our supply capability in line with demand over the plan's three-year period. This reorganization of the production structure will help to restore profitability of the paper business, an objective we see as the most important under the Sixth Medium-Term Business Plan. At the same time, we will invest 107 billion yen in growth areas to further accelerate business expansion over the coming three years. Our aim is to restructure our business portfolio and create a profit structure that does not rely on the paper and paperboard businesses, so that we can generate profits stably, regardless of changes in the external environment.

### **Facing head-on the common human need to realize a sustainable society, we aim to make the work of creating such a society a starting point for business opportunities to enhance our corporate value.**

I believe that companies, as members of society, are responsible for the impacts of their business activities on the environment and society.

Accordingly, the Nippon Paper Group identifies areas where its value chain is highly likely to have positive or negative economic, environmental, or social impacts. Furthermore, we engage in dialog with stakeholders to determine what is expected or required of us and reflect that understanding - for example, in our medium-term environmental action plan - so that we can take steps to properly fulfill our responsibilities.

Nippon Paper Industries Co., Ltd. is a signatory to the United Nations Global Compact and is actively working to support its 10 principles on human rights, labor, environment, and anti-corruption. As a business manager, I recognize that business survival requires that the common human need to realize a sustainable society be faced head-on.





The Sustainable Development Goals\* (SDGs) adopted by the United Nations in 2015 constitute a code of conduct that is highly compatible with the Nippon Paper Group's businesses, which use tree and pulp biomass as key raw materials. Viewing social issues as business opportunities, we aim to contribute to the achievement of SDGs. Nippon Paper Industries Co., Ltd., for example, established its Paperising Promotion Office in August 2018. To "let paper do what it can do," the company has tasked this office with advancing the development of new products that will help to solve environmental problems modern society is facing, one example of which is the pollution of marine environments by disposable plastic products.

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

Group company personnel and the personnel of subcontractors.

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.

The Nippon Paper Group places great importance on maintaining dialogues with stakeholders and working in ways that promote the building of a sustainable society. We invite you to read this report and welcome your candid feedback on how we can improve in these endeavors.

\* Sustainable Development Goals (SDGs): Code of conduct consisting of 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.

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

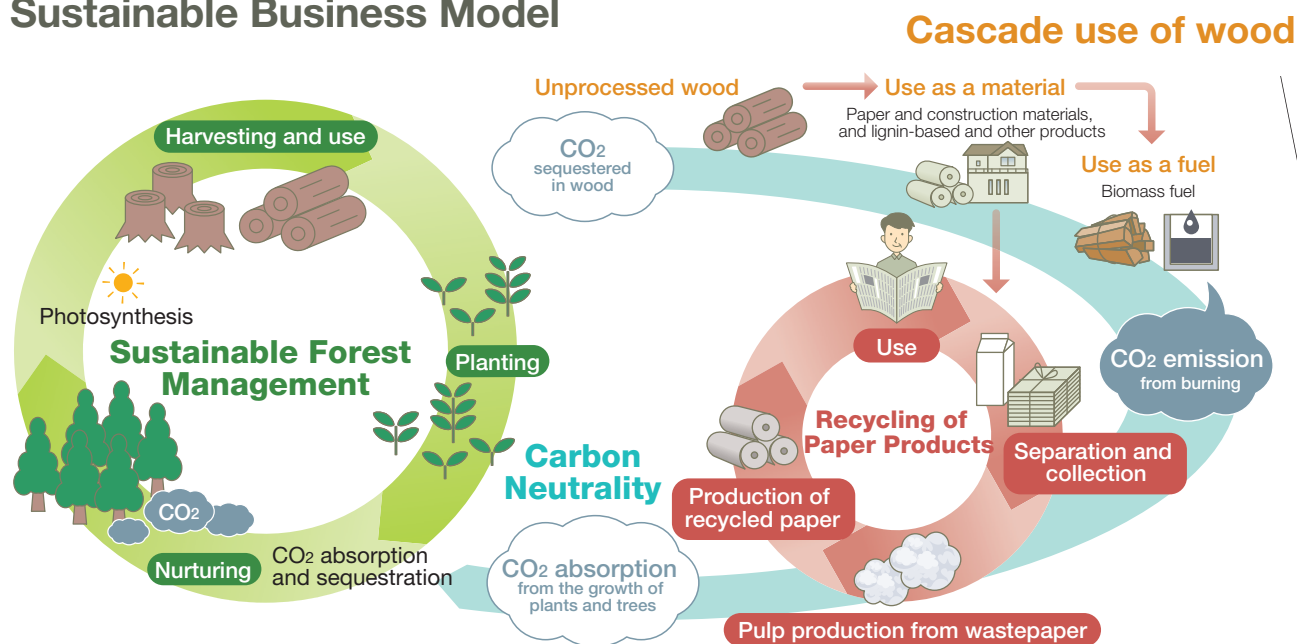
## Group Mission

Mission	Vision	Value
The Nippon Paper Group aims to contribute to better living and cultural progress everywhere it does business.	<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>

# The Sustainable Business Model and a Business Overview of a Comprehensive Biomass Company

The Nippon Paper Group is a comprehensive biomass company that, while sustainably managing forests, effectively uses every bit of the abundant biomass resources they produce. We provide products essential for daily life across the breadth of society and contribute to efforts to fight global warming, preserve biodiversity, and prevent resource depletion.

## Sustainable Business Model



### Sustainable Forest Management (P.28, 30)

In addition to preventing global warming and protecting watersheds, forests perform a wide variety of functions such as preserving biodiversity by providing shelter for diverse living creatures (P.40). After harvesting, steps such as tree planting are taken to regenerate forests and ensure that forests under our stewardship thrive indefinitely.

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

### Carbon Neutrality

(Preventing Global Warming through the Carbon Cycle)

Trees 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.

CO<sub>2</sub> sequestered in company-owned forests: **33 million tons**

### Recycling of Paper Products (P.39)

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.

Recycled paper utilization rate (domestic)

Paper	<b>35%</b>	Paperboard	<b>89%</b>
-------	------------	------------	------------

### Cascade use of wood (P.38)

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

Of the energy used by the Nippon Paper Group, approximately half is comprised of biomass fuels. The Group is also making advances in the development of biomass fuel, thereby helping to curb the use of non-renewable fossil fuels.



# Nippon Paper Group Business Overview

## Paper and Paperboard Business

### Business Description

Nippon Paper Group leads the domestic industry in production, sales volume, and quality. Efforts are underway to reorganize the production structure for the Paper Business, while developing overseas markets, especially in Asia and the Pacific Rim.

### Principal Customers

Newspaper, publishing, printing, and stationery companies; and public offices

#### Paper



Printing paper

#### Paperboard



Linerboard and corrugated medium

## Daily-Life Products Business

### Business Description

The Daily-Life Products Business consists of three business areas - Packaging, Household and Healthcare, and Chemicals. All three involve products intimately related to daily life and are positioned as growth areas. With endeavors such as acquisitions of liquid packaging board manufacturing and sales locations, this business is also moving forward with overseas initiatives.

### Principal Customers

Beverage manufacturers, major retailers, hospitals and nursing care facilities, businesses in general, and consumers

#### Household and Healthcare



Household paper products

#### Packaging



Beverage containers

#### Chemicals



Functional film

## Energy Business

### Business Description

The Energy Business applies our expertise in in-house power generation for paper mills and is positioned as a growth business. It is applying existing power generation facilities and expanding the supply of power from woody biomass. In addition, it is operating solar- and wind-power businesses.

### Principal Customers

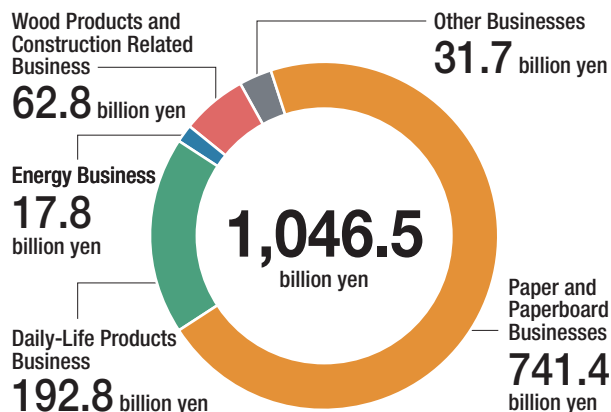
Electric utilities

#### Energy



The power generation facility at Ishinomaki Hibarino

### Fiscal 2017 Net sales share\*



\*Estimates based on re-organized segments formed in fiscal 2018.

## 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

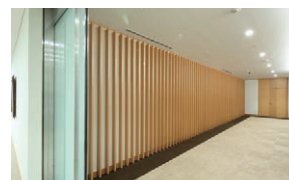
Construction materials, housing and construction companies, general consumers, and public offices

#### Housing and Construction



Lumber

#### Construction



Interior decoration materials

## Other Businesses

### Business Description

Included here are segments that 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

#### Sports & Leisure



Leisure Business

#### Logistics



Distribution Business

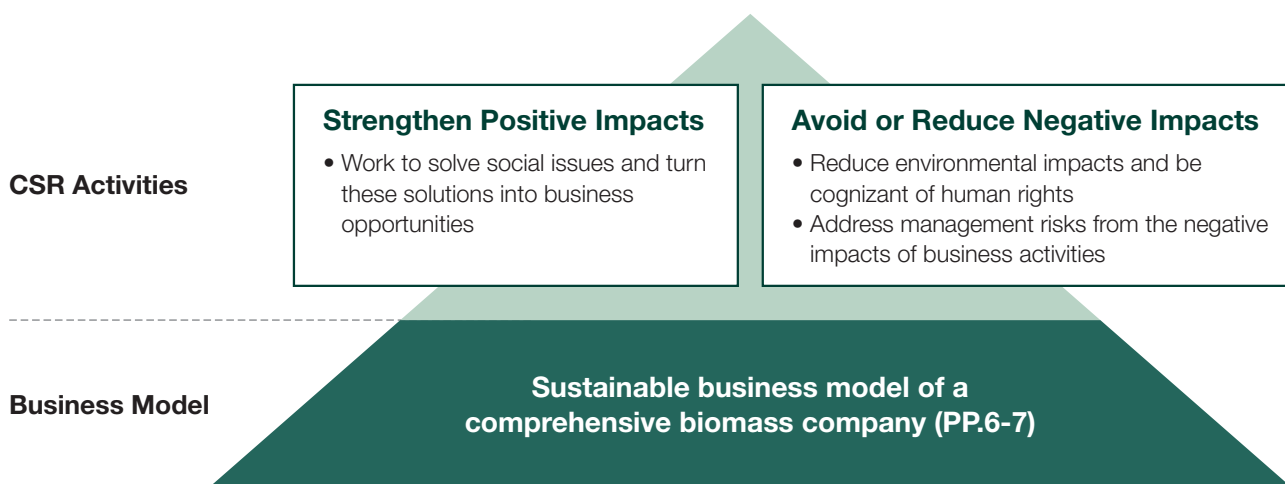
# CSR Activities and Enhancements in Corporate Value

With the advantage of the sustainable business model (PP.6-7) of a comprehensive biomass company, we are facing the demands of a sustainable society head on and turning them into business opportunities.

Our aim is to build a business portfolio that fulfills society's demands and will stably produce operating income of 50 billion yen a year.

## Relationship between CSR Activities and Enhancements in Corporate Value

### Helping to Build a Sustainable Society



The Nippon Paper Group aims to be a corporate group that continues to be indispensable to society. One thing we must do toward that end is to drive social sustainability through our business (P.5). Our business model, which involves the zero-waste use of renewable biomass resources, itself contributes to the sustainable development of society. In addition, we work to avoid or reduce the negative impacts our business activities can have on the environment and society. This is our responsibility as a member of society, and we recognize that shirking it entails risk to our own survival.

The Nippon Paper Group also strives to enhance its

positive impacts on the environment and society. We see business opportunities in the need to solve social issues and seize on them to enhance not only our value to society but also our economic value. Under our Sixth Medium-Term Business Plan, we aim to achieve operating income of 47 billion yen in fiscal 2020, the final year covered by the plan. In applying our strengths to grow a business portfolio that responds to society's demands, we will strive to develop products and materials capable of contributing to a sustainable society, and will work to make new businesses bottom-line contributors as quickly as possible.

## Sixth Medium-Term Business Plan (fiscal 2018-2020) Priorities and Objectives

Fiscal 2017 actual		Fiscal 2020 Targets
Net sales		Net sales
1,046.5 billion yen		1,115.0 billion yen
Operating income		Operating income
17.6 billion yen		47.0 billion yen
EBITDA		EBITDA
78.1 billion yen		110.0 billion yen
ROA		ROA
1.8%		3.8%

Reorganize production structure of paper business and make maximum utilization of in-house facilities	
Expand business in growth areas and commercialize new businesses early on	
Capital investment 230.0 billion yen (including M&A, etc.)	
Growth Areas	107.0 billion yen
Reorganization of production structure	13.0 billion yen
Existing businesses	22.0 billion yen
Maintenance and upgrade	88.0 billion yen



## Nippon Paper Group Initiatives and Businesses Examples that Can Strengthen Positive Impacts on the Environment and Society

### Promoting Paperising Solutions

Growing understanding of problems such as pollution of marine environments by disposable plastic products is fueling a rise in global demand for reusable products and products that are biodegradable. To respond to these needs, Nippon Paper Industries Co., Ltd. established its Paperising Promotion Office in August 2018. The Nippon Paper Group has a long history of supplying milk cartons and other beverage containers, paper cups, packaging paper, and other such paper-based packaging products for food, beverage, and other applications to a wide array of industries. Furthermore, through initiatives such as our November 2017 launch of SHIELDPLUS® (P.49), a new packaging material with outstanding barrier properties, we are moving forward with the development of products that help to solve environmental problems. Our slogan for these initiatives is to "let paper do what it can do."



SHIELDPLUS®

### Household and Healthcare Paper Products

The Poise® Hada Care Pad and the Hada Care Acty® series - cellulose nanofiber (CNF) products with outstanding deodorizing capacity - respond to the needs of a super-aged\* society. Furthermore, greater lengths of paper in individual toilet paper and paper towel rolls enhance ease-of-use for customers and help to lower environmental impacts by increasing logistics and storage efficiency.

\* According to the WHO, a "super-aged society" is one in which over 21% of the population is 65 or older. It is estimated that about 28% of Japan's population was 65 or older in 2017.



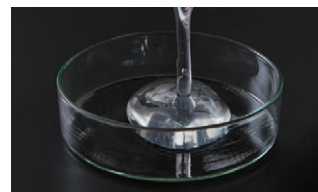
Poise® Hada Care Pad



SCOTTIE® Four-roll, triple-length "flowerpack"

### New Materials

The Nippon Paper Group can help to build a sustainable society by replacing plastics, metals, and other depletable resources with renewable biomass resources. CELLENPIA®, a CNF product, has entered the development and commercialization stages, and we are now focusing on developing and gaining orders for products that will meet demand for resin, plastic, and other industrial material substitutes. For Minerpa® (P.49), we are investigating applications that can make use of its excellent deodorizing, antibacterial, and flame-resistant properties with an eye toward early commercialization.



CELLENPIA® cellulose nanofiber

### Energy

We are helping to curb CO<sub>2</sub> emissions by stably supplying renewable energy through wind power, biomass power generation, and other power-generating technologies we have developed over many long years in our paper manufacturing process.



Otake Mill's solar power generation facility



Akita wind power generation facility

### Operating Income by Segment

(Hundreds of million yen)

		Fiscal 2017 actual	Fiscal 2020 target
<b>Paper and paperboard businesses</b>		<b>-55</b>	<b>140</b>
Growth areas	Daily-Life Products Business (Packaging, healthcare, and chemicals)	119	180
	Energy business	39	75
Wood products and construction related business		45	45
Other businesses		28	30
Daily-Life Products Business – Other businesses subtotal		231	330
<b>Total</b>		<b>176</b>	<b>470</b>

# 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 12).

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 6-7) 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.

### Addressing Social Issues in Our Value Chain

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

Economic, Environmental, and Social Impacts

Positive 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.

Negative Impacts

### Goal 13 Climate Change Initiatives

Help to reduce the loss of forests by strictly practicing proper, legal procurement. Strive to rein in CO2 emissions in all business activities.

Materiality

Social Issues	ISO 26000 Core Subjects	Pages in Sustainability Report 2017	Raw Material Procurement
Management Responsibility	Organizational Governance, Fair Operating Practices	PP.13-22	←
Forest Management, Raw Material Procurement, and Environmental Responsibility	The Environment	PP.23-42	<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.43-50	←
Human Rights, Employment and Labor Responsibility	Human Rights, Labor Practices	PP.51-60	<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.61-64	<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 **2 7 9 12 14** **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.



**Initiatives in Our Value Chain**

**Production**

**Shipping**

**Sales and Usage**

**Separation, Collection, Recycling, and Disposal**

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

**Climate change initiatives**

- 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)

- The stable supply of products
- Ensuring quality and safety

- **Enhancement of product safety**
- **Enhancement of product value**
- 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, **Creation of a vigorous organization**

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 10-11)

ISO 26000 Core Subjects	Materiality	Scope of External Impacts	Indicators
Organizational Governance, Fair Operating Practices (Management Responsibility)	• <b>Dialogue with stakeholders</b>	Society	P.13
The Environment (Forest Management, Raw Material Procurement, and Environmental Responsibility)	• <b>Sustainable procurement of raw materials</b> • <b>Climate change initiatives</b> • <b>Reduction of environmental impacts</b> • <b>Preserving biodiversity</b>	Production sites, people living near company-owned forests, and suppliers	P.23 P.31
Consumer Issues (Responsibility to Customers)	• <b>Enhancement of product safety</b> • <b>Enhancement of product value</b>	Customers	P.43
Human Rights, Labor Practices (Human Rights, Employment and Labor Responsibility)	• <b>Occupational safety and health</b> • <b>Creation of a vigorous organization</b>	Subcontractors, suppliers	P.51
Community Involvement and Development (Responsibility to Communities)	• <b>Coexistence with local communities and society at large</b>	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 of sustainable forests promotes preservation of biodiversity and helps to fight global warming. And use of wood resources increases the amount CO<sub>2</sub> sequestered throughout society and helps to prevent resource depletion.

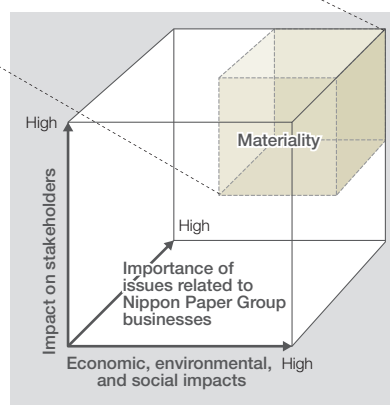
Creating new products and expanding our activities as a comprehensive biomass company, we manage and operate expansive forests and large-scale production sites.

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.

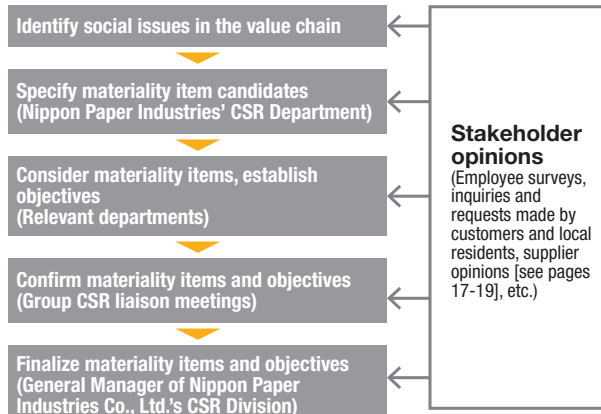
Moreover, the opinions of our stakeholders serve as valuable opportunities to grasp issues that are important for coexisting and growing with society in a sustainable way.

Therefore, the materiality items given above are of particular importance among our initiatives addressing social issues in our value chain (see pages 10-11).

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.

Financial and Management Results Briefing

Indicators	Key Objectives	Performance (fiscal 2017)
<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 159 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 (21 chip suppliers, 19 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 31 whistleblower reports in fiscal 2017
<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 26 risk communication meetings

## Corporate Governance and Information Disclosure

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# 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

<https://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

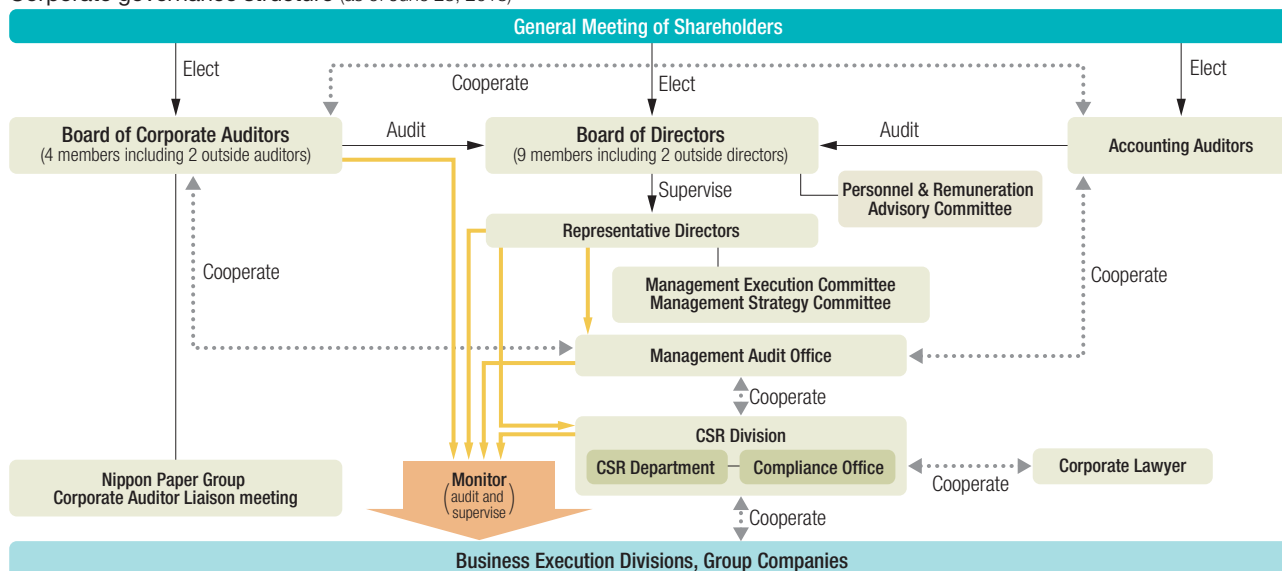
The Company's Board of Directors is comprised of seven internal directors and two outside directors, for a total of nine directors, as of June 28, 2018. By combining internal directors with outstanding track records and management capabilities in the operations they oversee, and outside directors with 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 discuss matters for which the president has decision-making authority, and other important management 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.

As of June 28, 2018, Nippon Paper Industries Co., Ltd. has nine male directors, three male statutory auditors, and one female statutory auditor. All of the directors and statutory auditors are over 50 years old.

#### Corporate governance structure (as of June 28, 2018)



### ● Status of the President and Representative Director Post-Retirement

Nippon Paper Industries Co., Ltd. does not have a senior advisor system. The company has a corporate advisor system, but no former President and Representative Director is functioning as a corporate advisor, as of June 28, 2018.



#### Corporate Governance Report

<https://www.nipponpapergroup.com/english/ir/ecgreport2018.pdf>

### ■ 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.

#### Corporate Governance Policy (excerpt)

##### Article 8 (Policy for deciding compensation, etc. of directors and statutory auditors)

1. For directors, the Company shall set guidelines for purchasing and holding treasury shares in order to give them an incentive to increase shareholder value by having management conscious of the need to increase medium- to long-term corporate value. Directors shall, based on the said guidelines, apply a certain amount of their monthly compensation to contribute to the Directors' Shareholding Association for acquiring treasury shares. The shares so acquired shall be held throughout their tenure of office.
2. Regarding a director's monthly compensation, his/her base compensation shall be decided according to his/her job responsibilities in the Company. Of that, 70% shall be fixed and the remaining 30% shall be paid with increases or decreases based on the preceding business year's business performance. Meanwhile, they shall receive neither bonuses nor directors' retirement benefits.
3. Regarding outside directors and outside statutory auditors, monthly compensation shall be fixed. Meanwhile, in view of their job responsibilities, contributions to the Directors' Shareholding Association shall be left to their discretion.

#### Fiscal 2017 total remuneration<sup>1</sup> for directors and statutory auditors

Officer class	Number of officers	Total remuneration for all members of the officer class
Directors	10 <sup>2</sup>	¥360 million per year
Statutory auditors	4	¥56 million per year

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

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

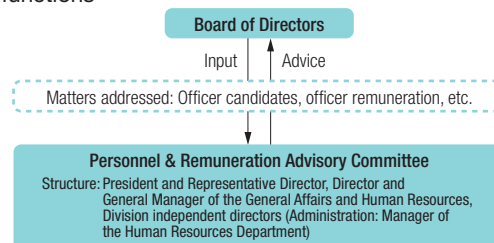
### ■ Personnel & Remuneration Advisory Committee

#### 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 statutory 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.



# Corporate Governance and Information Disclosure

## ● Overview of Fiscal 2017 Analysis and Evaluation Results

### Current Status

Based on the results of an analysis conducted from five perspectives - structure of the Board of Directors, matters brought before the Board of Directors, operation of the Board of Directors, training of directors and statutory auditors, and provision of information and systems supporting external officers - efforts undertaken in accord with the individual principles of the Corporate Governance Code continue to move forward and are appropriate on the whole.

Regarding the training of directors and statutory auditors, in particular, a point cited for improvement in fiscal 2017, we have improved conditions, for example, by beginning to arrange external seminars in fiscal 2017. These seminars supplement the internal seminars we have been conducting annually for officers since fiscal 2015.

Regarding the structure of the Board of Directors, we will continue to consider diversity and other matters as medium-term issues.

### Points for Improvement

In fiscal 2018, we will focus on improving reporting to the Board of Directors. In April 2016, we revised the Rules for the Board of Directors to include matters such as progress in implementing the new Medium-Term Business Plan, operational status of the internal control system, and examination of equities held for business relationship purposes to the Board of Directors meeting agenda. Regarding the review of performance reports, the main agenda item for Board of Directors meetings, we aim to improve information presentation and reporting methods to improve conditions under which the Board of Directors performs its monitoring function.

## ■ 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, 2018.

## ■ Position on Information Disclosure

### Enhancing management transparency through active information disclosure

The Nippon Paper Group strives to enhance the soundness and transparency of its management by disclosing company information in accordance with our Action Charter (see page 20). 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

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

### Comment

**I aim to help the company grow sustainably and enhance its corporate value.**  
Makoto Fujioka, Outside Director, Nippon Paper Industries Co., Ltd.

I think the purpose of corporate governance is to enable a company to grow sustainably and enhance its corporate value over the medium-to-long term through highly transparent, fair management. To grow sustainably, it is also important for companies to contribute to the resolution of global environmental and social issues through their business activities.

Responding to recent growth and social demands, the company has steadily strengthened and improved its governance system. Going forward, I aim to draw on my experience and knowledge in the areas of industrial policy and company management, and on my international experience, to oversee and provide advice on the company's management from an independent, objective perspective as an external director.



# 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 2017 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 2017

Operating results and management briefings	1 time
Operating results briefings (Teleconference)	3 times
Individual meetings	159 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 Creia Co., Ltd.'s Kyoto Mill in fiscal 2017 attracted considerable praise from the institutional investors and analysts they were held for.

#### ● 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 2018, 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 2015	March 2016	March 2017	March 2018
Interim dividend	20	30	30	30
Period-end dividend	30	30	30	30

#### Contact points for dialogue with stakeholders

Stakeholder	Major point of contact	Means of communication
Employees and others (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.
	Public relations sections	Press releases, interviews, etc.
Business partners (suppliers, subcontractors, 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

## Dialog with a Customer

### Enhancement of Product Value

Representatives of Nippon Paper Group's Healthcare Products Business paid a visit to Nagatoroen, an intensive care home for the elderly. Nagatoroen uses the Hada Care Acty® series of adult diapers, which employ high-performance deodorizing sheets that are the world's first to use functional cellulose nanofiber. We asked Facility Manager Fumio Nomura, and Care Providers Hiroshi Tomida and Hatsue Iijima, about the problems of an aging society in Japan, the role of intensive care homes for the elderly, and their thoughts on the Hada Care Acty® series of adult diapers.

(Interviewers: Yu Sakai of NP Trading Co., Ltd. and Gota Osawa of Nippon Paper Crecia Co., Ltd.)



**Fumio Nomura**  
Facility Manager



**Hiroshi Tomida**  
Care Provider



**Hatsue Iijima**  
Care Provider

#### Customer Overview

##### Company Name

Nagatoroen

##### Location

Nagatoro Town, Chichibu-gun, Saitama Prefecture

##### Main Business

Intensive care home for the elderly, short-stay care, adult day care, visiting care services, in-home care support

##### Connection to Nippon Paper Group

Began using the Hada Care Acty® series of adult diapers in 2016 and has continued to purchase them ever since

#### — How is the problem of an aging society in Japan seen from the perspective of an intensive care home for the elderly?

**Nomura** The biggest problem for us is a shortage of care workers. At our care facility, we are steadily working to prepare for what is referred to as the “2025 problem”<sup>1</sup>, but have not achieved the progress we need to. When the baby boom generation begins to use intensive care homes for the elderly, the personnel shortage will make it impossible to provide the necessary services. This is a critical problem for care facilities going forward.

<sup>1</sup> The baby boom generation, which numbers approximately 8 million, will pass the age of 75 in 2025 and join the ranks of the latter-stage elderly.

#### — Are you considering measures such as using foreign workers to resolve your labor shortage?

**Nomura** Some facilities are doing that, but our facility is not currently considering it. Care workers have to work with the elderly and, in my experience, there is a language barrier that seems to make communication too difficult for foreign workers. Our plan is to hire Japanese care workers who live nearby, to the extent possible.

#### — Could you please tell us about your initiatives for coexisting with the local community?

**Nomura** As an initiative for the benefit of the local community, we began in April to operate the Lunch Café for local residents 65 or older. The Lunch Café builds on the concept of the Orange Café, which are venues that are

operated by and for people with dementia and their families as places to have tea and get to know one another. At the Lunch Café, we offer the same food we prepare on a daily basis for our ordinary needs. We envision that the café will attract mostly elderly people who are still capable of living independently, but we also welcome people who require assistance in their daily lives. Our philosophy is to be a facility that is open to the local community.

#### — What kind of services does your facility perform? What kinds of care does it provide?

**Nomura** At this time, an intensive care home for the elderly can, in principle, admit only people with a nursing care level<sup>2</sup> of 3 or higher, so for most of our residents this will be their last home. We strive to provide support that allows these residents to live out their days in ease and with as much freedom in lifestyle as possible. But, of course, the amount of time spent on meals, attending to bathroom needs, changing diapers, etc. is significant.

**Tomida** I want to spend time with the residents and help them to get the most enjoyment out of their recreation activities. But we have many residents who have been assigned high nursing care levels, so it is unfortunate, but the number of people I can be with is limited. So it is within those circumstances that I want to provide care that alleviates distress and gives residents a sense of security that allows them to live as they want, to the extent possible.

**Iijima** Every Sunday, we hold events in which, for example,



residents participate in crafts or volunteers join us for activities. And every month, we announce the names of everyone with a birthday during that month and hold a birthday party. Sunday is the only day when there is no bathing assistance, so lunch is served about 30 minutes early, the staff finish their work early, and we all enjoy an hour or hour-and-a-half of fun from about 1:30 PM or so.

<sup>2</sup> When a person is to receive care services, their need level is assessed. There are five nursing care levels assigned numbers 1 to 5. "Nursing care level 3" describes a person who is unable to stand up and walk on their own and who requires nearly comprehensive care assistance for bathroom needs, bathing, dressing, and other daily activities.

#### — What are the most fulfilling aspects of your work?

**Iijima** I like elderly people a lot. Among the people I care for are some who cannot communicate verbally, but if I say something to them, they always do something to let me know they heard me. Even if they cannot speak, if I see a little smile, for example, I know they heard me and the moment I see that smile I feel fortunate to be doing the work I'm doing. Also, there are people who can speak and, though it seems only natural, when a resident says, "Thank you," I feel extremely happy.

**Tomida** I feel a great deal of fulfillment when I'm taking care of someone and they do something that tells me they feel secure and content. Of course, there are residents who can say, "Thank you," for something I've done for them, but it also makes me especially happy when a resident who cannot speak acknowledges my effort with a smile.

#### — Would you please let us know your opinions about the Hada Care Acty® series of adult diapers?

**Iijima** I'm very satisfied. For example, after we change the diapers, we put all the used ones in a single bag before disposing of them. In the past, the bag gave off a horrendous smell, even if it was sealed, and we had to use a deodorizing spray to deal with the situation. With the Hada Care Acty® series, odor is not an issue. I can really tell that it has very good deodorizing performance. Also, with previous products, diaper rash was a terrible problem, but now I hear no complaints. The Hada Care Acty® series has reduced the number of times we have to change diapers for most of the residents who use them, and the residents are more comfortable, partly because they are able to sleep longer. One other thing I'm pleased with is that the tapes that are used to secure the diapers are long and stay on very well.

**Tomida** The place where we change diapers does have a bit of odor, as you might expect, but outside of that space the odor has almost completely disappeared.

**Nomura** Our facility has two floors; the second floor is where we provide care for residents. Before we started to use the Hada Care Acty® series, I would sometimes hear from employees on the first floor that there was a strong

odor of urine from the second floor, but now I don't hear those comments anymore. And I agree; urine and fecal odors are no longer a problem.

#### — What are your opinions about our support system?

**Iijima** I was very thankful for the class on how to put diapers on another person, choose pads, etc. Even among those of us who have been doing this for a while, there were some who were not putting diapers on the right way. Diligently studying how to put the diapers on makes it possible to easily do it correctly and makes the residents more comfortable. I've heard that these classes will be held regularly and I'm very thankful for that.

**Nomura** Your sales representatives definitely visit us more often than representatives of other companies do, and I'll be very thankful to have that service continue.

#### — Please tell us what role you would like the Nippon Paper Group to play going forward.

**Nomura** Not just about your company's products, but in general, the switch from cloth diapers to paper diapers has reduced total costs. The residents who use them have no complaints, and I think paper diapers are good. When I came to this facility six years ago, it was still using cloth diapers. Paper diapers were already in wide use, but there were still some, particularly elderly people, who preferred cloth diapers. Where we are today is a result of the efforts of all of the paper diaper manufacturers. The Nippon Paper Group is involved in various businesses, but I would like to see it devote even greater attention to paper diapers. I would like to see even more efforts devoted not only to deodorizing performance but also areas such as absorbency and the comfort of wearers. Research and other efforts to lower your costs would also make me happy. I'm anxious to see what you can do.



Right side, front to back: Facility Manager Fumio Nomura, and Care Providers Hiroshi Tomida and Hatsue Iijima  
Left side, front to back: Yu Sakai, Gota Osawa

# 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 2018, the Nippon Paper Group conducted a survey to gather input from employees, as stakeholders, on matters of CSR Materiality (see page 12). We considered and identified materiality items for fiscal 2018 in light of factors such as impacts on outside stakeholders.

#### 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



## 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 and organizations, and contribute to various activities together with these partners.



#### Principal organization memberships

[https://www.nipponpapergroup.com/english/csr/2018\\_DATA\\_SECTION\\_E.pdf](https://www.nipponpapergroup.com/english/csr/2018_DATA_SECTION_E.pdf)

#### 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/>

# 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

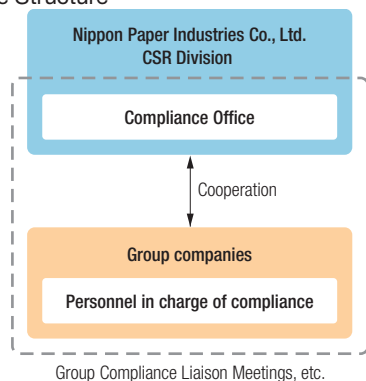
## Compliance Structure

### 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.

#### Compliance Structure



### 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 other approaches and is tailored to the specific needs of production sites and sales offices. In fiscal 2017, 530 people participated in this training. 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.



Compliance training

## Group Internal Whistleblower System

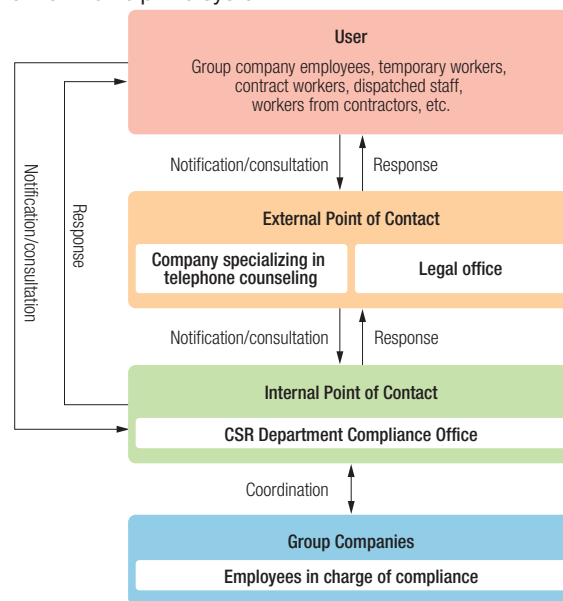
### Encouraging reporting via a help line on activity in conflict with compliance

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 Nippon Paper Industries Co., Ltd.'s 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 2014	Fiscal 2015	Fiscal 2016	Fiscal 2017
26	19	11	31

#### Flow of the help line system





# Compliance

## 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.

## 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 304 employees attended the 12 programs in fiscal 2017.

## Prevention of Bribery of Public Officials and Promotion of Compliance with Competition Laws

### Strengthening the Risk Management System in Line with the Group's Basic Policy on Prevention of Bribery of Public Officials and Basic Policy on Compliance with Competition Laws

Nippon Paper Industries Co., Ltd. set forth the Group's Basic Policy on Prevention of Bribery of Public Officials and Basic Policy on Compliance with Competition Laws in November 2017.

When Nippon Paper Industries Co., Ltd. established the Nippon Paper Group Action Charter (P.20) and Nippon Paper Codes of Conduct in April 2004, it included clear pronouncements on preventing bribery of public officials and promoting compliance with competition laws in the sections that address the conduct of its business in a fair, transparent and liberal manner. It has also included fairness

as a key value in its Group Mission. Based on this attitude and these pronouncements, the Nippon Paper Group has until now taken a top-down approach to preventing bribery and promoting compliance with competition laws.

In recent years, however, countries throughout the world have quickly enhanced regulations in these areas, and authorities have actively exposed violations.

As a result, a growing number of Japanese companies doing business overseas have been cited and sanctioned. The Nippon Paper Group, therefore, has significantly stepped up its efforts to thoroughly comply with the laws and regulations of the countries where it does business. Going forward, we will strive to strengthen our risk management system in line with the Group's Basic Policy on Prevention of Bribery of Public Officials and Basic Policy on Compliance with Competition Laws.



#### Nippon Paper Codes of Conduct

<https://www.nipponpapergroup.com/english/about/charter/>

#### Essentials of the Nippon Paper Group's Basic Policy on Prevention of Bribery of Public Officials

- The basic policy prohibits bribery, requires compliance with laws and regulations, and calls for education on these topics. Given that the Group conducts business globally, the basic policy unequivocally requires compliance with laws and regulations not only in Japan but in all countries and regions where the Nippon Paper Group does business.
- In the interest of public accountability, record-keeping is required even for outlays that are beyond potential association with an act of bribery.



#### Nippon Paper Group's Basic Policy on Prevention of Bribery of Public Officials

[https://www.nipponpapergroup.com/english/about/Basic Policy on Prevention of Bribery\\_EN.pdf](https://www.nipponpapergroup.com/english/about/Basic Policy on Prevention of Bribery_EN.pdf)

#### Essentials of the Nippon Paper Group's Basic Policy on Compliance with Competition Laws

- The basic policy requires compliance with the laws and regulations of relevant countries and calls for education on compliance with competition laws. Based on the assumption that international transactions will be engaged in as a matter of the Group's global business development, the basic policy unequivocally requires compliance with competition laws not only in Japan but in all countries and regions where the Nippon Paper Group does business.
- The basic policy includes a list of typical competition law violations as concrete examples of prohibited activities.



#### Nippon Paper Group's Basic Policy on Compliance with Competition Laws

[https://www.nipponpapergroup.com/english/about/Basic Policy on Compliance with Competition Laws\\_EN.pdf](https://www.nipponpapergroup.com/english/about/Basic Policy on Compliance with Competition Laws_EN.pdf)

# Forest Management and Raw Material Procurement Responsibility



BTP (Australia) afforested area

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

In addition, we preserve biodiversity through sustainable forest management. Because forests act to sequester CO<sub>2</sub>, our use of wood resources actually contributes to the fight against global warming.

Indicators	Key Objectives	Performance (fiscal 2017)
<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 systems	100% of wood used as raw material for paper	100%
Conduct survey-based audits of overseas chip and pulp suppliers	100% of chip and pulp suppliers	100% (Overseas chip suppliers: 21; domestic and overseas pulp suppliers: 19)
Promote use of domestic timber	Maintain a domestic timber utilization rate that exceeds the wood self-sufficiency rate	Achieved a domestic timber utilization rate that exceeds the wood self-sufficiency rate

## Policy and Management

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# 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

### Focusing on Supply Chain Management in Procuring Raw Materials

The Nippon Paper Group established its Philosophy and Basic Policy Concerning Raw Materials Procurement in 2005. Based on this philosophy and basic policy, we use supply-chain management to practice sustainable raw material procurement that is both environmentally and socially conscious. Moreover, we promote dialogue with stakeholders as we strive to take our environmentally and socially conscious raw material procurement to greater levels of achievement.

## 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 preserved.
- 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

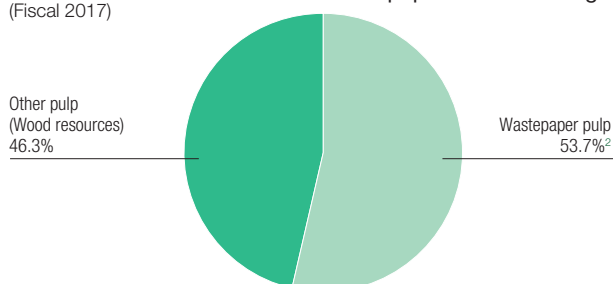
In addition to actively promoting the use of recycled paper, we procure wood resources from sustainably managed forests.

## 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. 53.7 percent of the raw materials are composed of recycled paper and the remaining 46.3% consists of such wood resources as woodchips.

Breakdown of main raw materials for paper manufacturing<sup>1</sup>  
(Fiscal 2017)



1 Consolidated Group companies in Japan  
2 Includes purchased wastepaper 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

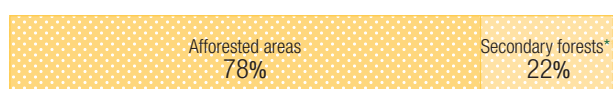
Most of the wood raw materials Nippon Paper Industries Co., Ltd. procures consist of woodchips, with pulp making up the rest. Over 60% of the woodchips we use come from overseas sources and less than 40% from domestic. To ensure stable overseas procurement, sources of woodchip imports are diversified among Australia, South America, and other parts of the world.

Geographic breakdown of wood raw materials (chips) procured by Nippon Paper Industries Co., Ltd. (FY2017)

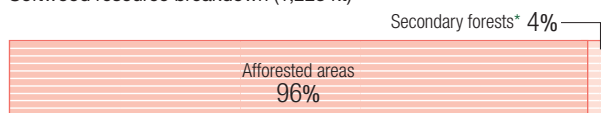
(Bone dry units, kt = kilotonnes)



Hardwood resource breakdown (3,142 kt)



Softwood resource breakdown (1,223 kt)



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

Tree species and countries of origin for overseas woodchips procured by Nippon Paper Industries Co., Ltd. (Fiscal 2017)

#### Hardwood

Country	Percentage	Species
Australia	29%	Eucalyptus
South Africa	23%	Acacia
Brazil	18%	Eucalyptus, Acacia
Vietnam	16%	Acacia
Chile	14%	Eucalyptus
Total	100%	

#### Softwood

Country	Percentage	Species
Australia	79%	Radiata pine
U.S.A.	13%	Douglas fir
Russia	8%	Yezo spruce
Total	100%	

# 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

In March 2018, Nippon Paper Industries Co., Ltd. completed its registrations as both a Type 1 and Type 2 Wood-related Business under the Act on Promotion of the

Distribution and Use of Legally Harvested Wood (the Clean Wood Act), which took effect in May 2017. In compliance with this law, the company confirms the legality of the covered items it handles.

## 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 preservation of biodiversity, allowing the Group to practice CSR procurement. This action plan also helps enhance traceability and the use of forest certifications 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>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. PEFC has adopted the FM and CoC certification systems*.  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. Mutual certification with PEFC was approved in June 2016.
<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 systems*.

#### \* 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 preservation 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
Basic Policy and Scheme	<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>
Confirmation of Legality and Traceability	<ul style="list-style-type: none"> <li>Confirmation based on a due-diligence system (DDS) for verifying legality under the Clean Wood Act</li> <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>* In fiscal 2017, 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.</p>
Confirmation of sustainability	<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>	
Independent Audits	<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 2017)

	Procurement in Japan	Procurement Overseas
Coverage and Results	<p>395 chip suppliers, 5 pulp suppliers (Implemented for all suppliers)</p> <p>Confirmation of conformance with the above action plan</p>	<p>21 chip suppliers, 14 pulp suppliers (Implemented for all suppliers)</p> <p>Confirmation of conformance with the above action plan</p>

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 shaping the future with trees, we recognize and work to manage the integrity of the multifaceted functions forests play within society.

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

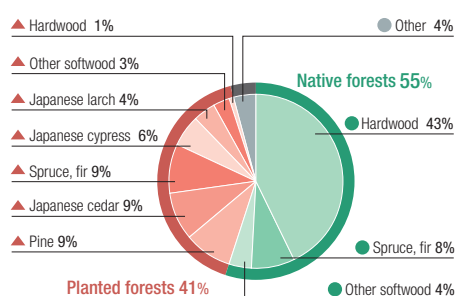
Nippon Paper Industries allocates approximately ¥0.7 billion each year to the maintenance and management of company-owned forests in Japan, which entails the clearing of undergrowth and thinning. As a company which has continued to benefit from and grow through forests and forest products, we are committed to balanced, sustainable forest management that allows forests to fulfill their multifaceted functions—including ones that benefit biodiversity preservation and watershed conservation—despite the fact that forests within Japan are not currently economically viable because of the stagnant price of domestic timber.



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

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

Nippon Paper Industries Co., Ltd. designates its domestic company-owned forests as either "commercial forest areas" for the production of wood materials or "environmental forest areas," where wood-material production is not conducted and the ecological, water catchment, and other environmental functions of forests are protected. The company appropriately manages both forest types for their respective purposes. Environmental forest areas make up 18,000 hectares, or about 20%, of the company's domestic company-owned forests and are home to a wide variety of plant and animal species.



## Invigorating Japan's Forest Industry

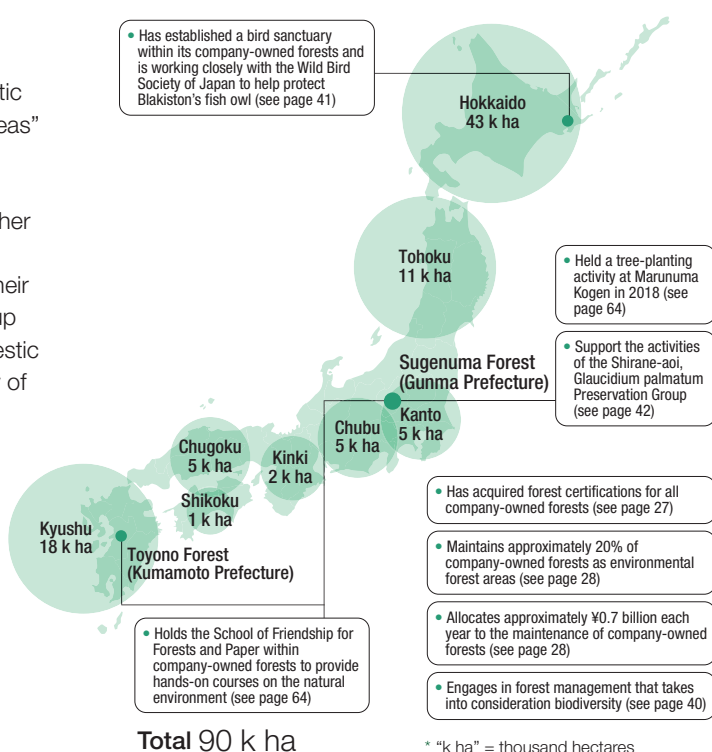
### Actively utilizing domestically produced timber while contributing to the prevention of forest deterioration

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

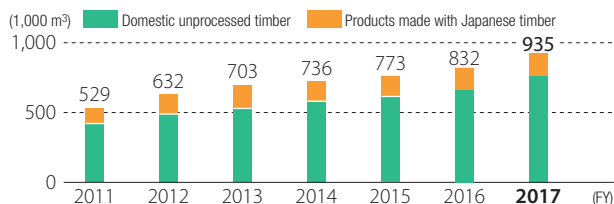
With its network for domestic timber collection in Japan, and its ability to handle a comprehensive lineup of products, Nippon Paper Lumber is actively developing its domestic timber business. In fiscal 2017, the company handled approximately 930 thousand m<sup>3</sup> of domestically produced materials, and ranked second in its field in Japan. To achieve its objective of 1 million m<sup>3</sup>, the company 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, 2018)





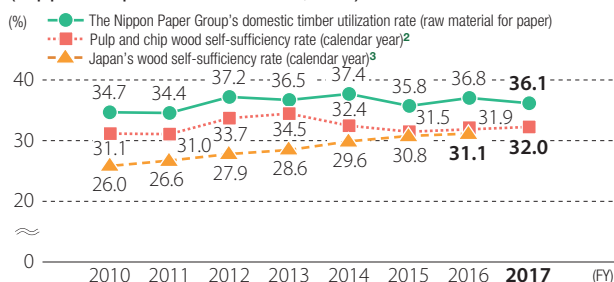
## Domestic timber sales results by product type (Nippon Paper Lumber Co., Ltd.)



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

Nippon Paper Industries Co., Ltd. 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 36.1% in fiscal 2017. We aim to carry on with our efforts to help invigorate Japan's forest industry by using Japanese timber whenever possible.

## Domestic timber utilization rate¹ (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 not by themselves but together with owners of neighboring forests to undertake work such as road building and logging, and measures to protect against damage by wildlife.

In 2011, Nippon Paper Industries Co. Ltd. signed an agreement with the Kyushu Regional Forest Office; Oji Forest & Products Co., Ltd.; Sumitomo Forestry Co., Ltd.; and others to promote forest management in the Itsuki region of Kyushu. Since then it has entered into additional agreements, which together with the one mentioned above, cover four areas of Kyushu and provide for public-private cooperation in forest management. Moreover, in 2016, the company entered into an agreement to promote forest management in the Mt. Fuji Seiroku area, on the west side of Mt. Fuji, together with the Shizuoka District Forest Office, a part of the Japanese Forestry Agency's Kanto Regional Forest Office; the Fuji Agriculture and Forestry Office of Shizuoka Prefecture; Fujinomiya City; and others. Under this agreement, the signers are creating a model project for demonstrating the benefits of centrally managing work across adjacent privately and publicly held forests.

## Case

### Producing Seedlings from Specified Japanese Cedar Mother Trees

In its overseas afforestation operations, Nippon Paper Industries Co., Ltd. developed technology for using cuttings to produce seedlings. It is now using that technology to produce seedlings of specified mother trees\* in Kyushu. Amid expectations of expanded regeneration logging and reforestation in areas throughout Japan, the Japanese government is actively promoting the use of environmentally friendly species. Having developed technology that enables the use of shoots as small as 10 cm in length as cuttings (Normally, shoots used for this are 40 cm.), the company is now able to propagate large numbers of cuttings from specified Japanese cedar mother trees in a short time. Currently, cuttings of these trees are being propagated in a large scion plantation located in Hitooshi City in Kumamoto Prefecture.



Seedlings grown from cuttings of specified Japanese cedar mother trees

Amid concerns of a nationwide shortage of seedlings, in general, Nippon Paper Industries is applying its proprietary production technology in locations across the country to produce seedlings that will help to stabilize supply and make forestry in Japan a growth industry.

#### \* Specified Japanese cedar mother trees:

Trees from species the Minister of Agriculture, Forestry and Fisheries has designated as being special for their rapid growth, outstanding CO<sub>2</sub> sequestration capability, and low pollen production.

## Case

### SGEC-certified Wood from the Kitayama Company-owned Forest Supplied for Use in Building the Mt. Fuji World Heritage Center, Shizuoka

In January 2018, Nippon Paper Industries Co., Ltd. (NPI) and Nippon Paper Lumber Co., Ltd. (NPL) provided lumber to the Exhibition Building Wooden Grid Project of the Mt. Fuji World Heritage Center, Shizuoka.

The exhibition building features latticework walls made completely of SGEC-certified Japanese cypress. Through local and cross-industrial cooperation, it became the first building in Japan to acquire the SGEC/PEFC CoC Project Certification.

NPI supplied lumber for the project from its Kitayama Forest, the first SGEC-certified forest in Japan. NPL managed the supply of lumber to the construction



Mt. Fuji World Heritage Center, Shizuoka

site and is the first SGEC CoC-certified company in Japan. Together, NPI and NPL successfully delivered SGEC-certified wood from the forest where it was sourced to the project site where it was used.

# 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. In accordance with our Philosophy and Basic Policy Concerning Raw Materials Procurement (see page 24), 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 40-41)
- 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 88 thousand hectares (as of December 31, 2017) 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 native waterside forests 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 December 31, 2017)

Total forest area:  
88 k ha

	Australia	Afforested area: 11 k ha
	Company Name	Background
	Nippon Paper Resources Australia Pty. Ltd. (NPR)	Wholly owned subsidiary of Nippon Paper Industries Co., Ltd. (Manages PTP and BTP (see the table below))
	Brazil	Afforested area: 53 k ha
	Company Name	Background
	Amapá Florestal e Celulose S.A. (AMCEL)	Wholly owned subsidiary of Nippon Paper Industries Co., Ltd.
	Chile	Afforested area: 13 k ha
	Company Name	Background
	Volterra S.A.	Joint-venture company established by Nippon Paper Industries Co., Ltd., Sumitomo Corporation and Mitsui O.S.K. Lines, Ltd.
	South Africa	Afforested area: 11 k ha
	Company Name	Background
	Forest Resources (Pty) Ltd. (Forestco)	Joint-venture company established by Nippon Paper Industries Co., Ltd., Sumitomo Corporation and BayFibre

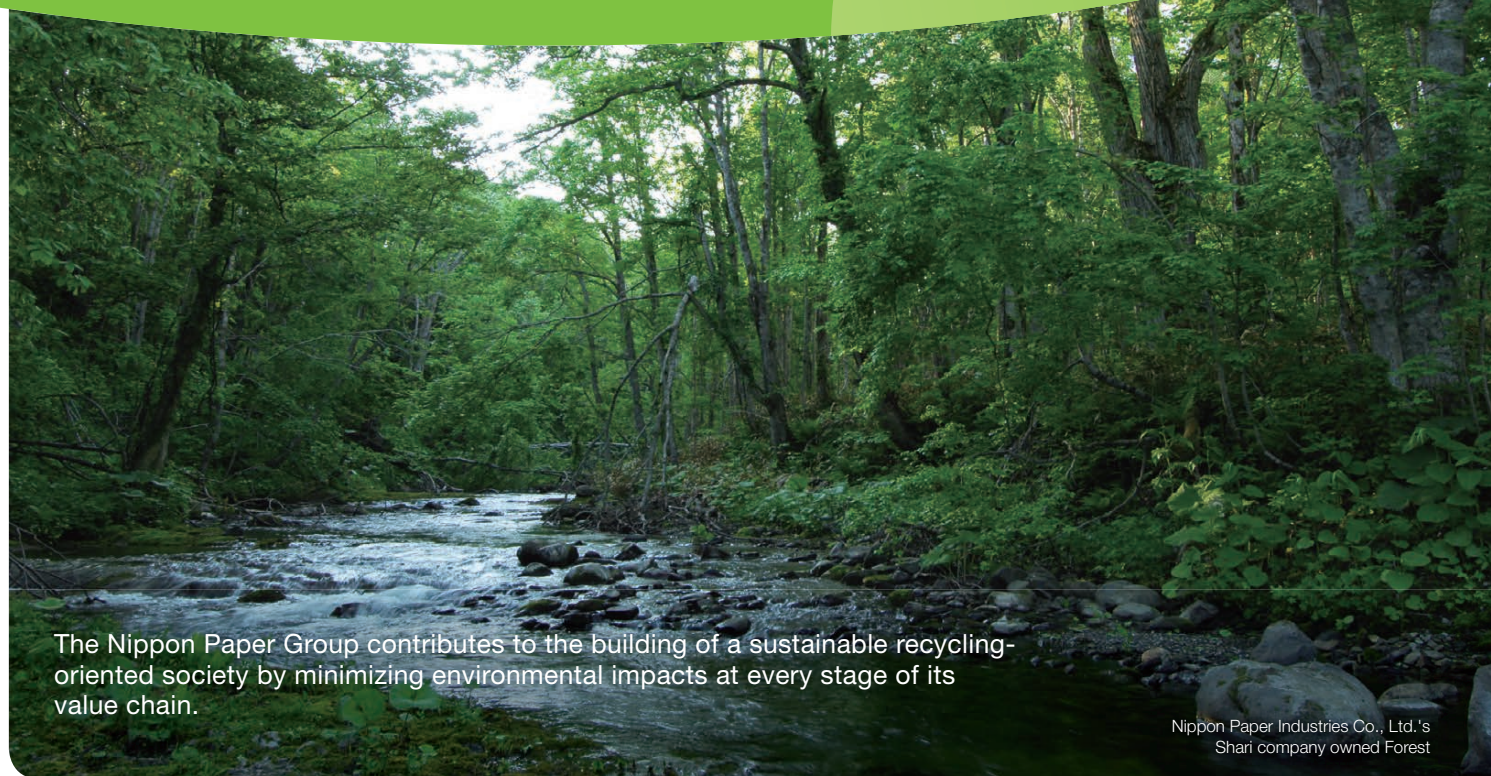
\* "k ha" = thousand hectares

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

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 contributes to the building of a sustainable recycling-oriented society by minimizing environmental impacts at every stage of its value chain.

Nippon Paper Industries Co., Ltd.'s  
Shari company owned Forest

Indicators	Key Objectives	Performance (fiscal 2017)
<b>Materiality Climate Change Initiatives</b>		
Greenhouse gas emissions	Reduce by 10% compared to the fiscal 2013 result, by fiscal 2020	Reduced 3.9%
<b>Materiality Reduction of Environmental Impacts</b>		
Waste recycling rate	Increase to 98% or higher by fiscal 2020	98.6%
<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 for Employees

## Reduction of Environmental Impacts ..... 35

Basic Stance / Effective Use of Water Resources / Controlling Chemical Substances / Preventing Soil Pollution / Preventing Noise and Vibration

## Climate Change Initiatives ..... 36

Helping to build a low-carbon society / Reducing greenhouse gas emissions / Fuel conversion initiatives / Initiatives for Saving Energy in Manufacturing Processes / Advancing Energy Efficiency in Logistics / Absorbing and Sequestering CO<sub>2</sub> through Proper Management of Company-Owned Forests

## Promoting Recycling ..... 39

Initiatives for Using Wastepaper / Recycling Industrial Waste

## Preserving Biodiversity ..... 40

Basic Stance / 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

### Reducing our environmental impacts

Acting in accordance with the Nippon Paper Group Environmental Charter, the Nippon Paper Group strives to reduce environmental impacts at every stage of its value chain by selecting equipment that is appropriate for its operations and by striving to maximize efficiency in its daily use.

#### 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

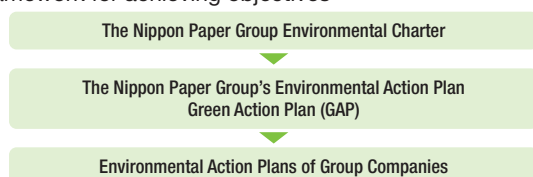
## Environmental Action Plan (Green Action Plan)

### 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.

Since fiscal 2016, we have been working to achieve GAP objectives for fiscal 2020 under the Environmental Action Plan - the Green Action Plan 2020.

#### Framework for achieving objectives

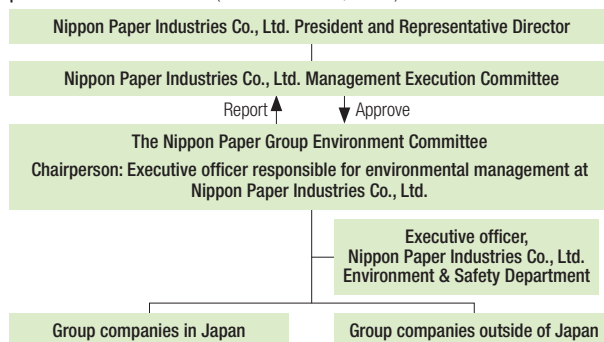


## Environmental Management Promotion Structure

### Building a group-wide structure

The Management Execution Committee (MEC) makes environmental strategy decisions for the Nippon Paper Group, and leads the Group's environmental activities. The Environmental Charter constitutes the environmental management principles of individual Group companies. The Nippon Paper Group Environmental Committee manages progress in implementing the charter's philosophy and policies under the Environmental Action Plan and reports to the MEC. The MEC makes decisions on new initiatives to lead the Group's environmental activities and promote ongoing improvement.

#### The Nippon Paper Group's environmental management promotion structure (as of March 31, 2018)



#### 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 simultaneous monitoring by the company's headquarters and production facilities ensures compliance with laws and regulations, and reduces 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 71% of the principal production sites of Nippon Paper Industries Co., Ltd. and its consolidated subsidiaries.



ISO 14001 renewal inspection



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/2018.3\\_ISO14001\\_e.pdf](http://www.nipponpapergroup.com/csr/2018.3_ISO14001_e.pdf)



## The Nippon Paper Group Environmental Action Plan (Green Action Plan 2020) - Fiscal 2017 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 3.9% compared to fiscal 2013 by taking steps such as updating facilities and moving forward with fuel conversion.	36
	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.	37
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 2017, total afforested areas came to 88 thousand hectares.	30
	Maintain forest certifications in all proprietary forests, both domestically and internationally.	• Currently maintaining FSC <sup>®</sup> , PEFC, and SGECC certification for 178 thousand hectares 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 94% with respect to the assessment of imported wood chip risk. In the assessment of purchased pulp risk, cleared all FSC <sup>®</sup> and PEFC rules.	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 36% of its needs.	25, 29
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 35% of pulp used to produce paper, and 89% of pulp used to produce paperboard.	39
	Increase the waste recycling rate to at least 98%. <sup>1</sup>	• Waste recycling rate came to 98.6% 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.	• Records on chemical substance types and amounts handled are being kept, and safety data sheets are being used, to properly manage chemical substances.	35
5. Development of eco-friendly technologies and products	Enhance the more sophisticated use of wood materials.	• Approved the establishment of a test production facility for Minerpa <sup>®</sup> , a functional material that is a composite of minerals and cellulose fiber, and offers excellent anti-odor, antibacterial, fire-resistance, and radiation shielding properties. The facility will be built at Nippon Paper Industries Co., Ltd.'s Fuji Mill, with startup planned for October 2018. • A production facility (annual capacity of 500 tonnes) for industrial TEMPO-oxidized CNF began operating in April 2017 at Nippon Paper Industries Co., Ltd.'s Ishinomaki Mill. A production facility (annual capacity of 10 tonnes) for CNF-reinforced resin began operating at the Fuji Mill in June 2017. A production facility (annual capacity of 30 tonnes) for CM-CNF for use as a food and cosmetics additive began operating at the Gotsu Mill in September 2017.	9, 49
	Develop equipment technology for facilitating a departure from reliance on fossil energy.	• At the Thai torrefied pellet test production facility, developed technology for manufacturing fuel for co-firing in a pulverized-coal-fired boiler.	37
	Reduce the environmental load through the provision of ecofriendly products and services.	• Nippon Paper Venti Wind Power Co., Ltd. began wind power business operations in January 2018 at a location adjacent to Nippon Paper Industries Co., Ltd.'s Akita Mill. Nippon Paper Ishinomaki Energy Center Ltd. began biomass mixed combustion power generation operations in March 2018. Through these and other initiatives, the Group is advancing renewable energy businesses that are environmentally friendly. • 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 disaster recovery construction in the Tohoku region of Japan.	7, 9, 39
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 local communities 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.	62, 64
7. Biodiversity commitments	Advance companywide biodiversity initiatives in accordance with the Basic Policy on the Preservation of Biodiversity.	• Signed and began implementing an agreement with the Kyushu Regional Forest Office of Japan's Forest Agency to eradicate invasive species and perform other forest conservation activities in a national forest on Iriomote Island.	63

<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

Environment performance data

[https://www.nipponpapergroup.com/csr/2018\\_DATA\\_SECTION\\_e.pdf](https://www.nipponpapergroup.com/csr/2018_DATA_SECTION_e.pdf)

## Policy and Management

### Strengthening Environmental Compliance

#### Taking action in a two-pronged approach

The Nippon Paper Group is strengthening its environmental compliance by preventing problems and establishing a framework that ensures all problems come to light.

In fiscal 2017, we were not penalized for any environmental regulation violations.

#### 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
  - Implementing environmental audits
  - Employing an environmental management system
  - Engaging in environmental communication and active information disclosure

#### ● For identifying relevant laws

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

#### ● Introducing equipment and measurement devices 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 2017 - the company took steps like installing liquid containment walls and measurement devices.

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

Nippon Paper Group ensures legal compliance through internal audits conducted at its various business locations and environmental audits by Nippon Paper Industry's head office Environment & Safety Department. These audits are based on guidelines issued by the Japanese government. In performing environmental audits, environmental management records are examined and on-site inspections are performed. 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 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 beforehand 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 and take other steps to encourage input from local residents.

When a complaint is received, we move swiftly to determine possible causes, and implement emergency and permanent solutions. We also explain to the person who lodged the complaint what happened and what we did to resolve the situation, so that they can be satisfied that we have responded appropriately.

No. of environment-related complaints in Japan (fiscal 2017)

Complaints	No.	Complaints	No.
Noise	6	Vibration	0
Dust and mist dispersal	3	Smoke	0
Odor	1	Other	1
Total 11			

### Environmental Education and Training for Employees

#### 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 also 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 2018, large numbers of employees participated in our e-learning programs, which focused on the Energy Saving Act\*.

\* Act on the Rationalizing Use of Energy

# Reduction of Environmental Impacts

Assessing environmental issues from multiple perspectives and reducing our environmental impacts

## Basic Stance

### Aiming to minimize environmental impacts

It is impossible to completely eliminate the environmental impacts of the business activities that provide the goods and services society requires. Nevertheless, we believe that companies can contribute to the building of a sustainable society by minimizing these impacts.

When products are made, energy and water are used, and waste; greenhouse gases; sulfur oxide (SO<sub>x</sub>), nitrogen oxide (NO<sub>x</sub>), and other air pollutants; and wastewater containing organic and other substances are generated. To minimize its environmental impacts, the Nippon Paper Group uses equipment and technologies to reduce the presence of these substances in its discharges to levels within standards set by various environmental laws and regulations.



#### Key Environmental Performance Indicators

[https://www.nipponpapergroup.com/english/csr/2018\\_DATA\\_SECTION\\_e.pdf](https://www.nipponpapergroup.com/english/csr/2018_DATA_SECTION_e.pdf)

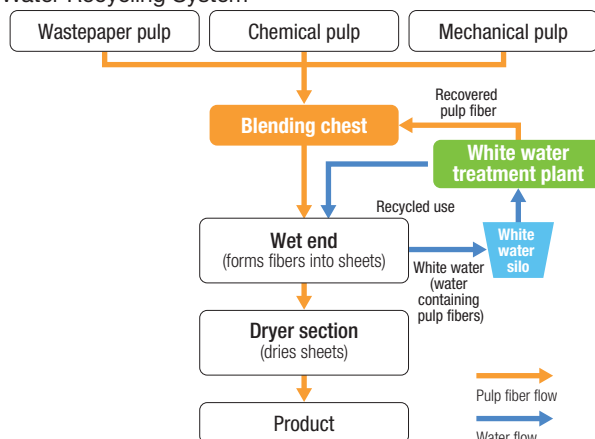
## Effective Use of Water Resources

### Effectively using water resources in manufacturing processes

The manufacturing of paper requires large volumes of water. One example is the wet end of the papermaking process, in which pulp fiber from woodchips and wastepaper is dispersed in water to eventually create thin sheets.

The Nippon Paper Group's papermaking process efficiently and effectively uses water resources, which are a form of natural capital. It does this by recovering "white water," which contains very fine pulp fibers from the wet end of the papermaking process, removing the fibers through a treatment process, and then sending the removed fibers to the pulp blending chest and returning the water to the wet end of the manufacturing process.

Water Recycling System



## Controlling Chemical Substances

### Working to properly manage chemical substances

The Nippon Paper Group examines the chemical substances it uses in its production processes in accordance with its Chemical Substance Management Guidelines. We do this in exercising risk management that monitors how much of these substances we use and how much we release into the environment.

We disclose information on our management, release, and transfer of PRTR\*-controlled substances to local stakeholders through environmental risk communications at each of our mills and other production sites. In fiscal 2017, the Nippon Paper Group released 166 tonnes of PRTR-controlled substances and transferred 77 tonnes.

\* The Pollutant Release and Transfer Register (PRTR) is a system for monitoring the movement of chemical substances posing risks to human health or ecosystems. Under the PRTR system, businesses track the amounts of these chemicals they have released into the environment or transferred to other business locations and report this information to government authorities.



#### Amounts of substances subject to the PRTR Law released and transferred

[https://www.nipponpapergroup.com/csr/2018.3\\_PRTR\\_e.pdf](https://www.nipponpapergroup.com/csr/2018.3_PRTR_e.pdf)

## Preventing Soil Pollution

### Fiscal 2017, 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 2017 was another year in which there were no instances of contaminated soil generated at Group companies.

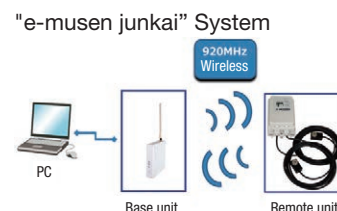
## Preventing Noise and Vibration

### Using IoT to Prevent Complaints

Pulp and paper mills use large machines incorporating numerous motors that generate noise and vibration.

Nippon Paper Industries Co., Ltd. and NIPPON PAPER UNITEC CO., LTD. have developed the "e-musen junkai" (e-wireless patrol) system, which uses wireless sensors to constantly monitor equipment for signs of abnormalities (see page 46). This system uses IoT technology to accumulate temperature and vibration acceleration data on equipment in operation. By analyzing trends in this data to uncover abnormalities

early on, this system helps to prevent serious equipment problems and avoid vibration, noise, and other complaints by local residents.



# Climate Change Initiatives

Reducing greenhouse gas emissions at every stage of our business activities

## Helping to build a low-carbon society

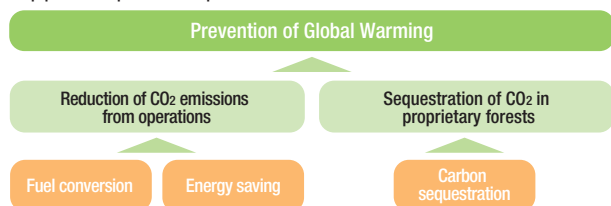
### Advancing effective initiatives well-suited for our businesses

#### Three core initiatives

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, is actively working to reduce emissions of greenhouse gases.

To achieve objectives in our Environmental Action Plan - Green Action Plan 2020 – (see page 33) we are (1) converting to non-fossil energy (see page 36), (2) conserving energy in each of our production and logistics processes (see page 37), and (3) managing proprietary forests properly to ensure CO<sub>2</sub> absorption/sequestration (see page 38), all of which will fight global warming across every stage of our business activities.

#### Nippon Paper Group environmental initiatives

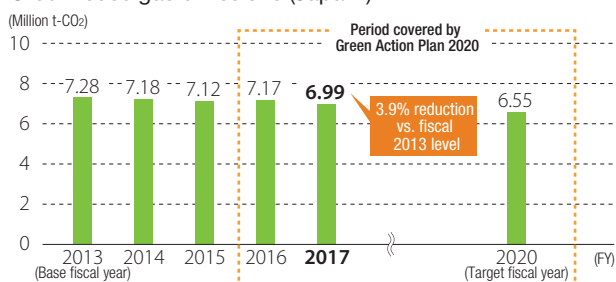


## Reducing greenhouse gas emissions

### Working to achieve objectives for reducing greenhouse gas emissions

In its Environmental Action Plan - 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 2017, we reduced our emissions 3.9% compared to the fiscal 2013 level through equipment consolidation/update and other energy-saving investments and further conversion to non-fossil energy.

#### Progress Report for the Green Action Plan 2020 Environmental Action Plan Greenhouse gas emissions (Japan\*)



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

## Fuel conversion initiatives

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

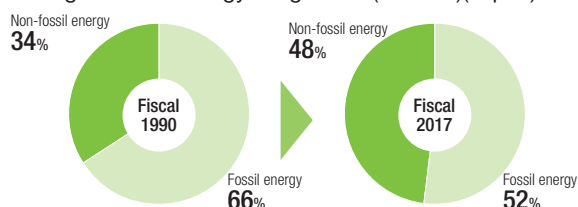
The Nippon Paper Group has installed two types of boilers—high-efficiency boilers and boilers capable of burning construction waste and other woody biomass fuels; used tires; RPF\*; and other waste fuels. Our ongoing conversion to these fuels allows us to reduce our usage of fossil fuels.

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 terms of heating value) in Japan fell to 52% in fiscal 2017, 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.

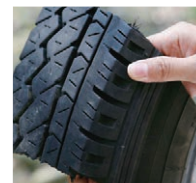
#### Change in fossil energy usage ratio (calories)(Japan)



Construction waste and other materials



RPF



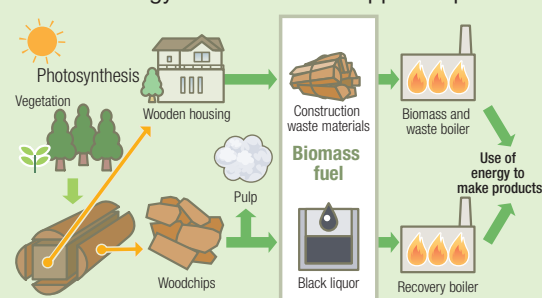
Used tires

### One of the leading corporate users of woody biomass energy in Japan

The Nippon Paper Group actively applies woody biomass fuel from sources such as black liquor and construction waste. The amount consumed accounts for up to 5%\* of non-fossil energy (excluding nuclear and hydroelectric power) used in Japan. The Nippon Paper Group is one of the leading corporate users of woody biomass energy in Japan.

\* In-house data prepared by Nippon Paper Industries Co., Ltd. using energy supply information (fiscal 2016 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> from the atmosphere, so when woody biomass fuel is burned there is no net impact on atmospheric CO<sub>2</sub> – woody biomass fuel, in other words, is carbon neutral.

Nippon Paper Industries Co., Ltd. is developing torrefaction technology as a method for making an alternative to coal as a fuel for thermal power generation. This approach uses woody biomass that is the product of the company's wealth of afforestation, forest management, and woody biomass collection experience.

Torrefaction technology uses relatively low heat to carbonize woody biomass. This produces a fuel that retains most of the pre-processing heating value, offers good grindability, and is sufficiently water-resistant for outside storage. Woody fuel made with torrefaction technology can be used as a substitute for coal in firing existing thermal power plants and, therefore, can help to reduce greenhouse gas emissions.

Currently, a demonstration test is underway at a torrefaction facility in Thailand and combustion testing is moving forward at the Kushiro Mill.



Torrefaction demonstration facility (Thailand)

### ● Initiatives for Saving Energy in Manufacturing Processes

#### Applying energy-saving techniques developed in Japan at overseas production sites

The Nippon Paper Group includes overseas members that are operating paper and paperboard businesses in Australia, Thailand, and other countries. Climate change is an issue of serious concern in countries throughout the world. We, therefore, are working to reduce greenhouse gas emissions by having companies exchange information on what they have done to save energy effectively.

The Hokkaido Mill (Asahikawa) of Nippon Paper Industries Co., Ltd., for example, successfully reduced their energy usage by finding a way to decrease the amount of steam they use to dry pulp sheets into paper in the dryer sections of their paper machines. With their technique, an agent is used within the hollow shell roll to form a water-repellent film that sheds condensation and improves heat conduction efficiency.

Siam Nippon Industrial Paper Co., Ltd., located in Thailand, has adopted this technique and is working in fiscal 2018 to achieve energy savings.



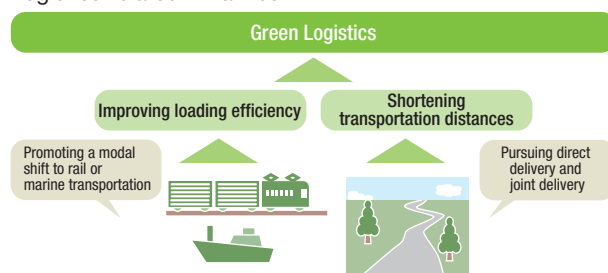
Dryer section of Siam Nippon Industrial Paper Co., Ltd.'s Yankee machine

### ● 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



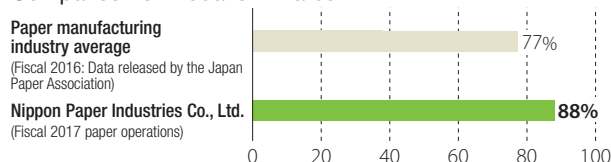
### ● Promoting a modal shift in transportation to secure high loading efficiency

The Nippon Paper Group is advancing its use of modal shift transport to reduce CO<sub>2</sub> emissions from long-distance shipping. We are doing this by using mainly rail and domestic marine transport to move large volumes of cargo with every trip. At 88%, Nippon Paper Industries is maintaining a high modal shift rate.

#### \* Modal shift rate:

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

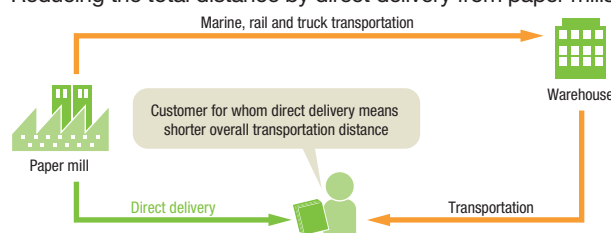
#### Comparison of modal shift rates



### ● 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



# Climate Change Initiatives

## ● 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 Certifications (As of July 1, 2018)

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

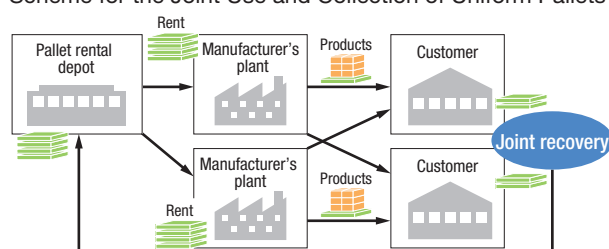
## ● Building a sustainable logistics system

### Establishment of the Study Group for Joint Usage of Pallets for Household Paper Products

Household paper products, such as tissue paper and toilet paper, are bulky, yet lightweight. Therefore, shipping vehicles carrying these items are loaded and unloaded manually, without the use of pallets, as a way to improve loading efficiency. However, amid a constant labor shortage, this approach has resulted in problems such as drivers being tied up for long periods of time and excessive wait times for distribution vehicles.

To address these problems, Nippon Paper Creia Co., Ltd. and three other manufacturers of household paper products, plus UPR Corporation, a provider of pallet and logistics services, established the Study Group for Joint Usage of Pallets for Household Paper Products. This organization aims to create an energy-saving, sustainable logistics system by constructing a scheme for the joint use and recovery of uniform pallets and using it as a basis for mechanizing loading and unloading work, and improving the efficiency of freight handling in other ways as well. The four household paper products manufacturers will gradually begin to use uniform pallets in the fall 2018.

### Scheme for the Joint Use and Collection of Uniform Pallets



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

### Sequestering atmospheric CO<sub>2</sub> through proper forest management and the use of wood

#### ● Sequestering CO<sub>2</sub> with 178 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 protection of forests through proper management contributes to the fight against global warming.

The Nippon Paper Group manages 178 thousand hectares of forests, 90 thousand hectares in Japan and 88 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>.

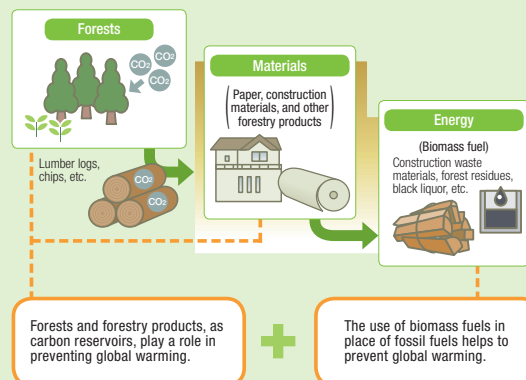
We are helping to prevent global warming not only by reducing greenhouse gas emissions but also by protecting forests.

### 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.

# Promoting Recycling

Contributing to the development of a recycling-based society

## Initiatives for Using Wastepaper

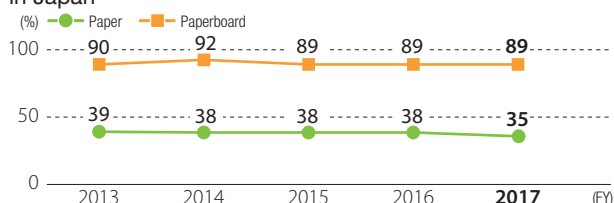
### Actively promoting paper recycling

Despite efforts to secure forest resources through sustainable forest management, wastepaper is a very 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



#### Paper-Pak carton collection initiatives

The Committee for Milk Container Environmental Issues (an organization composed mainly of container manufacturers and manufacturers of dairy products) has set the goal of increasing the beverage carton collection rate to at least 50% by 2020. In December 2017, the collection rate for fiscal 2016 was determined to be 44.3%, an increase of 1.2% compare to the previous fiscal year.

Nippon Paper Industries Co. Ltd. is a member of the committee and is gradually installing Paper-Pak collection boxes at Group company locations. It is also conducting education initiatives to increase employee awareness of the importance of recycling. The company views Paper-Pak collection as an activity that promotes effective use of resources throughout society and, together with commercial collectors, has begun to encourage schools and other types of institutions and organizations to recycle.



Paper-Pak collection box installed at a Nippon Paper Industries Co. Ltd. Location

## Recycling Industrial Waste

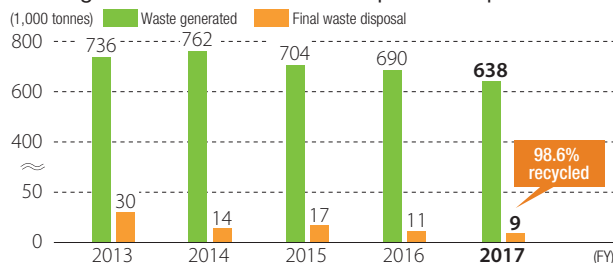
### Working to make effective use of waste, while reducing waste generation

Under the Environmental Action Plan, 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 revised production processes and have developed ways to effectively use boiler ash as a construction material and for other purposes. As a result, our waste recycling rate rose to 98.6% in fiscal 2017.

#### Progress in Implementing the Environmental Action Plan - Green Action Plan 2020

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



#### Case

##### Project for making and selling CfFA® (Carbon-free Fly Ash), a concrete admixture that makes effective use of coal ash

Nippon Paper Industries Co., Ltd. is 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. It has been used for disaster recovery construction (bridges, seawalls, etc.), mainly in the Tohoku region of Japan, and in precast and other concrete products, and is gradually being adopted for a widening variety of applications. Going forward, the Company will continue to focus on having CfFA® contribute to high-quality infrastructure construction.



Piers for the Chinju Bridge in Ishinomaki City, Miyagi Prefecture

# 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

##### Preserving biodiversity

##### Initiatives implemented in the conduct of our core business activities

- Protection of forest biodiversity
- Reduction of environmental impacts of production activities

##### Initiatives leveraging our resources and technologies

- Use of company-owned forests
- Use of proprietary technologies

## 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.

#### Biodiversity preservation scheme for company-owned forests

Basic Policy on the Preservation of Biodiversity			
Designating particularly sensitive areas and limiting logging		Matters to consider or confirm when performing forestry operations	
Japan	Environmental forest areas (see page 28) Riparian forests Protected areas (see page 41)	Japan	Commercial forest areas (see page 28) Adjustment of Location and Timing for Forestry Operations Preserving Blakiston's Fish Owl Habitat while Pursuing Forestry Operations (see page 41) Presence of endangered species included in prefectural Red Lists*
Overseas	Conservation area / Protected forests* (see pages 30,41) * Areas not designated for afforestation. Riparian forests are managed as part of these areas.	Overseas	Performance of commercial operations that are considerate of local biodiversity
Biodiversity surveys (Domestic company-owned forests and overseas conservation areas / protected forests)			
Topography confirmation of riparian forests and other areas, fixed-point surveys of forest ecosystems, etc. Ex.) Regular surveys in overseas protected area (see page 41), surveys of Blakiston's fish owls conducted with the Wild Bird Society of Japan, ornithological and vegetation surveys in the company-owned Kitayama Forest in Shizuoka Prefecture			

Third-Party Sustainable Forest Management Validations

\* List of threatened animal and plant species.

#### 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  
[https://www.nipponpapergroup.com/csr/IUCN2018\\_e.pdf](https://www.nipponpapergroup.com/csr/IUCN2018_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 clearly documented 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



(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 160, making up 70 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 300 thousand hectares of land and has set aside 180 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.

### 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.
<b>Volterra S.A.</b>	
Wildlife surveys in the company's protected forests	Using camera traps and other tools, surveys have identified mammals (including pumas) and bird species. The 2017 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.

### Initiatives by AMCEL S.A.

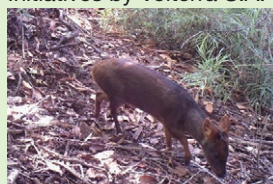


Monitoring of animal species



Vegetation survey

### Initiatives by Volterra S.A.



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



Water-quality survey

# Preserving Biodiversity

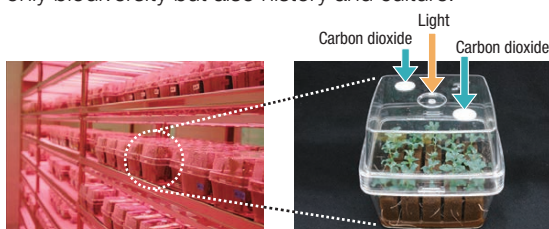
## Initiatives Leveraging Our Resources and Technologies

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

#### ● Using 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.

This technology, which promotes photosynthesis, enables the propagation of even trees that failed to root via traditional cutting technology. This technology has enabled the propagation of endangered plant species and prominent cherry trees throughout Japan. It, therefore, preserves not only biodiversity but also 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 employee volunteers have participated in planting, seed collection, and other activities.



Planting Japanese wood poppies

## Results of Nippon Paper Industries Co., Ltd.’s cherry tree preservation activities



Cherry trees of Japan’s National Institute of Genetics, which has numerous cherry tree species considered to be of exceptional value. Many people visit the institute once a year, in early April, when it allows the public to view these trees.

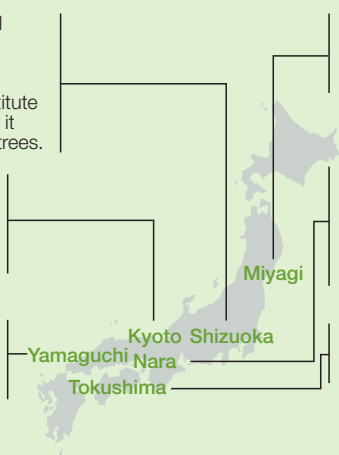


The Tatekawa cherry tree owned by Shinnyodo, a temple in Kyoto, and said to be connected to the third shogun of the Tokugawa dynasty



Cherry tree presented by the feudal lord Kikkawa Hiroie to Ueda Soko, a noted warrior and tea master, around 1625

Cherry tree presented by Kikkawa Hiroie to Ueda Soko  
(Photo courtesy of Uedaryu-Wafudou (Hiroshima Prefecture, Japan))



Cherry tree owned by Shioyama Shrine and registered as a Japanese national treasure



The Uwamizakura cherry tree owned by Fuefuki Shrine and dating back to the end of the 12<sup>th</sup> century.



The Hachisukazakura cherry tree, estimated to be over 250 years old



# 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 headquarters of Nippon Paper Industries "Special "b7 series" exhibit

Indicators	Key Objectives	Performance (fiscal 2017)
<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.
	Maintain a higher level of FSSC22000-based management for Paper-Pak products	Conducted product recall training at each business location and revised the manual on crisis management procedures for food safety to comply with the revised standard. Passed FSSC22000 renewal inspection with positive results and no citations for any business location.
<b>Materiality Enhancement of product value</b>		
Forest certification coverage (the provision of products with forest certifications)	Obtain the right to display forest certification logos on substantially all Nippon Paper Industries Co., Ltd. Paper-Pak products by 2020.	Displayed forest certification logos on approximately 200 million Paper-Pak products. (Result for the previous fiscal year: Approx. 20 million)

## Policy and Management

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# 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.

## Quality Management Initiatives

### 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

[https://www.nipponpapergroup.com/csr/2018.3\\_ISO9001\\_e.pdf](https://www.nipponpapergroup.com/csr/2018.3_ISO9001_e.pdf)

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

Customers are constantly increasing their demands for quality and safety in packaging materials. To rapidly respond to these demands and anticipate future demands, the Paper-Pak Quality Assurance Department of Nippon Paper Industries Co. Ltd.'s Paper-Pak Sales Division regularly conducts quality audits of Nippon Paper Liquid Package Product Co., Ltd.'s three mills. In addition, the three mills annually conduct quality meetings and annual quality audits to enhance quality by ensuring a uniform understanding of quality management and critical food safety concerns regarding chemical substances, microorganisms, and foreign matter.



Quality audit



Paper-Pak quality inspection

### 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

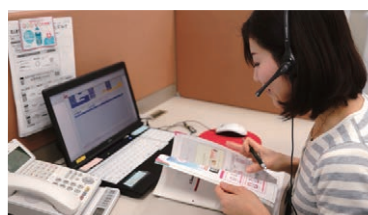
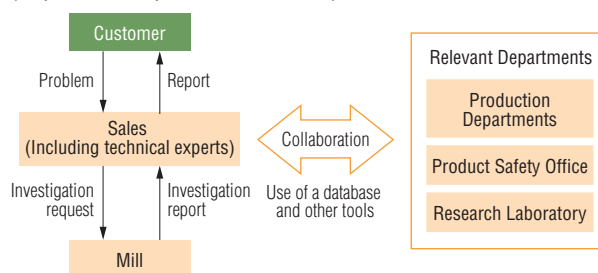
For defective products, action is taken by individual Group companies.

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)



The Customer Service Office (Nippon Paper Crecia Co., Ltd.)



### ● 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.

### ● 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 Co., Ltd. aims to help enrich daily life through packaging made with woody biomass. The company works together with processing companies and product manufacturers to provide the world with processing technologies and the SHIELDPLUS® series of paper-based packaging materials with outstanding barrier properties.

### ● 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 8-9). 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 14). 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.

#### System for Advancing New-Product Development



### ● Nippon Paper Crecia Co., Ltd.

Nippon Paper Crecia Co., Ltd. established its Healthcare Research Institute in April 2017 to strengthen its abilities to develop products for the rapidly growing nursing care and sanitary products markets.

The company is collaborating with Nippon Paper Industries Co., Ltd. to take full advantage of the Group's research assets. It aims to expand its healthcare business by enhancing its competitiveness through accurate identification of society's needs and acceleration of product development.



Healthcare Research Institute

## Policy and Management

### 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.

#### ● Addressing natural disaster risks (Nippon Paper Industries Co., Ltd. headquarters and individual mills)

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.

#### ● Emergency Manuals (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.



Shipping products from a warehouse

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.

#### ● Business continuity management system (Nippon Paper Industries Co., Ltd. Paper-Pak Sales Division)

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 the selection of priority items for emergencies and procurement of key raw materials from multiple manufacturers. It has also diversified its production across multiple production sites to lower its disaster risk exposure.

### Stabilization of Operations

#### Installing a newly developed system of wireless sensors for 24/7 detection of equipment abnormalities

Nippon Paper Industries Co., Ltd. and NIPPON PAPER UNITEC CO., LTD. have developed the "e-musen junkai" (e-wireless patrol) system, which uses wireless sensors to constantly monitor equipment for signs of abnormalities.

The pulp and paper is a prime example of a process industry, where the stable operation of equipment has a direct impact on the ability to stably supply products and maintain high quality. Maintaining equipment, therefore, is critical, and proper maintenance depends on monitoring for signs of abnormalities by checking vibration and temperature.

In the past, signs of abnormalities were discovered mainly by people who patrolled production facilities. This approach depended greatly on unquantifiable skills and expertise in the form of the experience and intuition of those checking production facilities. With the "e-musen junkai" (e-wireless patrol) system, IoT technology is used to accumulate temperature and vibration acceleration data on equipment in operation and monitor trends in this quantitative data. Properly responding when an abnormal trend is detected helps to prevent equipment trouble and stabilize operations (see page 35).

Nippon Paper Industries Co., Ltd. is gradually installing the "e-musen junkai" system in all of its domestic mills and actively selling it to companies outside the Group.

 "e-musen junkai" (e-wireless patrol) system webpage (Sales company: Sakurai Co., Ltd.)  
<http://www.sakurai.co.jp/landing/e-musen/index.html>  
 (Japanese only)

### 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.

# 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 oversees all matters related to product safety. It discusses and makes decisions on directions and policies, and other important product safety matters, for the entire Group.

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 Creca Co., Ltd., Nippon Paper Papyrus 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, 2018)

### 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 products 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.

#### 1 HACCP

An acronym for "Hazard Analysis and Critical Control Point"

#### 2 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, 2018)

Company Name	Mill, Operating Division, Production Company
Nippon Paper Industries Co., Ltd.	Gotsu Mill <sup>3</sup> , Nippon Paper Liquid Package Product Co., Ltd. (Egawa Mill, Miki Mill, Ishioka Mill)

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 4 was obtained for the nucleic acid (RNA-M) and dissolving pulp produced at the Gotsu Mill. The same certification was obtained for CMC (carboxymethyl cellulose) the following October. As a result, the Gotsu Mill can now export products Muslims can safely consume to Islamic countries.

#### 4 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.

# Enhancement of Product Value

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, each Group company strives 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.

#### 1 Environmentally Friendly Raw Materials Procurement

##### Case

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

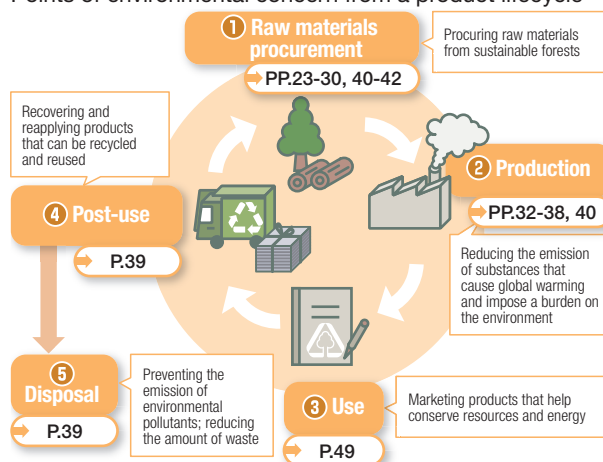
The forest certification system is composed of two components—the Forest Management (FM) component, which certifies that forests are sustainably managed from environmental, social, and economic perspectives, and the Chain-of-Custody (CoC) component, which certifies that products from certified forests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

[https://www.nipponpapergroup.com/csr/2018.3\\_CoC\\_e.pdf](https://www.nipponpapergroup.com/csr/2018.3_CoC_e.pdf)

#### Points of environmental concern from a product lifecycle



#### 1 Environmentally Friendly Raw Materials Procurement

##### Case

### Obtaining certifications for Paper-Pak products (Nippon Paper Industries Co., Ltd., Paper-Pak Sales Division)

Nippon Paper Industries Co., Ltd.'s Paper-Pak Sales Division obtained CoC certifications from the FSC® (FSC® C0128733) and PEFC international forest certification organizations in February 2016. It took this step to promote the environmental advantages of Paper-Pak products over plastic bottles and metal cans, and enhance appreciation of both Paper-Pak products and the company's brand. The division is working to supply Paper-Pak products with forest certifications to basically all customers\* by fiscal 2020, when the Olympic and Paralympic Games will be held in Tokyo.

\* Nippon Paper Industries Co., Ltd. was able to place forest certification logos on approximately 200 million Paper-Pak products in fiscal 2017, up from approximately 20 million in fiscal 2016.

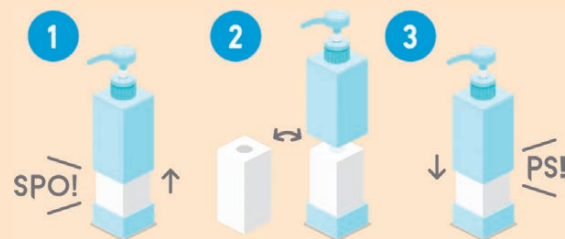
#### 1 5 Environmental consciousness in raw material procurement and waste handling

##### Case

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

Nippon Paper Industries Co., Ltd. has developed 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. "PS!" is the sound made when a new cartridge is installed in the dispenser. Together, they form the product name "SPOPS®."



**1-5 Environmental consciousness throughout the product lifecycle**

**Case**

**SHIELDPLUS PREMIER® oxygen- and moisture-barrier materials**  
(Nippon Paper Industries Co., Ltd.)

Nippon Paper Industries Co., Ltd. has developed SHIELDPLUS®, an environmentally friendly packaging material made from paper, which is recyclable and ultimately renewable. Sales of this product began in November 2017.

The company is also developing SHIELDPLUS PREMIER®, a product with even greater moisture-barrier properties, and plans to begin sales in the near future.

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.

The shift to paper packaging is accelerating globally in light of the recent attention on plastic pollution of marine environments. The environmental benefits the SHIELDPLUS® series offers in addition to its outstanding barrier properties, make it appropriate for use under a wide range of circumstances and for various types of packaging applications.



Examples of packages that use SHIELDPLUS®

**4 5 Post-use environmentally friendly disposal**

**Case**

**MinerPa®, a new functional material made from trees**  
(Nippon Paper Industries Co., Ltd.)

Nippon Paper Industries Co., Ltd. has developed a unique technology for densely bonding inorganic particles to the surface of wood pulp (cellulose fiber). This technology is based on the company's accumulation of pulp, inorganic, and other technologies for making paper and has given rise to MinerPa®. Pre-marketing work for this new product began in February 2017, and technologies are being developed based on customer needs.

MinerPa® is a functional material based on wood pulp, a recyclable natural fiber, and combines the formability of wood pulp with the deodorizing/antibacterial, flame-retardancy, X-ray shielding, antiviral, and other properties of inorganic materials. MinerPa® can be recycled for reuse as paper or as fuel for generating heat. Nippon Paper Industries Co., Ltd. has adopted a new-material development concept, which is to flexibly change materials into granular, solid, and other forms to offer functional, design, and other types of value to serve customer needs. MinerPa® is a product that is based on this concept and is being offered as a new earth- and people-friendly material that delivers value beyond that of paper (sheets).

In fiscal 2018, the company is moving forward with plans to establish a demonstration plant at the Fuji Mill (Fuji City, Shizuoka Prefecture) with operational startup targeted for October. This facility will have an annual production capacity of at least 450 tons. The company will establish a system for the full-scale distribution of samples with an eye toward commercialization.

With the establishment of the demonstration plant, the company will search for promising business areas and focus on rapidly developing applications for commercialization.



New functional materials on display at Converttech Japan 2018

## Enhancement of product value

### Providing Products that Respond to Customer Demands

#### 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.

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).



Super Jet Fiber (insulator)

##### Case

#### Water-based functional coating resin (Nippon Paper Industries Co., Ltd., Chemical Sales Division)

The Chemical Business of Nippon Paper Industries Co., Ltd. manufactures and sells SUPERCHLON®, a functional coating resin. This product adds adhesion properties to coatings and inks, making it possible to coat or print on automobile bumpers, soft packaging films for food, and other items made of polypropylene, a material with poor adhesion properties.

In addition to the original organic-solvent-based product, the company also makes a low-environmental-impact water-based version of this product to meet market needs inside and outside Japan. It is also working diligently to develop products that respond to detailed customer needs.



SUPERCHLON®  
(water-based version)



Example of a SUPERCHLON®  
application

##### 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.



SCOTTE® Cashmere  
Botanical



KLEENEX® Compact  
8-Roll (single/double)



POISE® Men's  
Sheet 5cc

##### Case

#### Paper-Pak Products with Closures (Nippon Paper Industries Co., Ltd., Paper-Pak Sales Division)

Nippon Paper Industries Co., Ltd. began selling Pure-Pak® Curve, a new Paper-Pak product that can be equipped with a closure, in 2017 under a licensing agreement with ELOPAK AS of Norway. The company also offers Pure-Pak® Sense products for high-viscosity content; Pure-Pak® Diamond products, which can be used for the same beverage-related purposes served by plastic bottles; and NP-PAK Rock products featuring two corners that can be used as message panels. The company serves customer needs with a broad line of high-value-added paper packaging products.

The closures used by Nippon Paper Industries Co., Ltd. are based on universal design concepts. Because they do not use an inner lead, they are easy to open and use less plastic, which makes them more environmentally friendly and lighter<sup>1</sup> than similar products made in Japan.

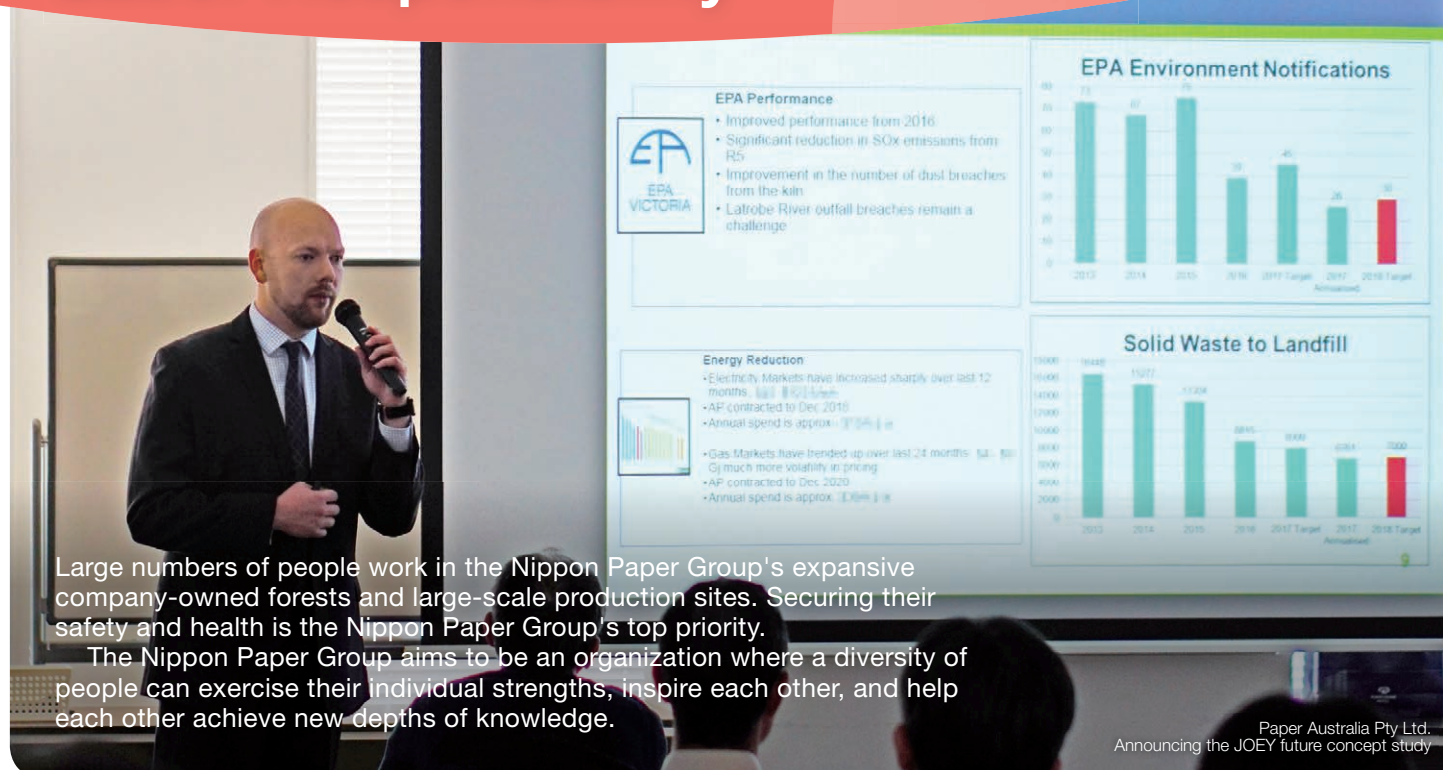
<sup>1</sup> Based on research by Nippon Paper Industries Co., Ltd.



From right: Pure-Pak® Diamond, Pure-Pak® Curve, Pure-Pak® Sense, and NP-PAK Rock liquid containers with closures.

<sup>2</sup> Pure-Pak® is a trademark of Elopak AS.

# Human Rights, Employment and Labor Responsibility



Indicators	Key Objectives	Performance (fiscal 2017)
<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 = 0.63
<b>Materiality Maintenance of a Vigorous Organization</b>		
Promotion of reexamination of work styles	Adoption of measures for reexamining work styles	Removed upper limit on the number of times half-day paid leave can be taken, and implemented a system for obtaining prior permission to work overtime or on holidays, etc. to prevent employees from working too many hours

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# 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

Nippon Paper Industries Co., Ltd. conducts surveys on human rights issues at affiliated companies in Japan. In fiscal 2015, we had these affiliates perform self-checks and, beginning in fiscal 2016, each of these companies began to move forward with examinations of survey results and ways to improve.

#### ● 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. The Group audits suppliers through surveys and interviews them regarding these concerns (see pages 24 and 27). In addition, in fiscal 2017, employees responsible for procurement performed on-site inspections of suppliers in Vietnam and the U.S. These were supplemented with interviews covering matters such as health, hygiene, safety, disaster preparedness, and local environmental concerns.



Breakroom at a U.S. facility

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.



# 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.

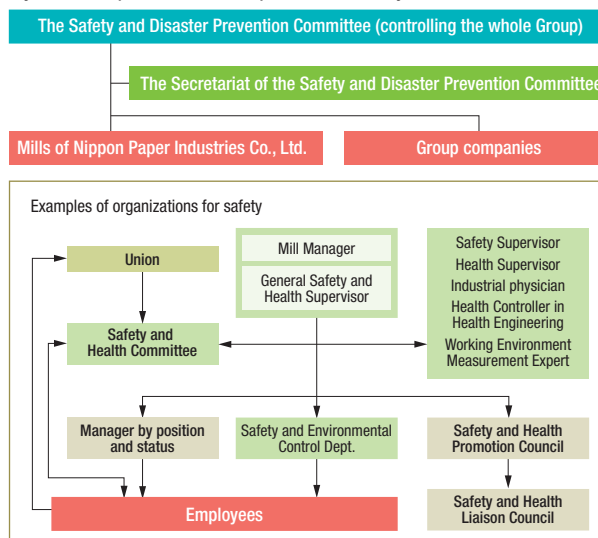
Employees are notified of the details of decisions through department meetings and internal mill newsletters and then



2017 labor and management occupational safety and health meeting

execute the determined activities. Occupational safety and health meetings and committee activities are conducted in accordance with an agreement with the labor union, and labor and management cooperate to promote safety and health.

### System to promote occupational safety and health



# 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, and efforts are being made to share information on risks and management measures, such as mutual risk assessments within a business location. Mill Safety Audits are conducted, events are held to share safety technology, and risk assessment methods and other types of expertise are shared to raise safety levels across the Group.

\* Nippon Paper Occupational Safety and Health Management System

## ● 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.



Safety audit

## 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.

## ● Initiatives for work entailing high risks of injuries or diseases

The Nippon Paper Group strives to prevent injuries and diseases by reducing risks in work where the potential of an explosion or fire, or injury or disease, is a concern. We manage our facilities in accordance with the Industrial Safety and Health Law and other laws and regulations, and monitor our workplace environments. In locations where chemical substances are handled, we investigate the dangers and toxicity of these substances and use what we learn to take appropriate risk measures and manage residual risks.

## 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.



Safety patrol

### ● 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.



Disaster preparedness training

### ● 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.



Traffic safety course

## Status of Occupational Accidents

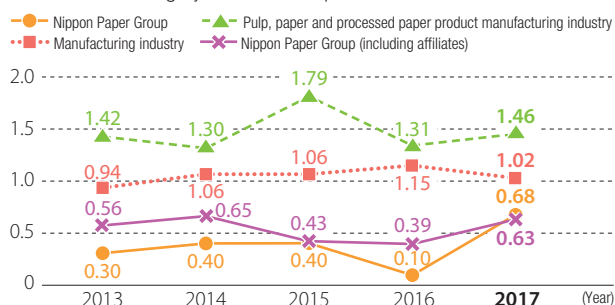
### Eliminating occupational accidents

In fiscal 2017, the Nippon Paper Group (including subcontractors)\* experienced no serious occupational accidents. Nevertheless, for employees, and subcontractor and construction company employees working in our facilities, the frequency rate for occupational accidents requiring time off from work came to 0.63, an increase from the prior fiscal year. The occupational accident severity rate was 0.03. To help ensure the safety of all workers, we are enhancing danger prediction activities and safety patrols. In the same vein, we are taking steps to improve communication with subcontractors and construction companies, and to provide them with proper guidance.

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

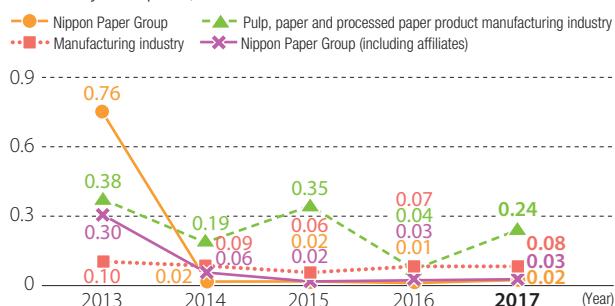
#### Frequency rate for lost-worktime injuries

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.



# Maintenance of a Vigorous Organization

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 the Nippon Paper Group definitively stated in 2015.

## Recruitment and Employment

### Advancing discrimination-free hiring

The Nippon Paper Group employs approximately 13,000 people 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.

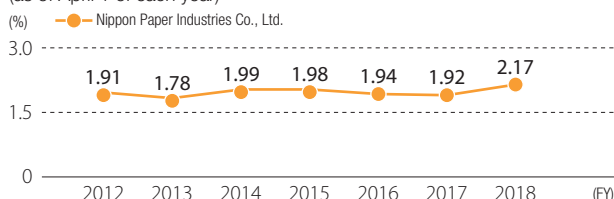
Furthermore, based on its Philosophy and Basic Policy on Human Rights, Employment and Labor (see page 52), the Group promotes discrimination-free recruitment and employment. The Group employs a selection process that bases decisions on test and interview results. Factors including nationality, place of birth, gender and level of school completed have no place in selection decisions.

### Recent and future hiring of people with disabilities

As of April 1, 2017, Nippon Paper Industries Co., Ltd.'s employment rate for people with disabilities was 1.92%. That result was below our objective of 2.0%, so, in fiscal 2017, we stepped up our participation in hiring events sponsored by local governments and organizations. As a result, our employment rate for people with disabilities rose to 2.17% as of April 1, 2018.

Beginning in fiscal 2018, the statutory employment rate for people with disabilities has been raised to 2.2% and it will continue to be raised going forward. As in the past, efforts to steadily increase our employment rate for people with disabilities will be based on action plans developed and executed at individual business sites.

### The rate of employment of people with disabilities (as of April 1 of each year)



### Promoting the employment of elderly persons

The Nippon Paper Group has implemented its Reemployment after Retirement System to respond to the needs of a super-aged 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. Furthermore, in response to the amended Law Concerning Stabilization of Employment of Older Persons, which took effect in April 2013, we have prepared rules that will allow employees of retirement age to continue working based on their desire and skills, at least until they begin to receive pensions.

\* According to the WHO, a "super-aged society" is one in which over 21% of the population is 65 or older. It is estimated that about 28% of Japan's population was 65 or older in 2017.

### 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	2012	2013	2014	2015	2016	2017
Nippon Paper Ind. Employees seeking reemployment	57	51	112	172	185	46
People reemployed	67	53	112	172	185	46
Consolidated companies in Japan People reemployed	—	—	309	327	331	227

<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.

### Employment data

	Units	FY2017
No. of employees on a consolidated basis <sup>1,2</sup>	Persons	12,881
Men	Persons	11,451
Women	Persons	1,430
Overseas	Persons	2,582
Men	Persons	2,257
Women	Persons	325
Percent of upper management from the local community	%	82.7
Part-time workers <sup>1,2</sup>	Persons	440
Men	Persons	252
Women	Persons	188
New graduates hired <sup>3</sup>	Persons	245
Men	Persons	220
Women	Persons	25
Mid-career hires <sup>3</sup>	Persons	198
Men	Persons	169
Women	Persons	29
Average age of employees <sup>1,3</sup>	Age	43.4
Men	Age	43.4
Women	Age	43.5
Average years of employment <sup>1,3</sup>	Years	19.4
Men	Years	19.6
Women	Years	18.0
Turnover rate <sup>1,3</sup> (Includes employees leaving at the mandatory retirement age)	%	4.7
Dispatched workers <sup>1,3</sup>	Persons	105
Men	Persons	39
Women	Persons	66

<sup>1</sup> Fiscal year end

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

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

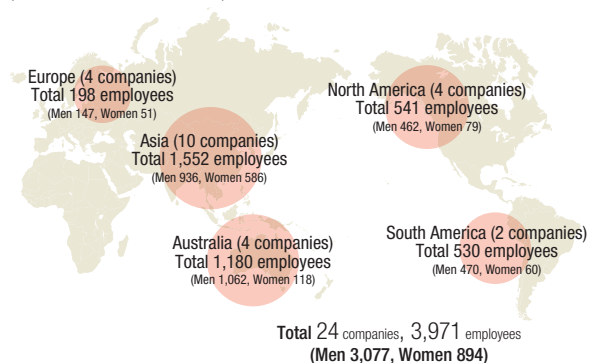


## Employees by Age Group

(Nippon Paper Industries Co., Ltd., March 31, 2018)

	Unit	Less than 30	30 to 50	Over 50	Total
No. of employees	Persons	803	2,940	1,191	4,934
Men	Persons	750	2,706	1,080	4,536
Women	Persons	53	234	111	398

## Numbers\* of overseas subsidiaries and employees by region (as of December 31, 2017)



\* Overseas subsidiaries (including non-consolidated subsidiaries)

## Overseas Subsidiary Employees by Type of Employment (as of December 31, 2017)

	Unit	Full-time	Temporary	Total
North America	Persons	541	0	541
Australia	Persons	1,180	0	1,180
Asia	Persons	854	668	1,522
Europe	Persons	189	9	198
South America	Persons	530	0	530
All overseas subsidiaries	Persons	3,294	677	3,971

## 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

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

#### Reducing Overall Working Hours

Nippon Paper Industries Co., Ltd. has set the goal of reducing average annual working hours for its workforce to less than 1,850 hours per person. Achieving this goal requires the ability to more accurately measure and manage working hours. We, therefore, augmented our work timetable management system, which covers all employees, including management, with a function that tracks the times personal computers are turned on and off. We also took steps such as eliminating the upper limit on the number of times half-day leaves can be taken and changing the flexible-time conditions of our flextime system, as actual or provisional revisions to our human resources system.

In fiscal 2017, our employees worked an average of 1,927 hours per person. Going forward, we will supplement current initiatives by encouraging individual business locations to revise work processes to reduce overall working hours.

#### 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	2017
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	148
Men	Persons	122
Women	Persons	26
Average number of days taken for maternity/paternity leave <sup>1</sup>		
Men	Days	3.4
Women	Days	78.0
Employees taking nursing-care leave <sup>1</sup>	Persons	1
Total number of working hours <sup>2</sup>	Hours	1,903
The rate of annual paid leave taken by employees <sup>2</sup>	%	71.8

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

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

# Maintenance of a Vigorous Organization

## 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.

#### Case

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

Nippon Paper Industries Co., Ltd. held its second diversity management seminar in September 2017.

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.

The second part of the seminar was led by Junji Miyahara of Toray Corporate Business Research, Inc.; Rumi Hagiwara of Fuji Xerox Co., Ltd.; and Jun Tanabe of Fuji Xerox Learning Institute, Inc. The three told attendees that we are approaching a time when companies will no longer be able to manage with only employees having few if any other demands on their time; that they will have to accept people with time limitations imposed, for example, by childcare, nursing care, or their own medical treatment demands. They also talked about the consequent needs for work-style reforms that enable results to be produced under tighter time constraints and management that respects diversity in personal background and values. The seminar was attended by about one hundred employees and included spirited discussions among attendees.



Diversity management seminar

### 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)

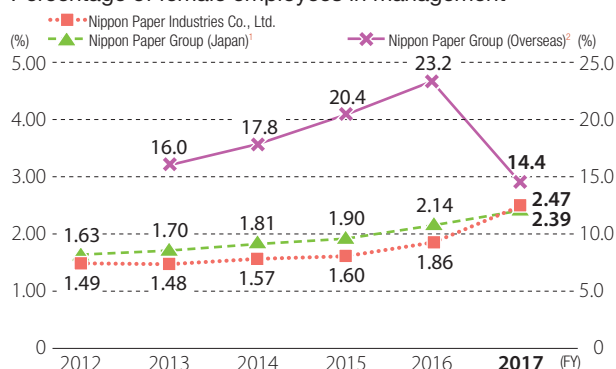
1. Make women at least 25% of new graduate hires for career-track positions.
2. For career-track women hired 8 to 12 fiscal years ago\*, achieve an average continuous employment rate that is at least 80% that of the rate for men.
3. To expand the range of roles performed by women at production sites, 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



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.

<sup>1</sup> Figures are for the Nippon Paper Group's consolidated companies in Japan.

<sup>2</sup> Includes all managers of sections and higher level organizational units as of December 31.

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

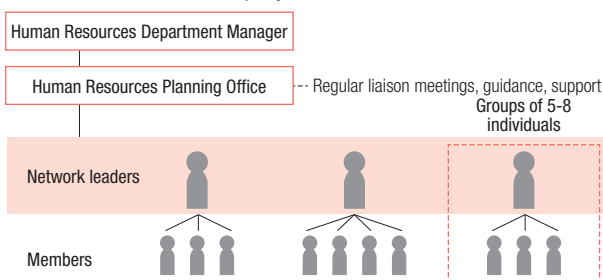
Fiscal years	2013	2014	2015	2016	2017
Career-track hires	43	34	52	61	56
Women	6	6	11	11	14
Men	37	28	41	50	42
Percent women	14	18	21	18	25

### ● Network for career-track women

Nippon Paper Industries Co., Ltd. has created a company-wide network for career-track women in all of its workplaces. Within the network, leaders collaborate with the Human Resources Planning Office to help network members address career-building concerns. In addition, group activities are organized in two-year terms. In the first, which began in November 2015, network members identified issues that could hinder women's careers, and they developed recommendations on matters such as systems for which needs will likely grow. The second term of group activities began in January 2018.

Through the network, we also 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



### 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



Internal training session

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 280 correspondence courses and joint training. Every employee 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)

6.8 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, Nippon Paper Industries Co., Ltd. is striving to strengthen awareness and education, so that all of its career-track employees will be capable of taking on overseas assignments.

#### Case

##### Overseas Assignment System (Nippon Paper Industries Co., Ltd.)

Nippon Paper Industries Co., Ltd. has implemented an overseas assignment system for career-track technical employees. The purpose of this system is to develop human resources capable of working overseas. Participants spend a year and a half at a North American, Australian, or other overseas location to experience work at these operations. They also use this time to improve their language skills. Through this system, participants improve their professional skills and work to understand



On overseas assignment (Paper Australia Pty Ltd.)

different cultures and lifestyles by living and working overseas. They also enhance their awareness of the need to build careers as people capable of working in a global arena.

# Maintenance of a Vigorous Organization

## 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 2017, Nippon Paper Industries Co., Ltd. held its 25th company-wide presentation meeting, while the Group held its ninth presentation meeting, with participation by 12 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.



Team judged most outstanding at the 25th Group-wide Presentation Conference

#### (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, implementation of a defined-contribution pension system, 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 and other types of 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 4,688 labor union members (as of March 31, 2018). 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 shirane-aoi  
(Japanese wood poppy)

Indicators	Key Objectives	Performance (fiscal 2017)
<b>Materiality</b> Coexistence with Local Communities and Society at Large		
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

Advancing Science and Technology .... 63

Respect for Indigenous People ..... 63

Preserving Biodiversity ..... 63

## Corporate Identity Sharing

Utilizing Company-Owned Forests ..... 64

# 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 Asahiya Zoo	WEB
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	55
	Participation in fire brigades	—
Preserving local community cultures	Supporting Asukayama Takigi Noh plays	WEB
Respect for indigenous people	Making wild herb habitat available to indigenous people	WEB
	Protecting indigenous heritage sites	63
Holding and participating in local events	Participating in and sponsoring local events	WEB
	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	WEB
	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	WEB
<b>Environmental activities</b>		
Tree planting activities	Marunuma Highland Tree-Planting	64
Preserving biodiversity	Utilizing the Group's proprietary technology	42
	Conducting business activities while protecting Blakiston's fish owl habitat	41
	Supporting the activities of the Shirane-aoi Preservation Group	42
	Eradicating invasive plant species from Iriomote Island	63
Promoting recycling activities	Operating the Recycle Plaza Shiyukan	WEB
	Supporting the recycling activities of organizations	WEB
	Recycling Paper-Pak containers	39
	Recycling wood waste	WEB
Accountability to local communities	Environmental risk communication	34
<b>Educational activities</b>		
Providing opportunities to tour group companies and their mills	Programs that welcome junior high school students for opportunities to experience a workplace	WEB
Utilizing company-owned forests	Holding the School of Friendship for Forests and Paper	64
Employment support	Internships, and programs that welcome students for opportunities to experience a workplace	WEB
	Sponsoring workshops in line with local desires	63
Classes taught by employees	Cooperation in teaching school classes	WEB
Music appreciation	Inviting students to concerts	WEB
	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 has expansive land holdings, including afforested areas, strives to maintain harmonious relationships and to further dialogue with local residents. As part of that effort, it asks local communities what work- or daily-life-related topics they would like to learn about, and holds regular workshops based on the responses received.

In fiscal 2017, workshops were held on processing manioc root, harvesting açai, raising poultry, gardening, making soap, and information processing. Led by AMCEL-invited experts, these workshops took place in four areas, Amapá, Santana, Ferreira Gomes, and Tartarugalzinho, and lasted 4-10 days each. Participants, who numbered over 100 in total, indicated that they were very pleased with the workshops.



Harvesting açai



Gardening

## 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



Naoto Nagaosa, Deputy Director of the RIKEN Center for Emergent Matter Science, is pictured second from left and Takashi Kadowaki, a Full-Time Visiting Professor at Teikyo University School of Medicine, is pictured third from left.

financial support to the Foundation to promote science and technology.

At the 59th Fujihara Awards ceremony, held in June 2018, Naoto Nagaosa, Deputy Director, RIKEN Center for Emergent Matter Science, and Takashi Kadowaki, a Full-Time Visiting Professor at Teikyo University School of Medicine, were presented with award certificates, medals, and 10 million yen each.

## Respect for Indigenous People

### Case

#### Protecting indigenous heritage sites (Australia, Nippon Paper Resources Australia Pty. Ltd.)

In 2016, ancient aboriginal stone tools were discovered on the PTP plantation, one of the Australian plantation projects managed by Nippon Paper Resources Australia Pty. Ltd. Experts performed an on-site survey, and



Stone tool discovered on the PTP plantation

in 2017 the area was registered as an aboriginal heritage site. Dialogue with local aboriginal organizations will be continued and steps such as the posting of signs to protect heritage sites will be taken to keep them in their current condition.

## Preserving Biodiversity

### Case

#### Eradicating invasive plant species from Iriomote Island (Nippon Paper Industries Co., Ltd.)

In November 2017, Nippon Paper Industries Co., Ltd. and the Iriomote Island Ecotourism Association held the first eradication activity targeting the Bay Biscayne creeping-oxeye, an invasive plant species, in a national forest on the island. This activity was conducted in accordance with an agreement signed with the Okinawa District Forest Office, a part of the Japanese Forestry Agency's Kyushu Regional Forest Office in August 2017. The company has also signed an agreement to partner with Iriomote Island Ecotourism Association in conducting local activities.

Iriomote Island is home to forests, including Japan's most expansive mangrove forest and a subtropical hardwood forest. It also hosts precious plant and animal species, such as the Iriomote wild cat, which has been designated a special national treasure and is listed as an endangered species IA. Unfortunately, however, numerous invasive species have been found across much of the island.

The Bay Biscayne creeping-oxeye, the target of the first eradication activity, reproduces rapidly and has a significant negative impact on native species. Japan's Ministry of the Environment, therefore, has designated it an invasive species requiring immediate action. Nippon Paper Industries Co., Ltd. will continue to conduct Bay Biscayne creeping-oxeye eradication activities together with the Iriomote Island Ecotourism Association.



Eradication activity



Activity participants

# 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 from general public with the cooperation of the Japan Philanthropic Association. Since its inception at the

Comments from elementary school children (September 2017)



A ceremonial photograph of all involved parties

The mountain hike was a good experience; we even got to see where a bear had used its claws to scratch a tree.

I was amazed that we could make postcards out of little branches.

Sugenuma company-owned forest, through fiscal 2017, the school has been conducted 22 times, for a total of 737 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.



School of Friendship for Forests and Paper  
<https://www.nipponpapergroup.com/morikami/>  
(Japanese only)

### Case

#### Marunuma Highland Tree-Planting 2018 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 seventh iteration of this activity—the Marunuma Highland Tree Planting 2018—took place in May 2018. The number of participants—both Nippon Paper Group people and others, mainly from Tokyo—came to about 50 in all.

Under the guidance of the Katashina Village Forest Owners' Cooperative, participants used hoes to plant 100 Japanese larch seedlings.



Participants planting trees

We got a real taste of using hoes to plant trees.

## Shaping the Future with Trees



# Outline of the Nippon Paper Group

## Company Profile (As of March 31, 2018)

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 43.70%, foreign investors 23.99%, individuals and others 22.11%, other Japanese corporations 8.10%, securities companies 1.79%, treasury stock 0.29%

Shareholders' equity ¥393,386 million

Total liabilities ¥989,638 million

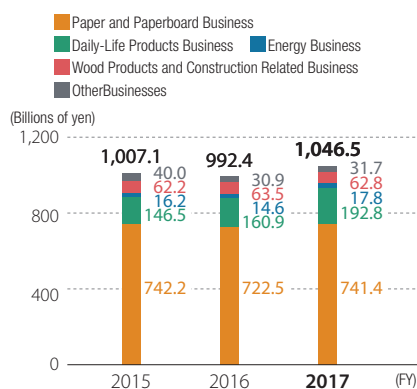
## The Status of Debt Ratings (As of March 30, 2018)

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

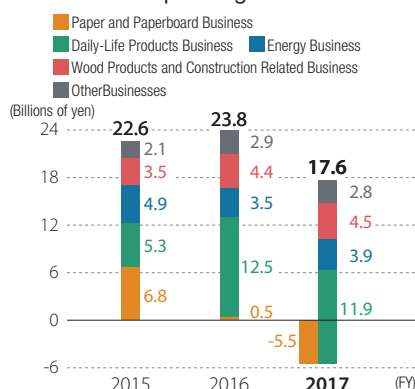
Japan Credit Rating Agency, Ltd. (JCR)  
Long-term bonds: A

## Major Financial Indicators Trends

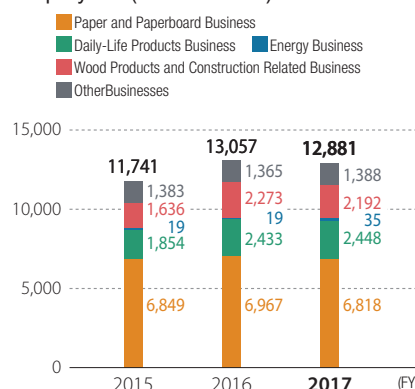
### Consolidated net sales<sup>1</sup>



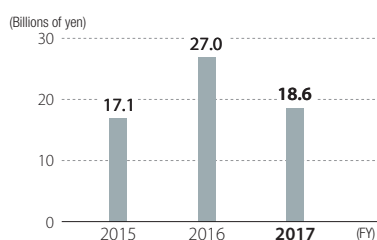
### Consolidated operating income<sup>1</sup>



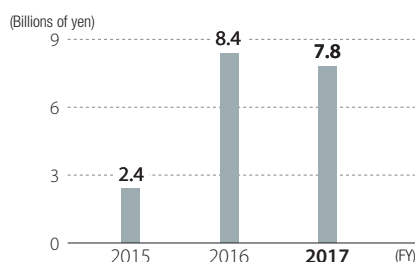
### Employees (consolidated)<sup>1, 2</sup>



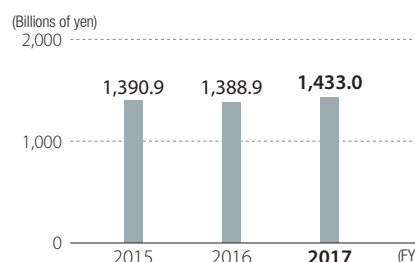
### Consolidated ordinary income



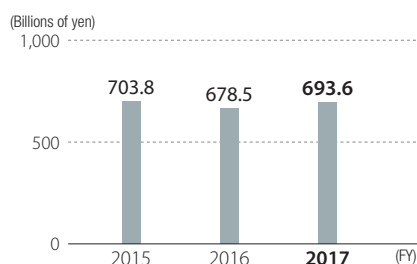
### Consolidated net income



### Total assets (consolidated)<sup>2</sup>



### Interest-bearing debt (consolidated)<sup>2</sup>



<sup>1</sup> Estimates based on re-organized segments formed in fiscal 2018.

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



## Cover Photograph

Nippon Paper Industries Co., Ltd. company-owned forest

1. Sugenuma company-owned forest\*
2. Shirane-aoi (Japanese wood poppy) blooming in the Sugenuma company-owned forest
3. Misaka company-owned forest\*

\*Photo: Yuji Itsumi



## Nippon Paper Industries Co., Ltd.

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## Shaping the Future with Trees

### External Evaluations

Key ESG indices of which Nippon Paper Industries is a component



FTSE4Good



2018 Constituent  
MSCI Japan ESG  
Select Leaders Index



FTSE Blossom  
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>

### DBJ Environmental Rating



In December 2017, Nippon Paper Industries Co., Ltd. received financing from the Development Bank of Japan (DBJ) based on an environmental rating assigned by that institution. DBJ assigned us their highest environmental rating, citing our particularly advanced environmental initiatives.



This report was printed with a waterless printing process using vegetable oil ink.