

Shaping the Future with Trees

Nippon Paper Group ESG Databook 2023



NIPPON PAPER
GROUP

Nippon Paper Group ESG Databook 2023

Contents

Management Responsibility

Sustainability Management	02
Enhancement of Corporate Governance	03
Risk Management	08
Compliance	10
Communication with Stakeholders	12

Responsibility for the Sustainable Use of Forest Resources

Sustainable Procurement of Raw Materials	13
Sustainable Forest Management	17

Environmental Responsibility

Environmental Management	21
Response to Climate Change	26
Promotion of Resource Circulation	39
Reduction of Environmental Burden	40
Preservation of Biodiversity	44
Other Environment-related Data	46

Responsibility to Customers

Stable Supply of Products, Enhanced Safety	49
Responses to Changes in the Social Environment	52

Human Rights, Employment and Labor Responsibility

Respect for Human Rights	53
Realization of Diverse Work Styles	56
Active Participation of Diverse Human Resources	58
Promotion of Occupational Safety and Health	64

Responsibility to Communities

Coexistence with Local Communities and Society	67
--	----

ESG Data Section

Basic Policy, etc.

Nippon Paper Group publishes this ESG Databook every year to report to a wide range of stakeholders on its ESG (Environment, Society, Governance) initiatives. The Group also publishes an integrated report to communicate its long-term value creation.

The ESG Databook sets out initiatives related to the seven core subjects of ISO26000 as responsibilities related to management, the sustainable consumption of forest resources, the environment, customers, human rights and employment and labor, and communities and society, organizing each item according to the Group's important issues (materiality).

Important issues (materiality) to realize the Group mission and key performance indicators (KPI) to achieve by FY2030 (NIPPON PAPER GROUP Integrated Report 2023 P.22-25)
https://www.nipponpapergroup.com/english/csr/npg_ir_e_materiality.pdf

Period Covered

Fiscal 2022: April 1, 2022–March 31, 2023

Includes information from before April 1, 2022 and after March 31, 2023. 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, 2023 for Nippon Paper Industries Co., Ltd. and all 55 of its consolidated subsidiaries.

Scope of Environmental Coverage

Regarding environment-related policies, systems, and environmental performance data, the following 35 companies are covered in the report, including non-consolidated subsidiaries (12 companies) and affiliates (1 company) with production sites, and all major production sites are included.

● Consolidated: Nippon Paper Industries; Nippon Paper Crecia; Crecia Kasuga; Nippon Paper Papyrus; Kokuei Paper; GAC; Nippon Seitai; Kyoei Seitai; Nippon Paper Ishinomaki Energy Center; Yufutsu Energy Center; Nippon Paper Lumber; Nanei; Nichimoku Fancy Materials; N&E; Daishowa Uniboard; Nippon Paper Development; Flowric; Nippon Dynawave Packaging; Opal; Jujo Thermal; Siam Nippon Industrial Paper; Amapá Florestal e Celulose*

* In some cases referred to as AMCEL in this report.
 (The contribution to total consolidated sales of the companies listed here was 97%.)
 (Sales data includes trading companies that are members of the Nippon Paper Group and sell Group-made products to outside buyers.)

● Non-consolidated: Mishimakako; Osakakako; Kochikako; Nippon Paper Liquid Package Product; Sakata Chip Kogyo; Iwaki Lumber Industry; Nichimoku Pallet; Nichimoku Rinsan Hokkaido; MANTSUNE PACKAGE; Seikosha Printing; Nippon Paper Nakoso Clean Center; Akita Jujo Chemicals

● Affiliated company: Fukuda Paper MFG

Referenced Guidelines

- Environmental Reporting Guidelines (2018) of the Ministry of the Environment
- Global Reporting Initiative(GRI) Standards
- United Nations Global Compact
- SASB Standards ● ISO 26000, etc.

Guideline comparison table
<https://www.nipponpapergroup.com/english/csr/gri/>

Links in this Report

- P00 ...Click to go to the related page of this Report.
 →WEB ...Click to go to the related website.

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 these statements may differ significantly from actual results due to the impacts of a number of important factors.

Contact for Publication and Inquiries

Nippon Paper Industries Co., Ltd.

Head Office:

4-6 Kanda Surugadai, Chiyoda-ku, Tokyo 101-0062 (Ochanomizu Sola City), Japan

Contact Information: Sustainability Management Department

TEL: 03-6665-1015

Publication date: September 2023

Previous issue: September 2022

Next issue scheduled: September 2024

Sustainability Website <https://www.nipponpapergroup.com/english/csr/>
 NIPPON PAPER GROUP Integrated Report 2023

<https://www.nipponpapergroup.com/english/ir/library/2023/>

Sustainability Management

1 Basic Policy

Nippon Paper Industries signed and joined the UN Global Compact in 2004. The Company promotes sustainability management that pursues both social and environmental sustainability and the future growth of the Company by realizing the Group Mission based on the Ten Principles of the UN Global Compact in four areas (human rights, labor, environment, and anti-corruption).

In 2023, the Japan Paper Association, of which the Company is a member, established the "Basic Principles of Sustainability of the Japan Paper Association" based on discussions among member companies. The Company will adhere to these principles and fulfill our social responsibility through business activities.

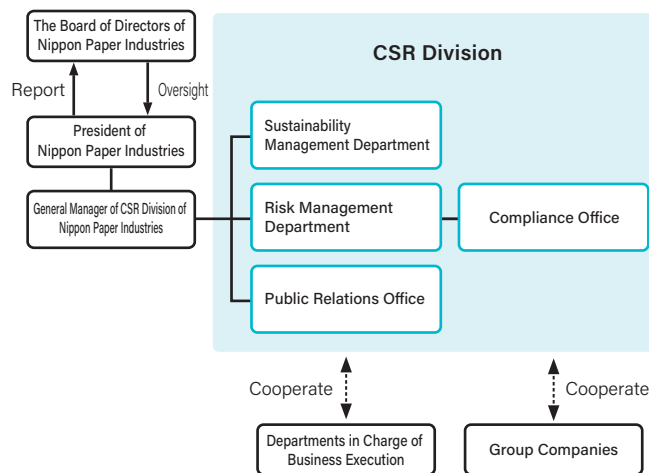


→WEB

Basic Principles of Sustainability of the Japan Paper Association (Japanese only)

<https://www.jpaa.gr.jp/about/sustainability/principle/>

2 Promotion Structure



- The Company has set up the CSR Division as an organization directly under the president's control, and the Sustainability Management Department, Risk Management Department, Compliance Office, and Public Relations Office have established systems to deal with ESG issues, promote risk management, and appropriately disclose information.
- The CSR Division reports to the Board of Directors on sustainability-related activities, and in FY2022, it reported to the Board of Directors four times on activities related to respect for human rights and other matters.
- Since 2011, the Company has been conducting CSR surveys once a year at Group companies in Japan and overseas in order to confirm the status of each company's response to issues such as the environment, human rights, and regulatory compliance.

3 Training and Development for Employees, etc.

Achievements in Sustainability-related Training and Development (FY2022)

	Target participants	Number of participants	Number of events (frequency)
e-Learning	Employees of Nippon Paper Group	4,955 ^{*1}	1 (once a year)
Sustainability training	New employees of Nippon Paper Group	89	1 (once a year)
	New managers of Nippon Paper Industries	74	1 (once a year)
Sustainability lectures	Employees and business partners of Nippon Paper Group	642	1 (once a year)
The School of Friendship for Forests and Paper → P68	Elementary school students and their guardians	35 ^{*2}	1 (once a year)

*1 Target of aggregation: Nippon Paper Industries *2 Number of elementary school students

CASE STUDY

e-Learning (Nippon Paper Industries)

The Company regularly holds sustainability training for Group employees. In FY2022, with the title of "Basic knowledge of sustainability," the training explained the current state of social challenges and what is expected of companies. Post-training questionnaires were used to check the levels of understanding, awareness, and opinions, and the results were used in the next year's training.

Sustainability Lectures (Nippon Paper Industries)

The Company selects topics from the sustainability perspective and regularly holds lectures from external experts for business partners and Group employees. In FY2022, the Company invited the Wild Bird Society of Japan, which is engaged in activities to protect Blakiston's fish owls in company-owned forests, to lecture on the theme of "Biodiversity Conservation and Corporate Activities."

Dissemination of sustainability information through in-house newsletters (Nippon Paper Industries)

In the in-house newsletter published four times a year for Group employees, the Company provides information on sustainability. In FY2022, the Company posted information on the Group's sustainability initiatives.

Enhancement of Corporate Governance

1 Basic Policy

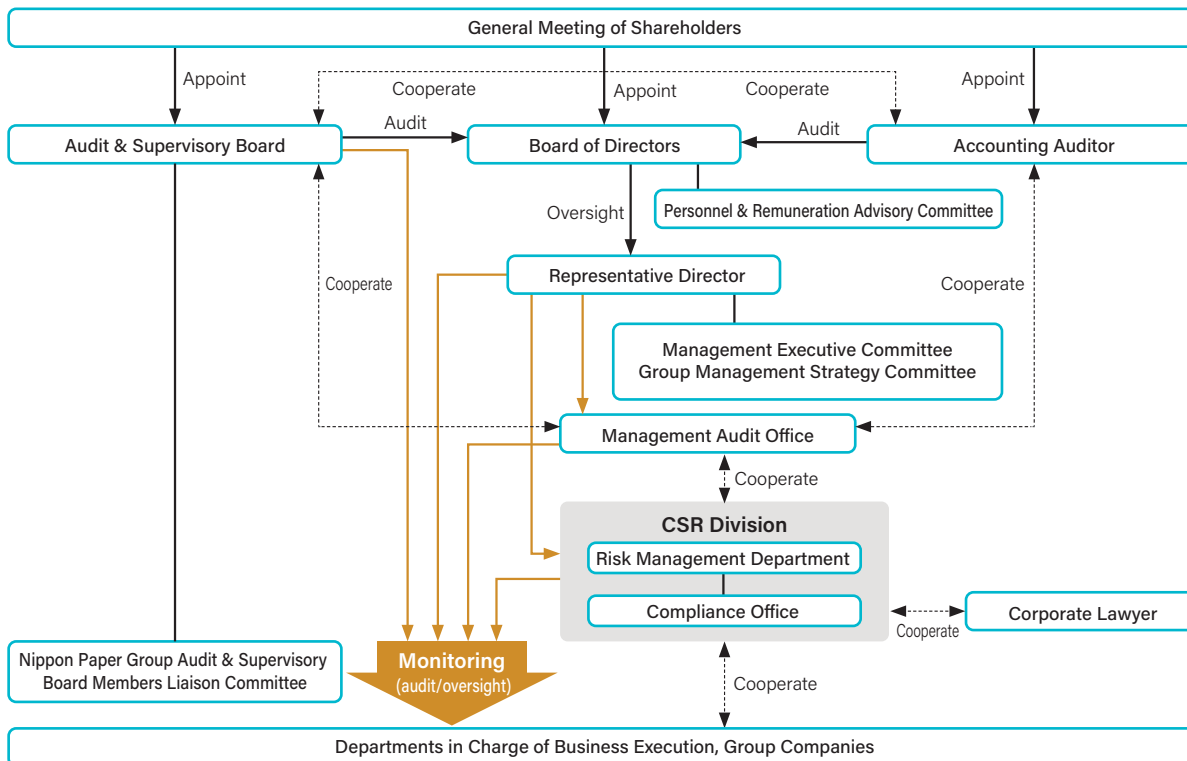
→P72 **Corporate Governance Policy**

→WEB **Corporate Governance Report**
<https://www.nipponpapergroup.com/english/ir/governance/>

→P76 **Basic Policy for Establishing the Internal Control System**

2 Corporate Governance Structure

Corporate Governance Structure (As of July 1, 2023)



● Nippon Paper Industries is a company with an Audit & Supervisory Board.

● The Company's accounting auditor is Ernst & Young ShinNihon LLC.

1. Board of Directors

- The Chairman of the Board of Directors is Fumio Manoshiro, who is a director without the right to represent the Company.
- The Board of Directors has a supervisory function for the overall management, ensures the fairness and transparency of management, and also makes the most appropriate decisions for the Company in the form of decisions on the execution of important operations, which are legally required to be made by the Board of Directors. The Board also supervises the execution of duties by the president, representative director, and other executive officers.
- In view of the importance of environmental and social challenges related to sustainability, the Board of Directors shall raise awareness among corporate officers and employees, strive to facilitate the sustainable development of society, and enhance the corporate value of the Nippon Paper Group by promoting active efforts to resolve challenges while giving consideration to stakeholders.

Meetings of the Board of Directors (FY2022)

Number of Board of Directors meetings: 13
 Average rate of attendance by directors: 100% (outside directors: 100%)
 Average rate of attendance by Audit & Supervisory Board Members: 100% (outside Audit & Supervisory Board Members: 100%)

2. Management Executive Committee

- Usually, the Management Executive Committee meets once a week to deliberate on important business issues under the authority of the president to assist in the execution of the president's duties.
- The Committee membership is basically composed of the president, vice presidents, and general managers.
- Meetings of the Management Executive Committee, held once a month, are attended by outside directors and general managers of the Company's mills in order to share information on monthly financial results among management.

Enhancement of Corporate Governance

3. Group Management Strategy Committee

- The Company's Group Management Strategy Committee meets as necessary and deliberates on management strategies by business segment and other important matters related to the Group.
- The Committee membership is composed of the Company's management, including outside directors, and presidents of major companies of the Group.

4. Audit & Supervisory Board Members and Audit & Supervisory Board

- In addition to meetings of the Board of Directors, Audit & Supervisory Board Members attend other important meetings, such as the Management Execution Committee and the Group Management Strategy Committee, and strictly monitor the execution of duties by directors. They also conduct on-site inspections of the Company's departments, offices and Group companies, and also strictly audit whether company operations are being carried out legally and appropriately.
- The Audit & Supervisory Board periodically holds regular meetings with the representative director, working to deepen mutual understanding.
- The Audit & Supervisory Board also strives to enhance group audits by strengthening cooperation with Audit & Supervisory Board Members of each Group company.

Status of Meetings of the Audit & Supervisory Board (FY2022)

Number of Audit & Supervisory Board meetings: 14
Average rate of attendance by Audit & Supervisory Board Members: 100% (outside Audit & Supervisory Board Members: 100%)

5. Management Audit Office

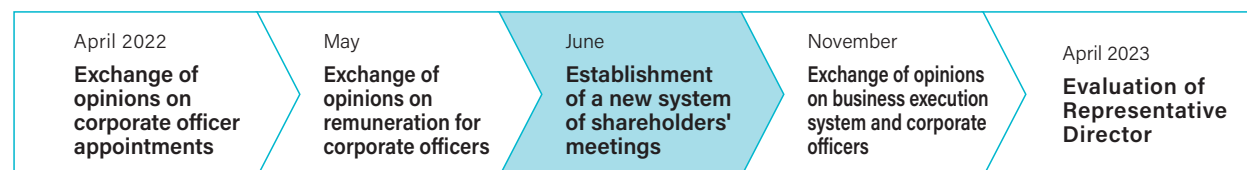
- The Management Audit Office is directly under the President's control. It conducts an internal audit of the Company and each Group company. It also conducts a comprehensive evaluation of the maintenance and operation of the internal control system as it relates to financial reporting.
- The Management Audit Office also holds monthly information exchange meetings with the Audit & Supervisory Board Members to ensure cooperation between Audit & Supervisory Board Members and internal audits.

6. Personnel & Remuneration Advisory Committee

- To further enhance corporate governance, the Company has established the Personnel and Remuneration Advisory Committee as an advisory body to the Board of Directors, which consists of three outside directors who are independent officers, the President and Representative Director of the Company, and the General Manager of the General Affairs and Human Resources Division.
- The Committee is chaired by the president and representative director of the Company. It conducts deliberations with the appropriate involvement and advice of independent outside directors who are members of the Committee. In principle, the chairperson chairs the Committee, but discussions of matters for which independence and objectivity are particularly required are chaired by independent outside directors.
- The Committee receives questions from the Board of Directors regarding the selection processes, qualifications, and reasons for nomination of candidates for Directors and Audit & Supervisory Board Members, the criteria for judging the independence of independent outside officers, and the remuneration system for corporate officers of the Company, and considers the appropriateness of these matters, with appropriate involvement and advice from independent outside directors, and reports back based on an assessment of the Company's business performance and other factors.
- The Board of Directors shall make decisions regarding nomination of directors and Audit & Supervisory Board Members, and compensation for directors etc., after receiving reports from the Personnel & Remuneration Advisory Committee.

Meetings of the Personnel & Remuneration Advisory Committee (FY2022)

Changed the number of regular meetings from 2 to 4 per year
Average rate of attendance by Committee members: 100%

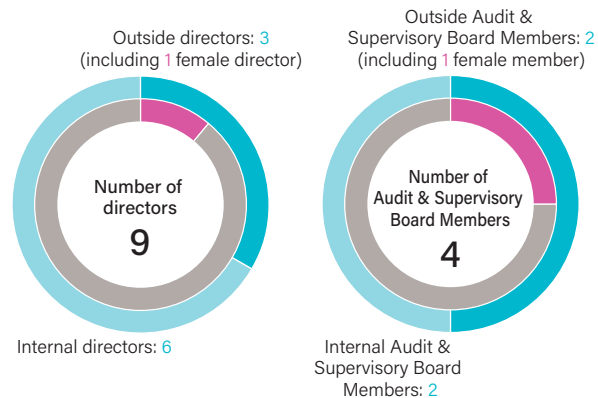


Enhancement of Corporate Governance

3 Composition of the Board of Directors

- The Board of Directors comprises internal directors who excel in their respective business performance and management skills and outside directors who have specialized knowledge and extensive expertise. This ensures a balance and diversity of knowledge, experience, and skills throughout the Board.
- Three of the nine directors are outside directors (including 1 female director)
- Two of the four Audit & Supervisory Board Members are outside Audit & Supervisory Board Members (including 1 female member)
- The skills that the Company expects to be demonstrated by each director are identified based on the basic policy of the 2030VISION and the important management issues (materiality) for realizing the corporate Group philosophy.

Composition of the Board of Directors



1. Nomination Policy of Director Candidates

Director candidates are determined by the Board of Directors, on condition that they meet all of the following requirements.

- (1) A person who has a wealth of knowledge and experience in the business management and business operations of the Group
- (2) A person who fully understands the social responsibilities and mission of the Company's business activities and who can fairly and accurately carry out business management and business operations based on principles of strict self-discipline

2. Nomination Policy of Candidates for Statutory Audit & Supervisory Board Members

Audit & Supervisory Board Member candidates are determined by the Board of Directors from among a wide range of diverse talent, on condition that they meet all of the following requirements.

- (1) A person who has a wealth of knowledge and experience in the business management and business operations of the Group
- (2) A person who is capable of auditing the status of business execution by the Company's directors from a fair and objective standpoint, and of contributing to the improvement of the soundness and transparency of management.

3. Outside Directors and Outside Audit & Supervisory Board Members

- The Company designates three outside directors and two outside Audit & Supervisory Board Members as independent officers who meet the qualifications for independent officers.
- Candidates for outside director and outside Audit & Supervisory Board Member are selected from a wide range of diverse talent, on the condition that they meet both of the following requirements, in addition to the requirements for externality stipulated by laws and regulations (having not been a director, employee, etc., of the Company or its subsidiaries in the past):
 - (1) Persons who meet the independence criteria set by the Tokyo Stock Exchange and are recognized as having no risk of conflicts of interest with ordinary shareholders
 - (2) Persons who understand the Company's management philosophy and fully understand the Group's social responsibilities and roles
- In addition to requirements (1) and (2) above, outside director candidates will be selected by the Board of Directors on condition that they are fully aware of their role as outside directors and are able to utilize their specialized knowledge and experience in fields such as corporate management, economics, legal affairs, accounting, taxation, and auditing, and to supervise the directors and management of the Company and provide accurate and appropriate opinions and advice.
- In addition to requirements (1) and (2) above, outside Audit & Supervisory Board Member candidates will be selected by the Board of Directors, and with the consent of the Audit & Supervisory Board, on condition that they are fully aware of their role as outside directors, and are able to utilize their specialized knowledge and experience in fields such as corporate management, economics, legal affairs, accounting, taxation, and auditing, and to audit the directors' execution of their duties from a neutral and objective standpoint, and to contribute to the soundness and transparency of management.



List of corporate officers of Nippon Paper Industries

<https://www.nipponpapergroup.com/english/about/corporate/officers/>



Skill Matrix of Directors

(NIPPON PAPER GROUP Integrated Report 2023, p. 45)

https://www.nipponpapergroup.com/english/ir/npg_ir_2023_e_42-59.pdf

Enhancement of Corporate Governance

4. Successor to the President

- Candidates for the president's successor are developed by having them successively hold important positions such as executive officers and directors.
- In the Personnel & Remuneration Advisory Committee, established as an advisory body to the Board of Directors, the president explains medium-to long-term management issues and exchanges opinions with the outside directors to win the confidence of the committee. At the same time, ever deepening discussions are being held on the qualities that a president should possess and the responsibilities that a president should fulfill in light of future management issues.
- The Personnel and Remuneration Advisory Committee discusses corporate officer personnel affairs, including the appointment and dismissal of the president, and reports to the Board of Directors. Having received these reports, the Board of Directors examines the contents of the reports, the progress of discussions, and other relevant aspects and then decides on candidates.
- Through these processes, the Board of Directors supervises the formulation and operation of CEO succession plans.
- Further, from the perspective of securing talent who will be capable of shouldering responsibility for the running of the Company in the future, the Company implements rotations between various job types and business sites, especially for career-track employees, and promotes them quickly to important posts and positions where they can assist management, such as general manager positions or top management positions at affiliated companies and overseas subsidiaries, thereby exposing them to high level and high-intensity operations and duties, to develop and select the next generation of corporate officer candidates.

5. Policy for Training of Directors and Audit & Supervisory Board Members

- The Company continuously provides information on a range of matters (economic conditions, industry trends, regulatory compliance, corporate governance, financial accounting, etc.) necessary for executive officers and directors to fulfill their roles and functions and also provides support for the execution of duties by executive officers and directors by securing opportunities for them to participate in the external training that they desire.
- At the time of their appointment and in a timely manner during their terms of office, the Company provides outside directors and outside Audit & Supervisory Board Members with briefings about the Group's management strategies, management plans, the status of various businesses, the management environment, and management challenges, etc., given by the various related departments or staff members in charge. This ensures opportunities for the formation of sufficient understanding among them.

4 Policy for Determining Remuneration for Directors and Audit & Supervisory Board Members

- The remuneration system for directors (excluding outside directors) consists of fixed, performance-linked, and stock remunerations. The composition ratios are set appropriately based on the purpose of each type of remuneration.
- The standard amount of monthly remuneration for directors (excluding outside directors) shall be decided according to their responsibilities within the Company. Of that, 70% shall be fixed and the remaining 30% shall be, in principle, paid after adjustment based on the degree of achievement of the Medium-Term Business Plan. The standard amount is determined using objective survey data from outside sources and considering factors including the Company's performance, the scale of business, and managerial circumstances. Performance indices are established to effectively function as motivation to achieve performance targets, they are reevaluated as necessary in response to changes of circumstance.
- The Company has introduced Board Benefit Trust (BBT) as a stock compensation plan since FY2019 for directors (excluding outside directors) separately from their monthly compensation. The objective of BBT is to further clarify the link between the compensation provided to directors and the Company's share value and thereby increase directors' motivation to contribute to improving the Company's medium- to long-term performance and increasing its corporate value by sharing the benefits and risks associated with share price fluctuations with shareholders.
- Monthly remuneration for outside directors and outside Audit & Supervisory Board Members shall be fixed. In light of their responsibilities, contributions to the executive shareholding association are on a voluntary basis.

Enhancement of Corporate Governance

Remuneration for Directors (Excluding Outside Directors) (Nippon Paper Industries)

	Fixed remuneration	Performance-based remuneration	Stock remuneration
Method	Cash payment		Points granted
Payment allowance	Up to ¥700 million per year		Up to 25,000 points per year (1 point = 1 share)
Payment period	Monthly (no bonuses or retirement benefits)		Director resignation (cumulative points converted to shares)
Calculation method	Determined according to their respective responsibilities		Points granted according to their respective responsibilities
	70% paid as fixed remuneration	30% paid, in principle, after adjustment based on the degree of achievement of the Medium-Term Business Plan	
Performance standards	—	70%: Consolidated results (mainly net sales and operating income) 30%: Non-consolidated results (mainly net sales and operating income)	—
Other	Fixed amounts contributed to the Company's executive shareholding association		—

Total Amount of Remuneration, etc. for Directors and Audit & Supervisory Board Members^{*1} (FY2022) (Nippon Paper Industries)

	Number of executives ^{*2}	Total amount of remuneration, etc. by Type			Total amount
		Fixed remuneration	Performance-based remuneration	Stock remuneration	
Directors	10	¥290 million	¥71 million	¥30 million	¥392 million
(Outside directors)	(3)	(¥39 million)	(—)	(—)	(¥39 million)
Audit & Supervisory Board Members	4	¥58 million	—	—	¥58 million
(Outside Audit & Supervisory Board Members)	(2)	(¥13 million)	(—)	(—)	(¥13 million)

*1 Figures are rounded down to the nearest million yen.

*2 Includes one director who resigned during FY2022.

5 Assessment of Board Effectiveness

- Since FY2015, an evaluation of the effectiveness of the Board of Directors has been conducted once a year.
- The Secretariat of the Board of Directors evaluates the effectiveness of the Board of Directors by conducting a questionnaire survey of Directors and Audit & Supervisory Board Members regarding the operation of the Board of Directors and discussions at its meetings.
- The aggregated questionnaire results are reported to the Board of Directors, which analyzes and evaluates the effectiveness of the Board through deliberations on the report's content. The Board of Directors works to improve their effectiveness based on the results.



Assessment of Board Effectiveness

<https://www.nipponpapergroup.com/english/ir/governance/evaluation/>

Risk Management

1 Basic Policy

Basic Policy

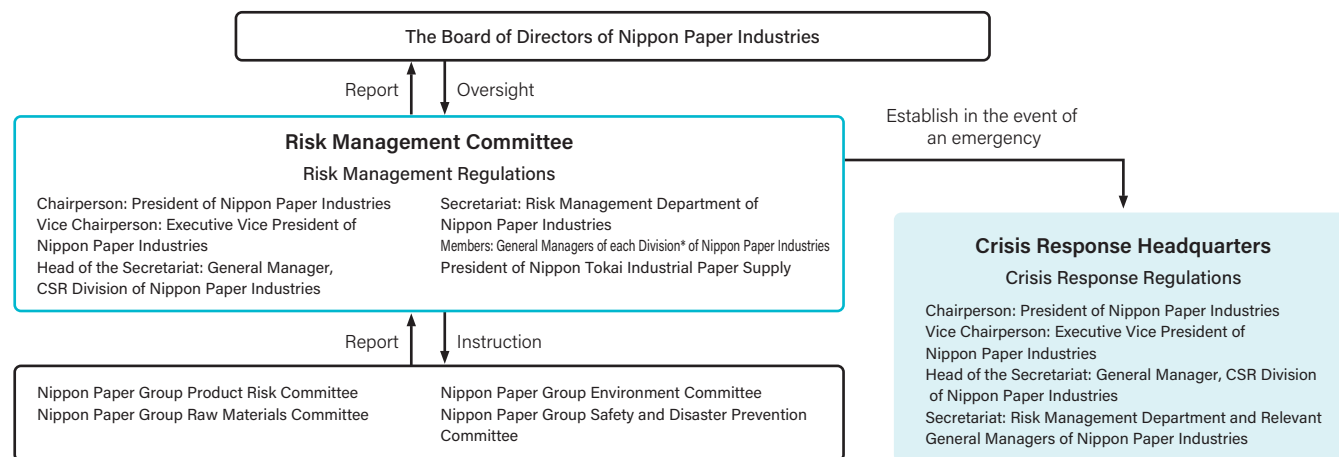
- ① Prioritizing human life and safety
- ② Continuing business

Under these policies, the Company will follow and comply with the guidance and recommendations of national and regional governments.

Risks for the Nippon Paper Group are all possibilities that may cause physical, economic, or credit loss or disadvantage to the Group, specifically the following seven items:

- (1) Legal and regulatory compliance risk
- (2) Labor-related risk
- (3) Business-related risk
- (4) Finance-related risk
- (5) Disaster-related risk
- (6) Information systems-related risk
- (7) Other risks

2 Promotion Structure



* CSR Division, Personnel & General Affairs Division, Corporate Planning Division, Biomass Material Business Division, Financial Division, Raw Materials and Purchasing Division, Research & Development Division, Technical & Engineering Division, Energy Business Division, Sales Planning Division, Paper-Pak Sales Division, Chemical Sales Division

1. Risk Management System

- Under the supervision of the Board of Directors of Nippon Paper Industries, the Company has established its Risk Management Committee, which is chaired by the president and representative director, and holds meetings at least once a year (FY2022: 1 meeting).
- In normal times, the Risk Management Committee periodically identifies and evaluates the Group's risks in accordance with the Risk Management Regulations, and considers and discusses measures to reduce its risks and measures to be taken when they occur.
- In times of emergency, a Crisis Response Headquarters is established in accordance with the Crisis Response Regulations. The Crisis Response Headquarters promptly implements initial emergency responses and BCP (business continuity plan) in response to risks such as earthquakes, typhoons, and outbreaks of infectious diseases.

- Risks related to product safety, raw material procurement, the environment, and safety and disaster prevention are deliberated and examined by committees that are chaired by the general managers of each responsible division.

2. Reports to the Board of Directors

- The results of deliberations and examinations by committees chaired by the general managers of each responsible division of risks related to product safety, raw material procurement, the environment, and safety and disaster prevention are reported to the Board of Directors through the Risk Management Committee.
- In FY2022, in addition to the Group's business risks and the content of reports from the various committees, the Board of Directors also received reports on the response status of the Crisis Response Headquarters, information security, COVID-19, and BCM (Business Continuity Management).

Risk Management

3 Risk Management Activities

1. Risk Identification

- In FY2022, risk surveys were conducted into the Company (headquarters and mills), consolidated subsidiaries, and five non-consolidated subsidiaries. In addition to identifying risks, the surveys also confirmed risks that materialized in FY2022, and identified those whose significance will increase in the future.
- Based on the results, the relevant departments and the Risk Management Committee have discussed and identified the business risks of the Group as follows.

Major Business Risks of the Corporate Group (FY2022)

	Summary	Main initiatives to mitigate risks
Major risks associated with management strategies	Risks related to raw material and fuel procurement, and international transportation <ul style="list-style-type: none"> ● Disruption of global supply chains caused by overseas situations ● Emergence of the "2024 Issue" in logistics 	<ul style="list-style-type: none"> ● Multi-sourced purchasing, diversification of import/export destinations ● Review of inventory levels ● Expansion of flexibility and procurement network by strengthening horizontal cooperation within the Nippon Paper Group
	Risks related to delays in business structure transformation and creating new businesses (Japan and overseas)	<ul style="list-style-type: none"> ● Early development of new business competitiveness ● Implement measures to expand profitability in growth sectors
	Risks related to climate change <ul style="list-style-type: none"> ● Response to the full-fledged introduction of carbon pricing and emission trading 	<ul style="list-style-type: none"> ● Reduction of greenhouse gases by accelerating conversion to non-fossil energy sources ● Utilization of J-Credit scheme
	Risks of fluctuations in product demand and market conditions <ul style="list-style-type: none"> ● Fluctuations in demand based on economic conditions, etc. ● Fluctuations in product prices based on developments in market conditions, etc. 	<ul style="list-style-type: none"> ● Reorganization of production structure for graphic paper ● Development of new products and new materials
Main risks associated with the business environment and business activities	Risks related to production facilities	<ul style="list-style-type: none"> ● Planned measures against deterioration
	Risks related to natural disasters and infectious diseases <ul style="list-style-type: none"> ● Earthquakes, tsunamis, typhoons, and floods ● COVID-19 	<ul style="list-style-type: none"> ● Establishment of the Crisis Response Headquarters ● Formulation of BCP ● Thorough measures to prevent outbreaks of infectious diseases ● Utilization of working from home
	Risks related to environmental laws and regulations	<ul style="list-style-type: none"> ● Dissemination and compliance with environmental laws and regulations
	Risks related to retention of human resources and labor affairs <ul style="list-style-type: none"> ● Retention of human resources, in an appropriate manner, based on the human resources strategies 	<ul style="list-style-type: none"> ● Development of a working environment premised upon flexible and diverse work styles ● Operation of the occupational safety and health management system
	Information systems related risks	<ul style="list-style-type: none"> ● Construction and operation of systems in preparation of cyber-attacks ● Ongoing activities to raise internal awareness
	Risks to social demands such as ESG, SDGs, etc.	<ul style="list-style-type: none"> ● Strengthen engagement with ESG rating agencies ● Reinforce careful communication with external stakeholders ● Activities to raise internal awareness
	Risks based on product liability	<ul style="list-style-type: none"> ● Utilization of product liability insurance ● Risk management of new products

2. Formulation of BCP

- In response to the large-scale natural disasters that have occurred frequently in recent years, the Company continues to develop BCP based on the BCM framework that was worked on in FY2020.
- Each department of the Company (headquarters) compiles the BCP and disseminates them internally. Based on the BCP, in addition to stockpiling food and daily necessities, the Company has added equipment that will be needed when the Crisis Response Headquarters is set up, and has also selected priority operations.
- The Company (mills) is working to revise the existing BCP to incorporate earthquakes, tsunamis, typhoons, floods, and volcanic eruptions as expected disasters.
- 32 Group companies have prepared their crisis response rules.



Business Risks

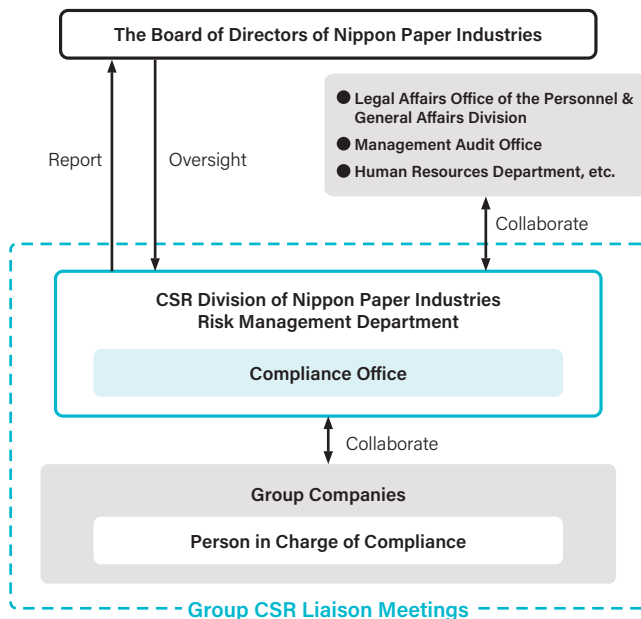
<https://www.nipponpapergroup.com/english/ir/policy/risk/>

Compliance

1 Basic Policy

-   **P72 Corporate Governance Policy**
-   **P77 Nippon Paper Group Action Charter**
-   **P78 Nippon Paper Industries Codes of Conduct**
-   **WEB Basic Policies of Nippon Paper Industries Concerning Privacy Protection**
<https://www.nipponpapergroup.com/english/terms/>
-   **P79 Nippon Paper Group's Basic Policy on Prevention of Bribery of Public Officials**
-   **P79 Nippon Paper Group's Basic Policy on Compliance with Competition Laws**
-   **P76 Basic Views on Internal Control System**

2 Promotion Structure




- In the Nippon Paper Group CSR Liaison Meetings, the Compliance Office in the CSR Division works to enhance cooperation on compliance with the staff responsible for compliance at Group companies.
- The CSR Division reports to the Board of Directors on compliance-related activities. In FY2022, a report was submitted to the Board of Directors on the operational status of the internal whistleblower system and the Nippon Paper Industries' response to revisions of the Whistleblower Protection Act.
- The operational status of the internal whistleblower system is reported to the Board of Directors of the Company, and in addition, to Audit & Supervisory Board members and the Management Executive Committee, on a quarterly basis.

3 Personal Information Protection

- The "Basic Policies of Nippon Paper Industries Concerning Privacy Protection" has been established to facilitate the management of personal information.
- In accordance with the intention of the Personal Information Protection Law, the Company tracks and manages the timing of acquisition and purpose of use of personal information held by each department in management ledgers.
- The ledgers are reviewed annually to ensure proper management.

4 Information System Security

- The Company has established "Information System Security Measures Rules" and is implementing information system security measures.
- The Company has established an information system security system in which the General Manager of the Financial Division is the chief Information System Security supervisor (officer in charge of information system security). Security incidents are reported to the Board of Directors every year through the Risk Management Committee.

- In order to stop the spread of damage and prevent recurrence in the event of an incident such as a cyber-attack or virus infection, the Company has established a response system and procedures, and is providing training on this for Group employees.  **P11**

5 Preventing Corruption

- To realize the corporate Group philosophy, the Group has set "Fairness" as a priority value for employees.
- The Nippon Paper Group Action Charter stipulates that "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."
- The Nippon Paper Codes of Conduct specifically state that the Company will engage in "fair, transparent, and liberal manner."
- In its various training programs, the Group educates its employees on the content related to anti-corruption (prevention of bribery and compliance with competition laws), such as inappropriate relationships with local governments and public officials in Japan and overseas with whom business activities are conducted, and not giving inappropriate benefits to, or receiving them from, customers and business partners in sales and purchasing activities. Also, the Company strives to correct any suspicious cases that may occur.
- In FY2022, the Group was subject to no legal actions whatsoever involving incidents of corruption or public legal cases regarding corruption, anti-competitive behavior, anti-trust, or monopolizing practices.
- In its "Declaration for Building Partnerships", the Company declares that it will strive to comply with desirable business practices between main contractors and subcontractors, and actively work to correct any business practices and trading practices that may hinder the building of partnerships with business partners.

6 Intellectual Property Rights Protection

- The Group respects intellectual property rights and thoroughly complies with all relevant laws and regulations.

Compliance

7 Whistleblower System (Remedial Measures)

1. Mechanism of the Internal Whistleblower System

- The Company has established a "Nippon Paper Group Helpline", which allows employees to directly report and consult with regarding human rights (harassment, working conditions, and other potential risks or concerns), corruption (bribery, violations of competition laws, and other illicit activities), environment-related laws and regulations, outside the everyday chain of command.
- Upon receiving reports, the Compliance Office conducts fact-finding investigations regarding any concerns about violations of laws or corporate ethics. In accordance with the seriousness of the incident, the Company takes corrective actions and measures to prevent recurrence, such as internal disciplinary action, warnings and guidance, and awareness-raising activities for employees through e-learning, etc., while giving consideration to the whistleblower.

- Reports and requests for advice are accepted through multiple channels such as telephone, email, and mail.
- The utmost care is taken to protect the privacy of whistleblowers.
- The whistleblower system can be used anonymously, but if a report is anonymous, there is a limit to how far the report can be investigated. Therefore, it is recommended that reporters provide their real names as much as possible.
- In accordance with the amended Whistleblower Protection Act of June 2022, employees who have left the company not more than one year ago are added to the scope of users of the system, and the Company prohibits any disadvantageous treatment as a result of whistleblowing, and protects the whistleblower's personal information, as stipulated in the Company's internal rules.
- The Company regularly informs employees about the consultation desk by distributing compliance cards to all group employees and contractors.

8 Employee Training and Education

Achievements in Compliance-related Employee Training and Education (FY2022)

The Group systematically and continuously conducts activities to raise awareness of the importance of compliance among employees.

Category	Topic / Title	Target participants	Number of participants	Number of events (frequency)
Compliance	Compliance General	New employees of Nippon Paper Group	89	1(Once a year)
		New managers of Nippon Paper Industries	75	1(Once a year)
		Newly appointed corporate officers of Nippon Paper Group and mill managers of Nippon Paper Industries	24	1(Once a year)
		Corporate officers and mill managers of Nippon Paper Industries	39	1(Once a year)
	Harassment-related topics	Mainly managers and supervisors of Nippon Paper Group	1,620	1
	How to use Helpline	Group employees	About 8,500	1
Legal affairs ^{*1}	Prevention of insider trading	Group employees	6,294 ^{*2}	1
	Protection of personal information	Group employees	5,396 ^{*2}	1
Intellectual property rights	Basic information, etc. concerning patents	Group employees	377 in total	7 sessions in total
Information Security	Prevention of information leakage incidents, etc.	Group employees	6,059 ^{*2}	1(Once a year)

^{*1} Semi-annual lectures are held one at a time in order. The lectures cover the six topics of prevention of insider training, exclusion of anti-social forces, protection of personal information, preparation and storage of contracts, compliance with anti-bribery/competition laws, and raising sensitivity to legal risks.

^{*2} For those including contractors, etc.

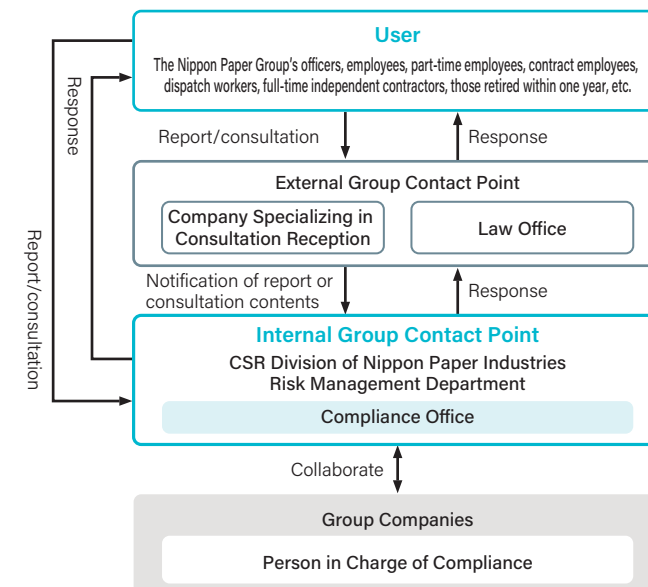
2. Operational Status of the Whistleblower System and Responses

- In FY2022, there were 61 requests for consultation and reports (FY2021: 43 cases, FY2020: 39 cases), of which about 50% were related to harassment, and about 10% were doubts about labor-related rules and their operation, while about 10% had doubts about business instructions and responses.
- In order to strengthen the prevention of harassment, which seems to occur frequently, the Company conducted harassment training for its managers and supervisors in FY2022, continuing from the second half of FY2021.

3. Receipt of Opinions from Those Who Are Not Eligible for the Use of the Helpline

Opinions from third parties (customers, business partners, and other agencies) not covered by the Nippon Paper Group Helpline are accepted through "Contact Us" on the Group's website [→ WEB](#) and are handled appropriately by the Company's Compliance Office and other relevant departments.

Internal Whistleblower System



Communication with Stakeholders

1 Basic Policy

 [→P72](#) **Corporate Governance Policy**

 [→WEB](#) **Corporate Governance Report**
<https://www.nipponpapergroup.com/english/ir/governance/>

 [→P80](#) **Disclosure Policy**

 [→P77](#) **Nippon Paper Group Action Charter**

2 Communication with Investors

1. Annual General Meeting

- In order to vitalize general shareholders' meetings and facilitate the exercising of voting rights, Nippon Paper Industries works to provide and disclose company information in a timely and appropriate manner, including notices of convocation of general shareholders' meetings.
- The Company is working hard to improve the notice of convocation of the General Meeting of Shareholders from the standpoint of enhancing the content, in addition to making it easier to read and look at. The Issues to be Addressed section of the Business Report includes details of the progress and challenges facing initiatives aimed at achieving the goals of the 2030VISION and medium-term business plan 2025.
- The notice of convocation of general meetings of shareholders is disclosed in Japanese and English, and the English version also includes the contents of business reports and financial statements.
- In addition to participating in the electronic voting platform, the Company is working to raise awareness of how to exercise voting rights using smartphones, and other devices, and is creating an environment for exercising voting rights, which is an important right for all shareholders.

2. IR Activities

- The Company's Corporate Planning Department, along with other relevant departments, engages in constructive dialogues with shareholders and investors, and gathers management analysis and opinions from the perspective of capital providers.

- In addition, IR activities are regularly reported at the Group Management Strategy Committee Meeting.
- The Company mails shareholder newsletters to shareholders twice a year.

IR Activities in FY2022

	Number of events
Operating results and Management briefings	2 times
Operating results briefings	2 times
Individual meetings	94 times
of which, ESG related meetings	3 times
Small meetings with President	1 time
Small meetings with Outside directors	1 time
Presentation of forest resources value	1 time
Publication of integrated reports	1 time

CASE STUDY

Presentation of Forest Resources Value

Since FY2021, the Company has been holding presentations on an ongoing basis with analysts and institutional investors, with the aim of communicating forest and forest resources value and related strategies. In FY2022, the Company introduced initiatives aimed at maximizing forest value, as well as initiatives aimed at utilizing forest resources and building a decarbonized society, and held question-and-answer sessions related to these.

 [→WEB](#) **IR Library**

<https://www.nipponpapergroup.com/english/ir/library/>

3 Communication with Stakeholders other than Investors

- The Nippon Paper Group publishes information on its corporate activities on its website and accepts questions and opinions.
- The Company is striving to improve its corporate activities and initiatives by conducting communication activities, including individual dialogues, with diverse stakeholders.

Main Communication Activities

Stakeholder	Primary means of communication
Employees	<ul style="list-style-type: none"> ● <u>Employee Engagement Survey</u> →P63 (biennial) ● <u>Labor-management conferences</u> →P63 (usually twice a year) ● Personnel request surveys/ interviews (once a year) ● <u>Helpline (internal whistleblower system)</u> →P11 ● Corporate newsletter (4 times a year) ● Intranet
Customers / Consumers	<ul style="list-style-type: none"> ● Dialogue through sales activities ● The information desk
Suppliers	<ul style="list-style-type: none"> ● Dialogue through sales activities ● <u>Supplier questionnaire surveys</u> →P15 (once a year) ● Local interviews and exchanges of opinion
Local communities	<ul style="list-style-type: none"> ● <u>The School of Friendship for Forests and Paper</u> →P68 ● <u>Environmental communication</u> →P25
NPOs / NGOs	<ul style="list-style-type: none"> ● <u>Exchange of opinions on human rights</u> →P55 (once a year)
Students	<ul style="list-style-type: none"> ● Employment briefings ● Visiting lessons

Sustainable Procurement of Raw Materials

1 Basic Policy

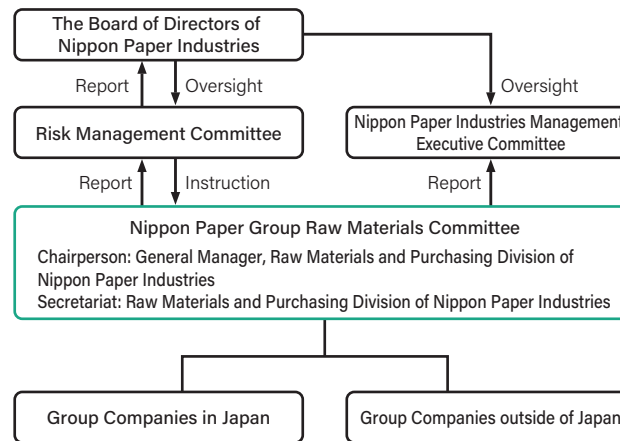
→P81 Principles and Basic Policies Concerning Raw Materials Procurement

- The Nippon Paper Group revised the “Principles and Basic Policies Concerning Raw Materials Procurement” (hereinafter, “Procurement Policy”) in September 2022.
- In the process of its revision, the Group repeatedly engaged in dialogue with external experts and reflected the opinions of stakeholders in the revised content.
- The Group also communicates the content of the Procurement Policy to suppliers around the world by making both Japanese and English language versions and displaying them on its website.

→P83 Wood Resources Procurement Guidelines

- To strengthen the procurement system for wood resources, the “Wood Resources Procurement Guidelines” (hereinafter, “Procurement Guidelines”) has been newly established, based on the Procurement Policy revised in September 2022.
- The Group also communicates the content of the Procurement Guidelines to suppliers around the world by making both Japanese and English language versions and displaying them on its website.

2 Promotion Structure



- The Group has established the Nippon Paper Group Raw Materials Committee, which is chaired by the general manager of the Raw Materials and Purchasing Division at Nippon Paper Industries. This committee discusses key issues related to raw materials procurement for the entire Group, such as policies on raw materials procurement, and reports on these issues to the Board of Directors through the Risk Management Committee.
- In FY 2022, the Committee reported to the Board of Directors through the Risk Management Committee on issues and strategies related to raw material procurement.

3 Sustainable Procurement of wood Resources

1. Procurement of wood Resources

- The Group procures wood resources in accordance with the following points based on the Procurement Policy and the Procurement Guidelines.

Key points in Nippon Paper Group's procurement of wood resources

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

- The Group has formulated and implemented an [action plan](#) →P14 for sustainable procurement of wood resources into practice.
- The Group uses a forest certification system to confirm that wood resources are being procured appropriately.
- All procured wood resources are certified by FSC® or PEFC. (All procured chips have been produced with wood from forests with an FM certification*1 or have undergone a risk assessment for the CoC certification*2.)

*1 FM (Forest Management) certification: Certification of forests with sustainable forest management

*2 CoC (Chain of Custody) certification: Certification of certified materials that are properly distributed and processed

→WEB Forest Certification (Japanese only)

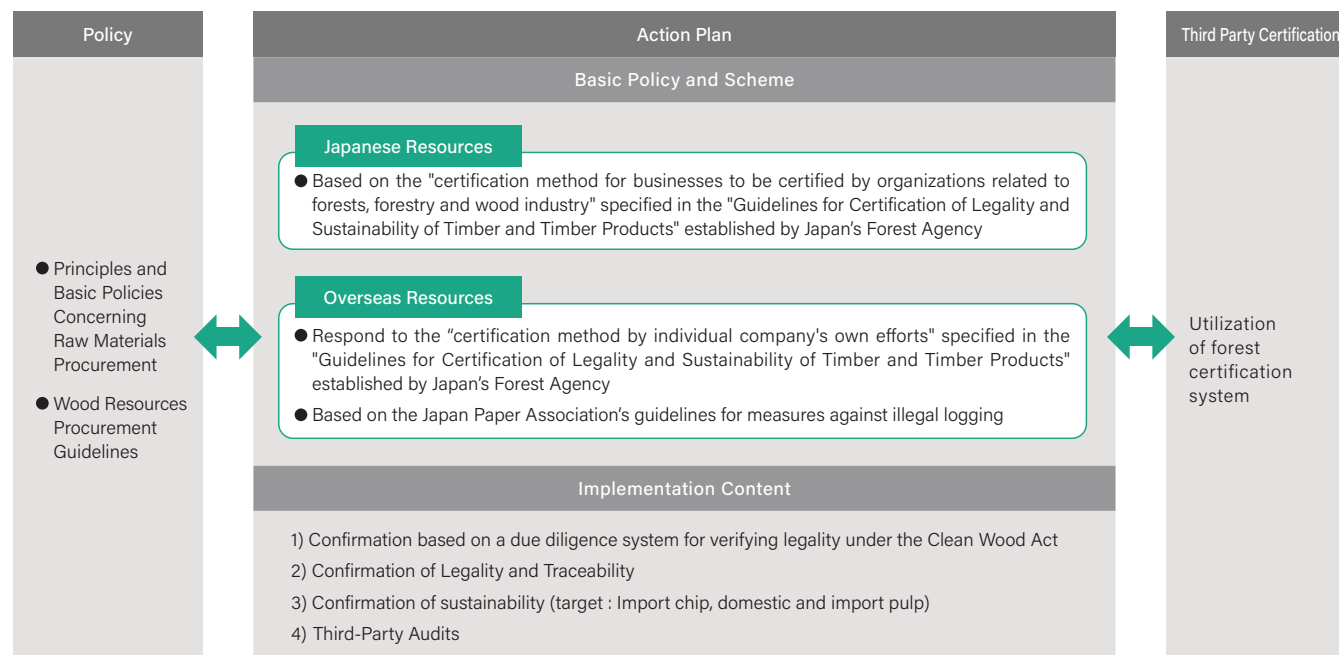
<https://www.nipponpapergroup.com/csr/forest/sustainability/certification/>

Sustainable Procurement of Raw Materials

2. Action Plan for Wood-based Raw Material Procurement

- The Group conducts risk minimization and improvement processes by implementing an action plan established based on the Procurement Policy and the Procurement Guidelines. It works with suppliers to build a sustainable supply chain.
- In the action plan, following the basic policies for Japanese and overseas resources, the Group conducts 1) confirmation based on a due diligence system for verifying legality under the Clean Wood Act, 2) confirmation of legality and traceability, 3) confirmation of sustainability, and 4) third-party audits.
- Before commencing any transactions with new suppliers, the Group conducts on-site inspections and questionnaire surveys to confirm compliance with the Procurement Policies and the Procurement Guidelines and whether there is any risk, the status of acquisition of forest certification, and resource backgrounds.
- In the case of existing suppliers, the Group continues to do business with them after confirming whether there is any risk in executing the action plan.
- Corrective action is taken in the case of suppliers that are deemed to be high-risk or non-compliant with the action plan.
- In FY2022, the Company confirmed compliance with the action plan in all domestic and overseas materials suppliers.

Overview of Action Plan



Number of Implementation of Action Plan (Nippon Paper Industries, FY2022)

Japanese resources	316 wood chip suppliers, 5 pulp suppliers (Implemented for all suppliers and confirmed compliance with all)
Overseas resources	22 wood chip suppliers, 13 pulp suppliers (Implemented for all suppliers and confirmed compliance with all)

[→WEB](https://www.nipponpapergroup.com/csr/forest/sustainability/actionplan/index.html) **Action Plan for Wood-based Raw Material Procurement (Japanese only)**
<https://www.nipponpapergroup.com/csr/forest/sustainability/actionplan/index.html>

1) Confirmation based on a due diligence system for verifying legality under the Clean Wood Act

- Nippon Paper Industries, Nippon Paper Papylia and Nippon Paper Crecia have established a Legality Certification Due Diligence System (hereinafter, Legality Certification DDS) manual based on the Clean Wood Act [→P15](#) for the purpose of verifying the legality of the wood resources that they procure.
- The companies use the Legality Certification DDS to conduct due diligence on all wood raw materials procured in Japan and overseas.

[→WEB](https://www.nipponpapergroup.com/csr/DDmanual.pdf) **Legality Certification Due Diligence System Manual (Japanese only)**
<https://www.nipponpapergroup.com/csr/DDmanual.pdf>

2) Confirmation of legality and traceability (eradicating illegal logging)

- For Japanese resources, in addition to Legality Certification DDS, traceability is assured. Compliance with laws and regulations related to forestry operations, as well as other basic information such as tree species and whether or not forest certification has been acquired, are confirmed in accordance with the Forestry Agency's "Guideline for Verification of Legality and Sustainability of Wood and Wood Products."
- For overseas resources, in addition to the Legality Certification DDS, checks are performed on related documents on a ship-by-ship basis to ensure that the logging areas and suppliers are in compliance with relevant laws and regulations and that shipments do not contain illegally harvested wood and staff assigned to local offices conduct questionnaire surveys and local interviews (to confirm basic information such as laws and regulations related to forestry operations and compliance with these, tree species, and whether forest certification has been obtained, thereby enhancing traceability).

* In FY2022, it was determined, based on questionnaire responses and shipping and other documents provided by each supplier, that no illegally logged wood chips or pulp were procured from overseas suppliers.

- Confirmation of legality is carried out for new business partners at the start of transactions and regularly on an annual basis for existing business partners.

Sustainable Procurement of Raw Materials

3) Confirmation of sustainability

- The Group confirms sustainability through supplier questionnaire surveys* (once a year) and local interviews.

* target: Import chip, domestic and import pulp

- The Group disseminates the Procurement Policies and the Procurement Guidelines in its supplier questionnaires in Japanese and English.

Contents of Supplier Questionnaire Survey (Excerpt)

- Confirmation of the Procurement Policies and the Procurement Guidelines.
- Policies or systems have been established for addressing human rights and labor matters.
(Workers' collective bargaining rights and free association rights, No forced labor, No child labor or discrimination, Being protected in health and safety, Considering the rights of indigenous peoples)
- Fair transactions have been conducted.
- Social contribution initiatives have been undertaken to improve relations with local communities.
- The environment has been considered.
(Response to climate change issues, reduction of environmental impact, effective use of resources, consideration for water resources)
- Logging and forest management activities that are considered to protect biodiversity have been conducted.
- Biodiversity surveys have been conducted.
- Forest certification has been obtained.

4) Third-party audits

All procured wood resources are audited annually by the Japan Paper Association's "Illegal Logging Monitoring Project," and assessed for risks by the due diligence system of forest certification PEFC.

3. Response to the Clean Wood Act

Nippon Paper Industries, Nippon Paper Papylia, Nippon Paper Crecia and Nippon Paper Lumber completed their registrations as both a Type 1 and Type 2 Wood-related Businesses under the Act on Promotion of the Distribution and Use of Legally Harvested Wood (the Clean Wood Act). In compliance with this law, the companies confirm the legality of the covered items they handle.

Registration Details

Business registered	Registration number	Effective registration period	Institution conducting registration	Products
Nippon Paper Industries	JIA-CLW-I, II No. 17024	March 19, 2023 to March 18, 2028	Japan Gas Appliances Inspection Organization	Wood pulp and copier paper, form paper, coated paper for inkjet color printers, uncoated printing paper, coated printing paper, and tissue paper and toilet paper that use wood pulp
Nippon Paper Papylia	JIA-CLW-I, II No. 19001	April 26, 2019 to April 25, 2024		
Nippon Paper Crecia	JIA-CLW-I, II No. 19002	April 26, 2019 to April 25, 2024		
Nippon Paper Lumber	JPIC-CLW-I, II No. 54	July 6, 2023 to July 5, 2028	Japan Plywood Inspection Corporation	Logs, sawn boards and square timbers, single and sliced veneers, plywood and laminated veneer lumber and laminated wood, wood materials for wooden pallets, chips, or flakes

4 Employee Training and Education

Raw Material Procurement Related Training Sessions (FY2022)

Topics	Target participants	Frequency
Principles and Basic Policies Concerning Raw Materials Procurement, Wood Resources Procurement Guidelines	Staff in charge of forest certification	Once a year, or when staff are replaced
Forest Certification	Staff in charge of forest certification	Once a year, or when staff are replaced

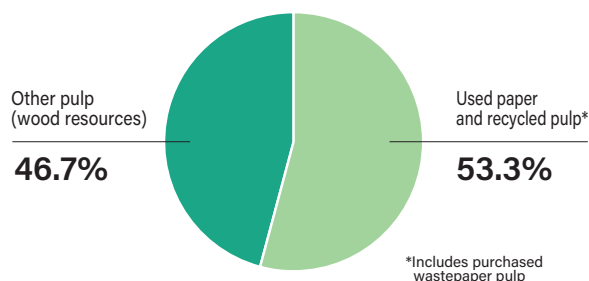
Sustainable Procurement of Raw Materials

5 Nippon Paper Group Raw Materials Procurement

1. Major Raw Materials for Paper Products

The main raw materials for the Group's paper products are pulp derived from wood resources and used paper/recycled pulp.

Breakdown of major raw materials for paper products (Consolidated companies in Japan, FY2022)



2. Stable Wastepaper Procurement

The Group continues to maintain the stable procurement system that it has built over the course of many years in cooperation with the wastepaper industry. (Initiatives for Using Wastepaper → P39)

- Building a Closed Loop System
- Circular use of wastepaper in collaboration with local governments
- Collection and utilization of previously unused and difficult-to-treat waste paper such as used food containers

Amount of used paper and recycled pulp procured* (FY2022)

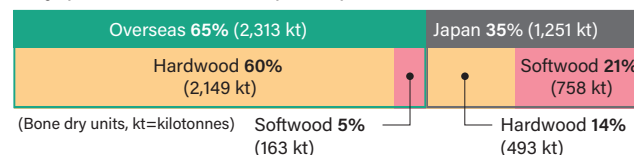
Used paper (kt)	Recycled pulp (kt)	Total (kt)
2,304	10	2,314

* Target of aggregation: Consolidated companies in Japan excluding Cresia Kasuga

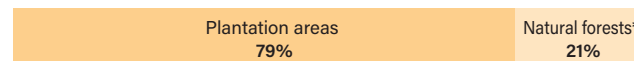
3. Stable Wood Resources Procurement

- The Company procures most of the wood resources as wood chips and some as pulp.
- About 65% of wood chips are procured from overseas, and about 35% from Japan.
- To ensure stable procurement, sources of wood chip imports are diversified between Asia, Australia, and South America, and other parts of the world.
- The Group procures wood resources with proper planning and management.
- The Company and overseas plantation subsidiaries have obtained forest certification for all its company-owned forests.
- To ensure stable procurement using the Group's own resources, the Group is promoting overseas plantation business → P19 and utilizing company-owned forests in Japan. → P17
- In the case of external procurement, the Group has strengthened its supply chain management and built a procurement system that traces back to the forests where wood resources are sourced.

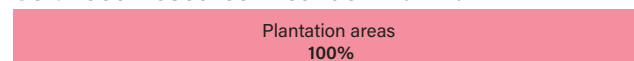
Geographic Breakdown of Wood chips for Paper Manufacture (Nippon Paper Industries, FY2022)



Hardwood Resource Breakdown (2,642 kt)



Softwood Resource Breakdown (921 kt)



* Natural forests as indicated here refer to either wood sourced from forests certified under certification schemes, wood sourced from secondary forests, or lumber waste wood chips that can be judged to be sustainable.

Countries of origin and tree species for overseas wood chips procured for paper manufacture (Nippon Paper Industries, FY2022)

Hardwood

Country	Percentage	Species
Vietnam	34%	Acacia
South Africa	26%	Acacia, Eucalyptus
Australia	19%	Eucalyptus
Brazil	9%	Eucalyptus, Acacia
Thailand	7%	Eucalyptus
Chile	5%	Eucalyptus
Total	100%	

Softwood

Country	Percentage	Species
Australia	100%	Pinus radiata

Sustainable Forest Management

1 Basic Policy

Forests possess tremendous value to Nippon Paper Group as a management resource. For this reason, the Group nurtures forest resources on its own while also procuring sustainable wood resources from outside sources. The Group will continue to provide diverse value by appropriately managing its 160,000 hectares of forests in Japan and overseas, leveraging the unique technology and knowledge the Group has cultivated to date.

The Nippon Paper Group Definition of Sustainable Forest Management

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

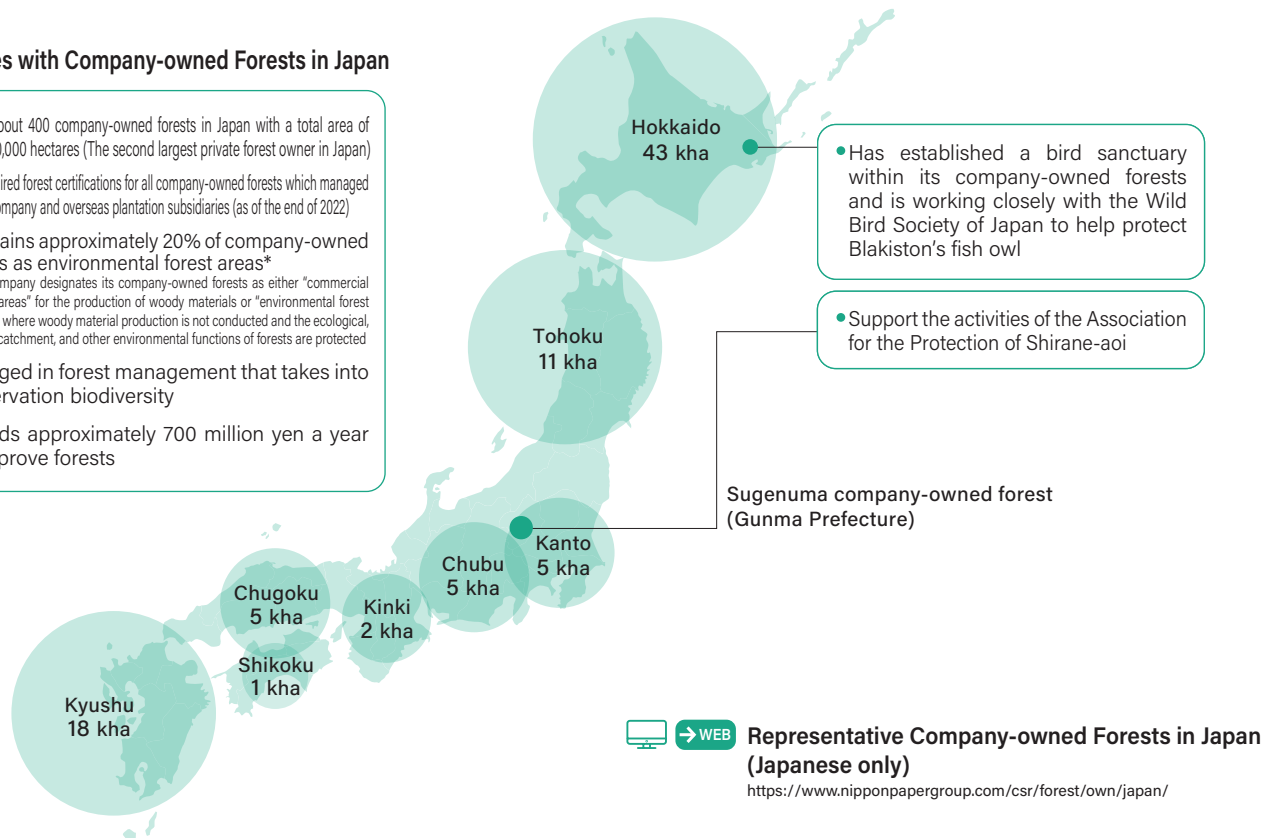
2 Utilization of Company-owned Forests in Japan

1. Sustainable Forest Management in Company-owned Forests in Japan

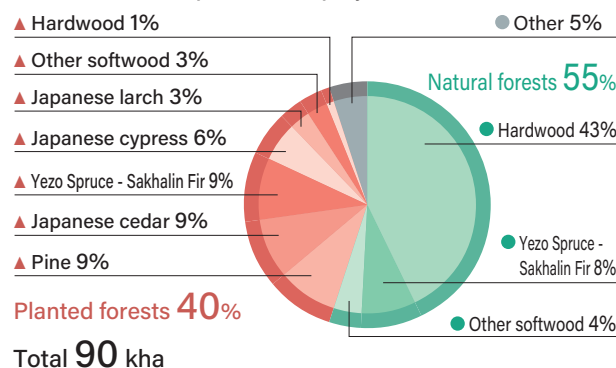
Nippon Paper Industries as a company owning forests and utilizing forest resources, aims to enhance the productivity of company-owned forests and carries out balanced and sustainable forest management which can fully demonstrate public interest functions such as forest biodiversity conservation and water source retention.

Initiatives with Company-owned Forests in Japan

- Owns about 400 company-owned forests in Japan with a total area of about 90,000 hectares (The second largest private forest owner in Japan)
- Has acquired forest certifications for all company-owned forests which managed by the Company and overseas plantation subsidiaries (as of the end of 2022)
- Maintains approximately 20% of company-owned forests as environmental forest areas*
* The Company designates its company-owned forests as either "commercial forest areas" for the production of woody materials or "environmental forest areas," where woody material production is not conducted and the ecological, water catchment, and other environmental functions of forests are protected
- Engaged in forest management that takes into preservation biodiversity
- Spends approximately 700 million yen a year to improve forests



Breakdown of Tree Species in Company-owned Forests (as of the end of 2022)



Forest Certification Status of Company-owned Forests in Japan (Nippon Paper Industries)

Company-owned forests in Japan (by Region)	Certification system name	Date acquired
Hokkaido	SGEC	Dec. 2005
Tohoku	SGEC	Oct. 2007
Kanto, Chubu, Kinki (partial)	SGEC	Oct. 2007*
Kinki, Chugoku, Shikoku	SGEC	Dec. 2006
Kyushu	SGEC	Mar. 2005

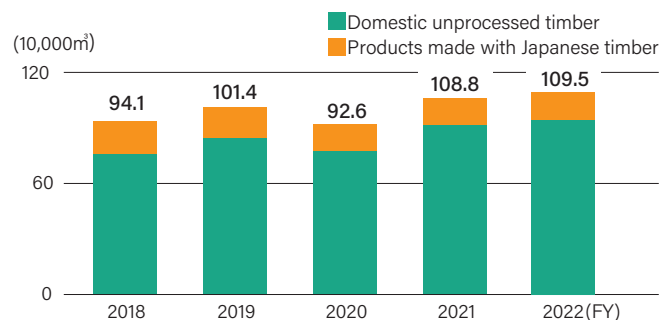
* Obtained for Kitayama company-owned forest in Shizuoka Prefecture only in December 2003.

Sustainable Forest Management

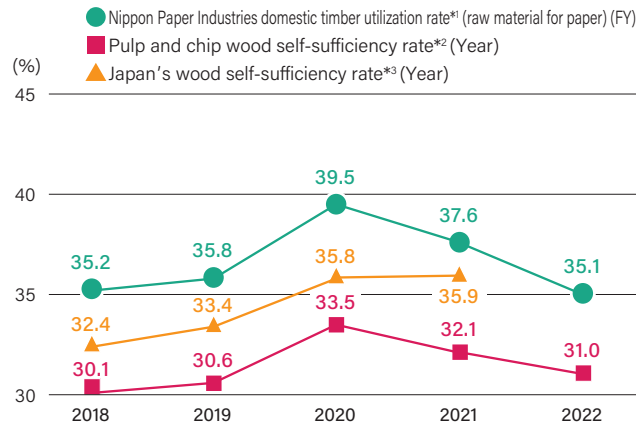
2. Invigorating Japan's Forest Industry

- The Group promotes the maintenance of the domestic supply chain and the further use of domestic timber under a forestry policy based on the basic policy of "green growth through the forest, forestry and timber industries" promoted by the Government of Japan.
- The Company is working to increase the percentage of domestic timber as a raw material for paper. This figure was 35.1% in FY2022.
- The volume of domestically produced wood chips used by the Company to make paper accounts for about 10% of the total demand for domestically produced timber, and its usage ratio of domestically produced material is at the highest level in Japan.
- With its network for domestic timber collection in Japan and its ability to handle a comprehensive lineup of products—ranging from good quality timber for lumber use to lower grade timber for use as wood chips for paper manufacture and wood biomass fuels—Nippon Paper Lumber is actively developing its domestic timber business with the goal of "annual sales* of domestic unprocessed timber of 1 million m³."
- * Does not include woodchips for paper manufacturing use.
- The Company is also working to utilize company-owned forests throughout Japan as a field in which to support the revitalization of the domestic forestry industry.

Domestic Timber Sales Results by Product Type (Nippon Paper Lumber)



Domestic Timber Utilization Rate (Nippon Paper Industries)



*1 It 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 Forest Agency of Japan.

CASE STUDY

Expansion of Business of Elite Seedlings for Forestry* and Utilization of Company-owned Forests (Nippon Paper Industries)

The Company is working on the business of elite tree seedling for forestry in collaboration with the Forestry Agency, municipalities, and seedling traders. In FY2022, In addition to Kumamoto Prefecture, the Company newly opened seed orchards for elite trees of Japanese cedar and Japanese cypress in Shizuoka, Tottori, Hiroshima, and Oita prefectures. In the future, the Company will accelerate nationwide expansion and aim to build a production system of 10 million units by FY2030. The Company is also working to create a model for the revitalization of the domestic forestry industry by planting elite trees in company-owned forests that have been reforested.

* Strains of Japanese cedar and Japanese cypress with excellent characteristics such as 1.5 times more growth and CO₂ absorption and less than half the amount of pollen production.

CASE STUDY

Use of Cutting-edge Technology (Nippon Paper Industries, Nippon Paper Lumber)

Nippon Paper Industries and Nippon Paper Lumber are examining the acquisition of forest resource information using a drone and aerial laser and labor saving in and streamlining of forest management in company-owned forests. The companies concluded an agreement on the implementation of cutting-edge technology on-site with Shizuoka Prefecture in May 2022, and will demonstrate cutting-edge technology using company-owned forests in Shizuoka. In addition, in September 2022, the Company realized the efficient creation of J-Credits* using aerial laser measurement data at the Kazaki company-owned forest (Fuji City, Shizuoka Prefecture).

* J-Credit Scheme is a system to certify the amount of CO₂ and other greenhouse gas emissions reduced by energy saving and the use of renewable energy or absorbed through proper forest management, as "credit."

Public-private Collaboration in the Formation of Large-Scale Forestry Business Complexes (Nippon Paper Industries)

Since 2011, as a private-sector company that owns a forest in the Itsuki region of Kumamoto, the Company has been involved in an agreement to promote forest management in the region, alongside Kyushu Regional Forest Office, Itsuki Village, ITSUKI Forest Owner's Cooperative, and others. Currently, the field environment is a large-scale forestry operation of over 20,000 hectares, and the partnership is engaged in reasonable road building and efficient forestry operations. The Company continued cooperative shipments in FY2022 and aims to increase shipments in the future.

Supply of SGEC-Certified Wood (Nippon Paper Industries, Nippon Paper Lumber)

Nippon Paper Lumber received CoC certification of SGEC for the first time in Japan. In 2018, the Company used Nippon Paper Lumber's CoC certification to supply SGEC-certified material from its Kitayama company-owned forest (Fujinomiya, Shizuoka) to the Exhibition Building Wooden Grid Project at the Mt. Fuji World Heritage Center, Shizuoka. This is the first case of acquiring "SGEC/PEFC CoC Project Certification" in Japan. SGEC-certified lumber from company-owned forests was also supplied for use in the construction of the Japan National Stadium, which was completed in 2019.

Sustainable Forest Management

3 Promotion of Overseas Plantation Business

1. Sustainable Forest Management in Overseas Plantation Projects

- The Group manages approximately 70,000 hectares of plantation areas in Brazil and Australia.
- All plantation areas managed by overseas plantation subsidiaries have obtained forest certification (as of the end of 2022).
- The Group conducts its forest management considering the natural environment/ecosystem, local residents, and local culture/traditions.

Consideration for the natural environment and ecosystem

- For plantation areas, the Group utilizes grasslands, vacant farms, pastures, and harvested plantation land.
- The Group selects and plants tree species that are suited to local climates and are good as raw materials for paper manufacturing, with a focus on the fast-growing Eucalyptus.
- In order to maintain a balance between areas planted with Eucalyptus and biodiversity in the region, the Group manages plantation areas appropriately with consideration for the landscape, such as retaining native waterside forests where the potential effects on the ecology are significant as riparian forest areas.
- The Group has set up protected areas on company-owned land for biodiversity conservation, and conducts habitat surveys of animals and plants. [→P45](#)

Coexistence with local communities

- When conducting new development, the Group carries out environmental and social impact assessments, and gives consideration to indigenous peoples, and provides support for educational activities for local residents.
- The plantation project companies conduct regular visits and meetings for communities surrounding the plantation areas they own, in order to confirm the opinions and demands of local people with regard to their project activities.
- Based on requests obtained through dialogue with stakeholders, the Group establishes procedures for evaluating and reviewing social contribution activity programs.

Overview of Overseas Forests under Nippon Paper Group Management (as of December 31, 2022)

Company	Country	Plantation area (10 k ha)	Background
Amapá Florestal e Celulose S.A.(AMCEL)	Brazil	6.5	Wholly owned subsidiary of Nippon Paper Industries
Nippon Paper Resources Australia Pty. Ltd.(NPR)	Australia	0.7	Wholly owned subsidiary of Nippon Paper Industries (Management of PTP, BTP, etc.)

Status of Forest Certification Acquisition for Overseas Plantation Projects

Overseas plantation project by operating company	Company	Certification system name (License no.)	Acquisition year
PTP	Australia	Responsible Wood	2006
BTP	Australia	Responsible Wood	2006
AMCEL	Brazil	FSC®(FSC®C001931) CERFLOR	2008 2014



Overseas Forests under the Management of Nippon Paper Industries (Japanese only)

<https://www.nipponpapergroup.com/csr/forest/afforest/>

Examples of Activities to Coexist with Local Communities

Country	Examples of activities to coexist with local communities	
	Contributions to local communities	Respect for indigenous peoples
Brazil	<ul style="list-style-type: none"> ● Vocational training for local residents in communities surrounding plantation areas ● Distribution of compost made using bark and biomass residues to farmers around plantations ● Financial support for elderly care facilities ● Sponsorship and provision of materials to military police environment units (sports classes for children of low-income families) ● Partnership with military police (sponsorship of education and sports classes for children from low-income families run by military police) ● Financial support for protection of wild animals and environmental education activities 	<ul style="list-style-type: none"> ● Designation of areas with indigenous heritage sites identified on company-owned land as permanent protected zones
Australia	<ul style="list-style-type: none"> ● Cooperation with firefighting activities in times of forest fires in the local area, as members of a fire brigade consisting of local plantation-related companies 	<ul style="list-style-type: none"> ● Protection of indigenous heritage sites identified in plantation areas



Main Activities for Coexistence with Communities and Society, and Social Contribution Activities

Sustainable Forest Management

2. Improving the Productivity of Forest Resources

- The Group is striving to stabilize woody raw material procurement, improve quality and reduce costs, and improve productivity by utilizing its proprietary technologies.
- By FY2030, the Group plans to expand forests where it can secure resources to around 100,000 hectares, mainly in Asia.

CASE STUDY

Improved Productivity Utilizing its Proprietary Technologies (AMCEL)

AMCEL is developing eucalyptus plantation trees that grow quickly in tropical regions and are suitable as raw materials for paper manufacturing.

AMCEL has shortened the time required for selection using its proprietary breeding and propagation technologies, and has greatly improved the productivity of its plantations in a short period of time.

The Group has significantly improved business profitability and CO₂ fixation efficiency per unit area by reducing the costs associated with improving productivity.

Strategic Partnership Agreement in Indonesian Plantation Project (Nippon Paper Industries)

In March 2022, the Company entered into a strategic partnership with Marubeni Corporation to improve forest stock volume through technical guidance to MHP, Marubeni Corporation's Indonesian plantation company.

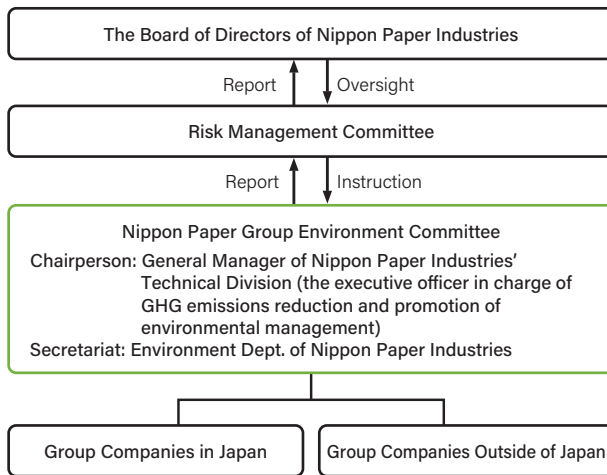
The Company aims to increase the number of suppliers of sustainable forest resources in Southeast Asia by increasing forest stock volume through its technical guidance.

Environmental Management

1 Basic Policy

 **→P83** The Nippon Paper Group Environmental Charter

2 Promotion Structure

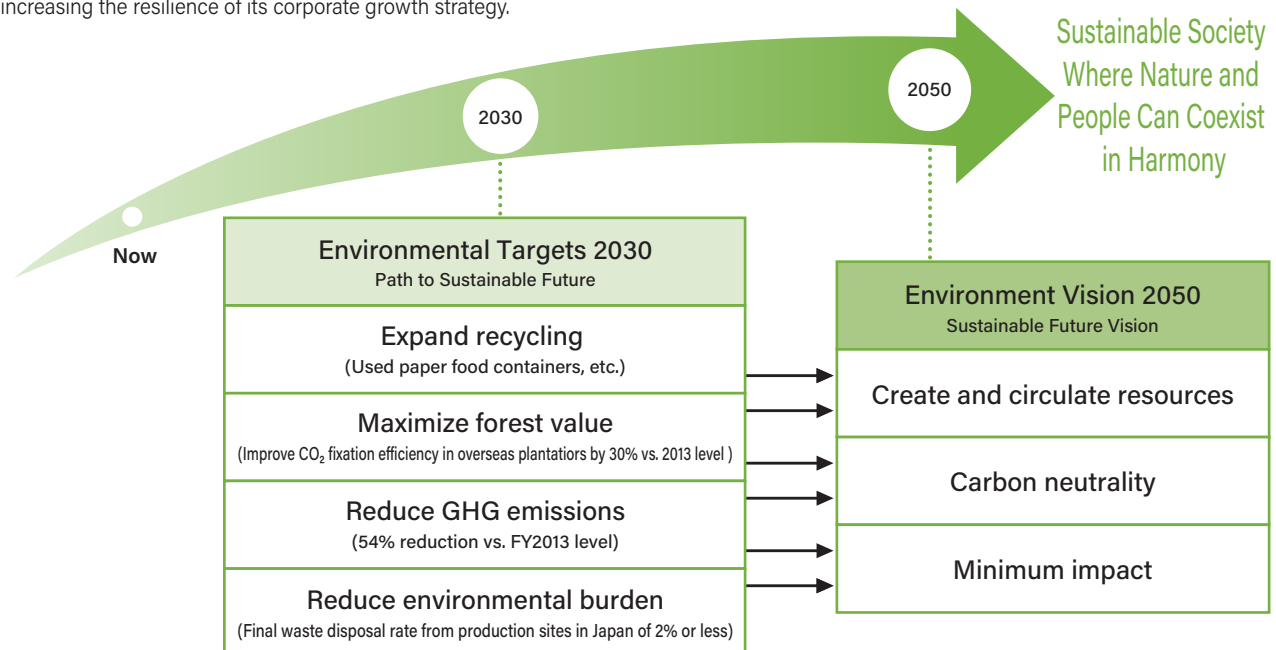


- Nippon Paper Group's management risks related to the environment are identified, and countermeasures are implemented by the Nippon Paper Group Environment Committee. The committee is chaired by the General Manager of the Nippon Paper Industries' Technical Division, who is the executive officer in charge of GHG emissions reduction and promotion of environmental management.
- Under the supervision of the Board of Directors, the Committee manages and evaluates the appropriate implementation of environmental targets based on the Nippon Paper Group Environmental Charter.
- The Committee includes all Group companies with major production sites.

- Once a year, the operational status and deliberations of the Committee are reported to the Board of Directors through the Risk Management Committee.
- In FY2022, the Committee reported to the Board of Directors through the Risk Management Committee on environmental law violations and risks related to the transition to a carbon neutral society.
- The Group holds the New Product Development Committee **→P52** and promotes the development of products derived from wood resources in line with growing environmental awareness.
- Based on information from the New Product Development Committee, the Management Executive Committee deliberates and decides on environmental management policies and measures, and incorporates them into business strategies to address environmental risks and seize business opportunities. In this way, the Group is increasing the resilience of its corporate growth strategy.

3 Nippon Paper Group Environmental Vision 2050, Nippon Paper Group Environmental Targets 2030

- The Group has set a vision for 2050 and the ideal state of the Group in 2050, and is working on the 2030 Environmental Targets formulated to achieve it.
- In the 2030 Environmental Targets, the Group will promote the reduction of greenhouse gas (GHG) emissions, the maximization of forest value, the expansion of recycling, and the reduction of environmental impact throughout the value chain in order to realize a sustainable society.
- The Group aims to achieve a sustainable society where people and nature coexist by providing products that have a low environmental impact throughout their life cycle.



Environmental Management

Nippon Paper Group Environmental Vision 2050 (Sustainable Future Vision)

1. Carbon Neutrality

Reduce greenhouse gas emissions to virtually zero.

- Minimize greenhouse gas emissions through the efficient use of energy and the use of renewable energy sources.
- Minimize greenhouse gas emissions in the value chain through collaboration with stakeholders.
- Become carbon neutral by offsetting residual emissions through CO₂ absorption and fixation in forests and CO₂ removal technologies.

2. Creation and Circulation of Resources

Create sustainable forests that preserve biodiversity and procure and supply resources.

- Maintain and expand forests with multifaceted value and maximize forest value.
- Procure and supply a variety of woody biomass resources that can be used as raw materials for various products.

Promote the utilization of woody biomass resources to contribute to better living in a circulation-oriented society.

- Provide a variety of materials and products made from woody biomass resources.
- Promote resource circulation and product recycling as a social infrastructure.

3. Minimum Impact

Minimize the environmental impact of the Group's business activities.

- Minimize the input and output of resources that impact the environment.
- Provide society with products and services that have a low environmental impact throughout their entire life cycle.

Environmental Management

Progress and Status of Initiatives in Nippon Paper Group Environmental Targets 2030 (FY2022)

1. Reduce greenhouse gas emissions

Reduce greenhouse gas emissions through fuel conversion and energy conservation measures.

Target	Progress and status of initiatives
● Reduce direct greenhouse gas emissions by 54% from FY2013 levels.	The Group reduced GHG emissions (Scope 1 and 2) by 30% compared with FY2013 levels.
● Accelerate fuel conversion and increase the ratio of non-fossil energy use to at least 60%.	The non-fossil energy ratio to energy used was 45%.
● Improve total energy consumption per unit of production and distribution by 1% from the previous year.	Total energy consumption per unit of production at Nippon Paper Industries: decreased by 1.4% in the paper business, increased by 2.1% in the paperboard business Total energy consumption per unit of distribution at Nippon Paper Industries: increased by 1.3%
● Reduce greenhouse gas emissions from product transportation of the paper and paperboard business in Japan by 23% relative to FY2020 levels through modal shift and other measures.*	Greenhouse gas emissions from product transportation of the paper and paperboard business in Japan decreased by 7% relative to FY2020 levels.
● Collaborate with stakeholders to reduce indirect greenhouse gas emissions.	The Group calculated Scope 3 emissions from major pulp and paper companies in Japan and is considering measures to reduce indirect GHG emissions.

* Applied to Nippon Paper Industries.

2. Promote the creation and circulating of resources

Promote the protection and cultivation of forest resources and biodiversity-conscious forest management.

Target	Progress and status of initiatives
● Improve CO ₂ fixation efficiency in overseas forest plantations by 30% compared to 2013 levels.	The Group conducts research and development such as elite tree selection on an ongoing basis with the aim of improving CO ₂ fixation efficiency.
● Obtain and maintain forest certification for all company forests in Japan and overseas.	The Company and overseas plantation subsidiaries have obtained and maintained forest certification (FSC ^{*1} , PEFC, and SGECC) for all of the company-owned forests in Japan and overseas.
● Ensure the traceability and sustainability of all woody biomass resources used.	The Group has worked to confirm sustainability and enhance traceability by making use of forest certification systems, and through other efforts. The wood chips and pulp used for papermaking in FY2022 were all made from wood approved by FSC ^{*2} or PEFC (including controlled wood and controlled sources).
● Promote the use of domestic forest resources.	The use of domestic wood at all Nippon Paper Industries mills reached 35.1% in FY2022 (based on actual purchases).

*1 FSC® Logo License No. FSC® C001931 (AMCEL: Brazil)

*2 FSC® Logo License No. FSC® C001751 (Nippon Paper Industries)

Promote the circulation of resources.

Target	Progress and status of initiatives
● Work to build a recycling system that promotes resource circulation.	The Group classifies hard-to-use wastepaper discharged as industrial waste and business-related general waste into "industrial waste/general business-related waste exclusively for recycling purposes," and is entrusted the treatment of such waste. The Group is trying a scheme to recycle it as a used paper resource.
● Utilize 12,000 t/year of unused recovered paper, which has been difficult to recycle, through the development of recovered paper utilization technology.	The actual use of unused and hard-to-use wastepaper was 1,707 tons. (Breakdown: 1,617 tons of wastepaper for food and beverage containers, 90 tons of other hard-to-use wastepaper)

3. Reduce environmental impact

Reduce the environmental impact of manufacturing processes.

Target	Progress and status of initiatives
● Reduce air pollutants by 15% and water pollutants by 15% compared to FY2018 levels.	Reduction rate at production sites in Japan: SOx 31%, NOx 30%, dust 22%, COD/BOD 31%, and SS 8%
● Reduce the final disposal of industrial waste at production sites in Japan to 2% or less.	The final disposal of industrial waste at production sites in Japan was 1.6%.
● Provide society with products and services that have minimal environmental impact throughout their entire life cycle.	The Company expanding sales of cellulose products such as CNF and CMC as environmentally friendly products. In FY2022, adoption will expand significantly, mainly for food and cosmetics applications, and will be approximately four times as large as in FY2021.

Environmental Management

4 Strengthening Environmental Compliance

The Group is strengthening its environmental compliance from a preventive standpoint, using a two-pronged approach of establishing frameworks for preventing problems and ensuring that no problems are missed, and engaging in its business activities while giving priority to legal compliance.

Two-Pronged Approach

(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 are Covered

- Enhancement of environmental audits
- Enhancement of environmental management system
- Engaging in environmental communication and active information disclosure

1. Building a Workplace that Emphasizes the Importance of the Environment (Environmental Compliance Training)

To promote the creation of workplaces that emphasize the importance of the environment, the Group is working on systematic environmental training for employees.

- Encourage employees to obtain qualifications related to pollution prevention and to participate in external training to acquire specialized knowledge.
- Photo contest "Nippon Paper Group Eco Photo Award" (Environment Month every June)
- Environmental e-Learning
- Dissemination of environmental training materials and environmental information from each mill on in-house portal site (FY2022: Posted 11 environmental education materials)

Achievements in Environment-related Employee Education (FY2022)

Topic/Title	Participants	Number of participants	Number of sessions (frequency)
The Act on Promotion of Resource Circulation for Plastics, Reduction of plastic waste	Nippon Paper Group	7,379 persons	1 (once a year)

2. Strengthening the System for Identifying Applicable Laws and Regulations

To respond appropriately to revisions to environment-related laws and regulations, the Group uses a law search system and other means to share information on revisions of laws and their trends and has established a system to ensure compliance with laws and regulations.

3. Implementing Measures from Both the Facility and Technology Perspectives

- The Group extracts the risk of environmental accidents from two perspectives: the possibility of an accident and its impact on the environment, and introduces equipment and measurement equipment necessary for preventing accidents.
- Each Group company is engaged in continuous measures to prevent large-scale leaks of oil or chemical agents, including the installation of liquid containment barriers (oil fences, etc.) and measuring devices.

4. Enhancement of Environmental Audits

- The Group conducts regular environmental audits based on the "Environmental Management Policy Concerning Pollution Prevention," which is the action guideline for environmental management efforts issued by the Ministry of the Environment and the Ministry of Economy, Trade and Industry.
- Audits are double-checked by internal audits by each business site and audits by the department in charge of the environment at headquarters.
- In addition to document audits (confirmation of management records for wastewater and other waste materials) and on-site audits (confirmation of facilities such as chemical tanks), mutual audits are also conducted among Group companies in an effort to strengthen environmental audits.

5. Enhancement of Environmental Management System

- The Group thoroughly manages factory wastewater and exhaust gas daily through constant monitoring using measuring equipment and inspectors' measurements.
- The Group has introduced an environmental information management data system for all businesses with the aim of centrally managing environmental information. The Group plans to promote the sharing of environmental information from each site and the utilization of data.

Environment-related* Fines and Penalties

Environment-related fines and penalties (FY2022)	0 Yen
--	-------

* Decrees and regulations regarding the environment of water intake, wastewater, air, and waste

Environmental Management

6. Engaging in Environmental Communication and Active Information Disclosure

- The Group has also established the Nippon Paper Group Risk Communication Guidelines and is implementing initiatives based on the guidelines.
 - Risk communication for local residents and local governments held at each mill/office (in principle, held at least once a year)
 - Preliminary briefing session on the environmental impact of construction and operation when introducing large equipment, etc.
- The Group tries to listen to the opinions of all, including accepting opinions and questions on its website, establishing complaints and inquiries desks at mills, and utilizing an environmental monitor system to request information from local residents.
- When a complaint is received, the Group moves swiftly to determine possible causes, and implement emergency and permanent solutions.
- The Group also explains to the person who lodged the complaint what happened and what was done to resolve the situation, so that they can be satisfied that the Group has responded appropriately.

Environment-related Complaints in Japan (FY2022)

Complaints	Noise/ Vibration	Odor	Dust and mist dispersal	Smoke	Other	Total
Number	4	3	1	0	0	8

5 Acquisition of Major Environmental Certifications and Awards

Acquisition of ISO 14001 Certification* (as of March 31, 2023)

Company name	Mills/Operating division/Production subsidiaries
Nippon Paper Industries	Asahikawa Mill, Siraoi Mill, Akita Mill, Ishinomaki Mill, Iwanuma Mill, Nakoso Mill, Ashikaga Mill, Soka Mill, Fuji Mill, Gotsu Mill, Otake Mill, Iwakuni Mill, Yatsushiro Mill, Higashimatsuyama Mill
Nippon Paper Crecia	Tokyo Mill, Kaisei Mill, Koyo Mill, Kyoto Mill
Crecia-Kasuga	Shin-Fuji Mill
Nippon Paper Papyrus	Harada Mill, Suita Mill, Kochi Mill
NP Trading	Headquarters, Sapporo Branch Office, Chubu Branch Office, Kansai Branch Office, Chugoku Branch Office, Kyushu Branch Office, Shizuoka Sales Office
Daishowa Uniboard	Headquarters, Miyagi Mill
N&E	Headquarters Mill
Nippon Paper Ishinomaki Technology	Headquarters
Opal	Opal Kiwi Packaging Auckland, Opal Kiwi Packaging Christchurch, Opal Kiwi Packaging Hastings, Opal Australian Paper Maryvale Mill
Jufo Thermal	Kauttua
Siam Nippon Industrial Paper	Siam Nippon Industrial Paper
Nippon Paper Liquid Package Product	Egawa Mill, Miki Mill, Ishioka Mill

* Sites that have obtained certification for some manufacturing are also listed.

- Nippon Paper Industries has obtained ISO 14001 certification for 100% of its production locations.

The Status of Eco-Action 21 Acquisition (as of March 31, 2023)

Company name	Mills/Operating division/Production subsidiaries
Akita Jufo Chemicals	Headquarters Mill

External Awards for Environmental Conservation Activities (FY2022)

Recipient	Award
GAC	Sainokuni Saitama Small and Medium Enterprise CO ₂ Reduction Grand Prize "Outstanding performance award"
Nippon Paper Industries Nakoso Mill	Fukushima Minpo Fukushima industry award "Special Prize"

Response to Climate Change

1 Basic Policy

 **→P83 The Nippon Paper Group Environmental Charter**

2 Achieving Carbon Neutrality in 2050

- The Nippon Paper Group's greenhouse gas (GHG) reduction is based on three pillars: fuel conversion, energy conservation in production and logistics processes, and absorption and fixation of CO₂ through optimal management of company-owned forests.
- One of the basic policies of the 2030VISION is "Respond to rapid changes in the social landscape, such as GHG reduction and environmental issues," so the Group is working on reducing GHG emissions and implementing a green strategies to achieve carbon neutrality in 2050.
- In May 2023, the Group revised its original plan for the GHG emissions reduction target for FY2030 and decided to reduce GHG emissions (Scope 1 and 2) by 54% compared to FY2013.
- To accelerate GHG emissions reduction, the Company introduced internal carbon pricing in FY2021. However, this operation has been temporarily suspended since FY2022, due to the soaring price of coal and other fuels.
- In the long term, the Group aims to achieve carbon neutrality in 2050 through a multifaceted approach, including introducing carbon-free fuels and CCUS.
- In 2021, the Japan Paper Association, of which the Company is a member, set up the "Countermeasures against Global Warming aiming at Net Zero GHG emission from the Paper Industry – Long-Term Version 2050" and is working to realize the construction of a carbon neutral industry through the proactive introduction of a range of measures aimed at reducing CO₂ emissions.
- The Company is actively working on various measures to realize the "Countermeasures against Global Warming, aiming at Net Zero GHG emission from Paper Industry – Long-Term vision 2050" advocated by the Japan Paper Association.

Nippon Paper Group's GHG Reduction Initiatives



The Nippon Paper Group's FY2030 Targets

Reduce GHG emissions (Scope 1 and 2) by 54%* compared with FY2013

- Reduce fossil fuel use by maximizing the use of existing infrastructure

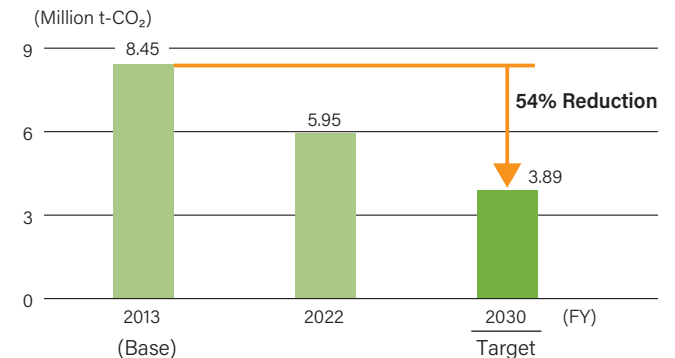
Pursuit of a green strategies

- Maximize forest value (30% improvement in CO₂ fixation efficiency at overseas plantations, compared to 2013)
- Respond to demands to eliminate and reduce plastic (increase products that replace plastic with paper)

* Targeting GHG emitted during product manufacturing

Carbon neutrality in 2050

GHG Emissions (Scope 1 and 2)



Response to Climate Change

GHG Emissions (Scope3, FY2022)

Coverage: Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papyrus

	Category	Emissions (thousand t-CO ₂)
1	Purchased goods and services	2,621
2	Capital goods	183
3	Fuel- and energy-related activities (not included in scope 1 or scope 2)	2,207
4	Upstream transportation and distribution	719
5	Waste generated in operations	111
6	Business travel	2
7	Employee commuting	8
8	Upstream leased assets	Not applicable
9	Downstream transportation and distribution	322
10	Processing of sold products	328
11	Use of sold products	0
12	End-of-life treatment of sold products	426
13	Downstream leased assets	Not applicable
14	Franchises	Not applicable
15	Investments	Not applicable
	Others (upstream)	Not applicable
	Others (downstream)	Not applicable
	Total	6,925

Coverage: Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papyrus

Target business: Paper and Paperboard Business, Dairy-Life Products Business, Energy Business
Category11: It is assumed that paper and paperboard products, which are our main products, do not use energy during product use.

CASE STUDY

Commissioned by NEDO for CCUS R&D and Demonstration-related Projects (Nippon Paper Industries)

In collaboration with Takuma Co., Ltd., a boiler manufacturer, the Company was entrusted with a project entitled "Research, Development and Demonstration Project for CCUS/Investigation Project related to CCUS Technology/Technology Investigation Project related to CO₂ separation & capture and intensive transportation & Utilization for large-scale CO₂ Emission Source/Investigation into Energy-Saving CO₂ Separation & Capture at Biomass Power Plants," commissioned by the New Energy and Industrial Technology Development Organization (NEDO) from 2021 to 2022. Using the biomass power generation facility of Yufutsu Energy LLC as a model, the Company examined energy-saving CO₂ separation and capture technology and integration technology, and investigated issues related to commercialization.

3 Fuel Conversion

- The Group uses black liquor (produced as a byproduct of the production of pulp) and construction waste materials as woody biomass fuels.
- The amount of woody biomass energy for the Group in FY2022 is equivalent to 3.2%*1 of Japan's total non-fossil energy supply (excluding nuclear and hydroelectric power).
- In addition to woody biomass fuel, the Company actively uses waste fuels such as used tires and RPF*2. Its non-fossil energy utilization rate in FY2022 was 45%.
- In its Energy Business, the Company uses wood pellets procured appropriately in Japan and overseas with the aim of expanding its supplies of renewable energy.
- In 2022, the Nippon Paper Crecia Kaisei Mill introduced a solar power generation facility through PPA (Power Purchase Agreement).

*1 Estimated by the Company based on domestic primary energy supply data (finalized data for FY2021) published by the Agency for Natural Resources and Energy

*2 RPF: Refused derived paper and plastics densified fuel. This is a high-grade solid fuel made mainly from those paper and plastic industrial waste materials which are difficult to recycle. (From the website of Japan RPF Industry Association)

CASE STUDY

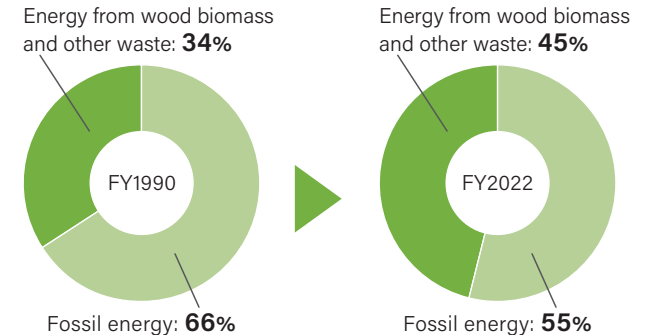
Initiatives in the Energy Business

Together with Sojitz Corporation, the Company has established the Yufutsu Energy Center LLC, a power generation company. In February 2023, the Company started operations at the Yufutsu Biomass Power Plant, one of Japan's most extensive power generation facilities that exclusively burn biomass.

As fuel, the plant uses wood chips, palm kernel shells (PKS), and unused wood, such as forest residue leftovers from Hokkaido.

In addition, Nippon Paper Ishinomaki Energy Center is carrying out renovation work for high biomass co-firing to increase the biomass ratio from 26% to 42% (scheduled for completion in November 2023).

Ratio of Fossil Energy Usage (calorie conversion)



CASE STUDY

Use of Torrefaction Technology and Woody Biomass Fuels (Nippon Paper Industries)

The Company has established a torrefaction technology to manufacture new woody biomass fuel as an alternative to coal for thermal power stations. Torrefaction is a technology that carbonizes woody biomass at a relatively low temperature. This has been developed for the production of fuels which remain relatively high in calories, are easy to crush, and have developed a water resistance that makes them suitable for outdoor storage. The fuel produced by the torrefaction technology can be used in the existing thermal power generating equipment, and contributes to the reduction of GHG emissions.

In-house Production of Solid Fuel from Waste (Nippon Paper Industries)

At its Otake Mill, paper sludge*1 and waste paper residue*2 generated in the production process of containerboards are solidified within the plant and used as energy to run the mill. In-house waste fuel production not only leads to a reduction in the amount of coal used, but also contributes to a reduction in the amount of final waste disposal due to waste recycling. Furthermore, since April 2019, the mill has been accepting plastic waste from Otake City as raw material.

*1 A sludge produced in the manufacture of paper. It contains mainly cellulose fibers and minerals drained during the paper dewatering / drying process.

*2 Foreign matter produced when processing wastepaper

Response to Climate Change

4 Energy Conservation in Production and Logistics Processes

1. Promotion of Energy Conservation in Production Process

- The Group is working hard to conserve energy in Japan and overseas by introducing high-efficiency equipment and reviewing its production processes.
- As for effective initiatives, the Group is expanding them to the mills of Group companies in Japan and overseas in an effort to increase their effectiveness.

<Examples of energy saving in production process>

- Reduction of steam by recovering heat from recycled water in pulp machines (at the Company Shiraoi Mill)
- Reduction of power consumption by introducing high-efficiency rotors to the screens that remove foreign matter from the pulp (at the Company Yoshinaga Mill)
- Utilization of a co-generation system (Use of steam with high temperature and pressure obtained in combustion at a boiler in power generation and production processes)

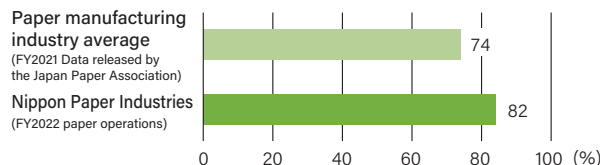
2. Promotion of Energy Conservation in Logistics Processes

From the perspectives of "improving loading efficiency" and "shortening transport distances," the Group is working on green logistics that will lead to a reduction in GHG emissions.

<Promoting energy-saving in logistics processes>

- Promoting a modal shift (Long-distance transportation by loading a large amount of goods at one time on railroads and coastal vessels)
- Pursuing direct delivery and joint delivery (Direct delivery without going through the warehouse in cooperation with the distributor)
- Trial operation of fuel cell forklifts (at the Company's Iwakuni Mill)

Comparison of Modal Shift Rates



Green Management Certifications*¹ (as of April 14, 2023)

Company	Number of offices with Green Management certification* ²
NIPPON PAPER LOGISTICS	5
Nanko Logistics Support	1
Hotoku	1
NP Unyu Kanto	3
NP Unyu Fuji	1
NP Unyu Kansai	1
NP Unyu Iwakuni	2

*¹ A system in which the Foundation for Promoting Personal Mobility and Ecological Transportation acts as a certification body and certifies and registers businesses that are making efforts above a certain level based on the Green Management Promotion Manual.

*² Awarded the "Green Management Certification Permanent Award" for all business sites that have been certified and registered continuously for 10 years from the first year of registration.

Eco Rail Mark Certifications*(as of March 31, 2023)

Company	Certification type
Nippon Paper Industries	Eco Rail Mark for companies
	Eco Rail Mark for products (paper, white paperboard)

* The certification, established by the Ministry of Land, Infrastructure, Transport and Tourism, applies to companies (and the products of companies) which use more than given percentage of rail freight transportation, which generates lower unit CO₂ emissions.

CASE STUDY

Efforts in Round-Trip Transportation between Akita Prefecture and the Tokyo Metropolitan Area (Nippon Paper Industries)

Since 2022, the Company has started round-trip transportation between Akita Prefecture and the Tokyo metropolitan area in collaboration with DOWA Ecosystem Co., Ltd. (DOWA) and Japan Freight Railway Company. In the past, containerboards produced at its Akita Mill were mostly transported by truck due to product height restrictions. By using large containers owned by DOWA, it has become possible to switch part of the product transport to freight rail transport. This contributes to reducing the burden of truck logistics, diversifying risks and improving stability through double-track transportation modes, and reducing GHG emissions.

Response to Climate Change

3. Absorption and Fixation of CO₂ through Appropriate Management of Company-owned Forests

- The Group is in compliance with the Clean Development Mechanism (CDM) of the Kyoto Protocol and considers that the forests absorb CO₂ while growing and the CO₂ is deemed emitted to the atmosphere when trees are harvested.
- The forests owned by the Group in Japan and overseas are harvested and replanted based on the business plan for the purpose of using resources.
- Part of the amount of CO₂ absorbed through proper forest management and continuous thinning has been certified as "J-Credits*" after inspection.
- The net amount of CO₂ absorbed by forests in company-owned forests in Japan and overseas (absorption amount minus logging amount) was about 780,000 tonnes-CO₂ from 2020 to 2022, and the total fixation amount was about 31 million tonnes-CO₂ as of the end of 2022.
- The Group estimates that the amount of sequestered CO₂ in forests in environmental protection area established in plantation projects overseas is approximately 10 million tonnes-CO₂.

* A system in which the government certifies as "credits", the amount of CO₂ emissions reduced through the introduction of energy-saving equipment, the use of renewable energy, and the absorption of CO₂ through appropriate forest management.

J-Credit Sales Performance

Company	Credit name	FY2019	FY2020	FY2021	FY2022
Nippon Paper Industries	Fuji/Kitayama company-owned forest thinning promotion project	1 case	—	2 cases	2 cases
Nippon Paper Lumber	Gunma/Sudagai company-owned forest thinning promotion project	2 cases	1 case	2 cases	3 cases

CASE STUDY

Acquisition of J-Credits (Nippon Paper Industries)

In September 2022, the Company newly acquired J-Credit certification for Kazaki Company-owned forest (Fuji City, Shizuoka Prefecture). This project was the first case in Japan to obtain J-Credit certification using aircraft and drones, which became possible with the revision of the system in August 2021.

Response to Climate Change

Response to TCFD

The Nippon Paper Group endorsed the Task Force on Climate-related Financial Disclosures (TCFD) in April 2021 with the aim of disclosing appropriate information on its response to climate change issues.

Governance

The Group has positioned responding to climate change issues as an issue for management and is working on mitigation and adaptation measures centered on reducing greenhouse gas (GHG) emissions.

The Company's Board of Directors positions the response to climate change issues as vital for realizing the Group Mission. It receives reports on the progress of the various projects related to GHG emission reduction, identified risks and opportunities, scenario analysis results, and other key data points from the director in charge of GHG emission reduction and environmental management (at least twice a year) and the Risk Management Committee (once a year). The Board also supervises the execution of these operations.

Risk Management

The assessment of and response to climate change-related risks are integrated into the Group's [risk management system](#) → P08 and managed by the Risk Management Committee. At the same time, risks reported in reports by the director in charge of GHG emissions reduction and promotion of environmental management (at least twice a year) are arranged in order of priority and evaluated, and then prompt decisions are made by the Board of Directors. Regarding risk assessment, the Climate Change Strategy Working Group sets multiple temperature rise scenarios, analyzes and evaluates them in order to identify essential risk.

Indicators and Targets

Indicators	Targets		
FY	2030	2022 (Implementation Results)	2050
GHG Emissions Reduction Rate	54% Reduction* (compared with FY2013)	30% Reduction 5.95 million t-CO ₂	Carbon neutrality
Non-fossil energy use ratio	60% or more	45%	—

* Scope 1 and 2 related to manufacturing, excluding the energy business field

- Amount of investment to address climate-related risk: ¥52.0 billion (by FY2030)
- Internal carbon price: Introduced in FY2021, but temporarily ceased being used in FY2022 due to a surge in the price of fuels such as coal

Strategy and Scenario Analysis

The Group drew up a vision of society against the backdrop of growing awareness of ESG issues. Using two scenarios (1.5°C scenario and 4.0°C scenario), the Company conducted qualitative and quantitative assessments of the impacts of climate change risks and opportunities as of 2030 and 2050 on its financial plans, and reported the results to the Board of Directors

■ Scenario Analysis Methods

(1) Establishing an Image of Society

1.5°C scenario (RCP 2.6)

All kinds of policies will be introduced to keep temperature rise below 1.5°C, and at the same time, society as a whole will take action to limit temperature rise. As a result, temperatures will rise slowly, and therefore, by 2030, there will be little change from the current situation in terms of severe disasters, temperature rises, and precipitation patterns. In markets, production and consumption activities giving priority to environment conservation such as an expansion in ethical consumption, will increase.

4°C scenario (RCP 8.5)

No policies will be introduced to control temperature rise. While some stakeholders will take actions to limit temperature rise from the perspective of promoting ESG management, regardless of whether policies are introduced or not and regardless of what society as a whole is doing, society generally

will not take actions to limit temperature rise. As a result, temperatures will rise more rapidly than in the 1.5°C scenario, and the frequency of severe disasters will increase, temperatures will rise, and precipitation patterns will be more changeable in 2030 than in the current situation.

(2) Evaluation Items

Risk: likelihood of occurrence, timing of occurrence, timing of impact, financial impact

Opportunity: likelihood of occurrence, timing of occurrence, timing of impact, financial impact, market growth

■ Summary of Analysis Results

The Group is considering scenario analyses and other information to formulate a transition plan toward carbon neutrality in 2050.

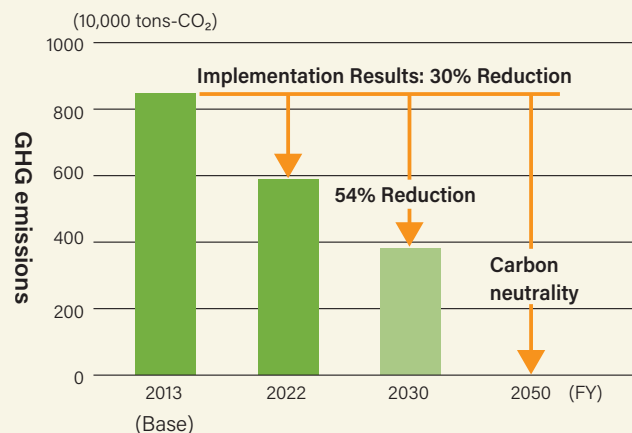
As the pulp and paper industry is energy-intensive, transitional factors such as the introduction of policies and changes in market needs pose significant risks. At the same time, physical elements such as an increase in severe disasters also pose substantial risks. In response, the Company focuses on reducing GHG emissions, establishing diversified production sites, and implementing a green strategy. Particularly for cutting GHG emissions, for which the transition risk factors were evaluated to be changing faster (e.g., the introduction of policies and changes in market needs, and their impact may be large), the Group considered additional measures to reduce coal consumption in conjunction with reorganization of production structure, and in May 2023, the Group raised its reduction target for FY2030 from 45% to 54%.

Going forward, the Group aims to ensure strategic resilience by using scenario analysis and other means to achieve the GHG reduction targets quickly.

Risks posed by climate change are a critical management issue for the Group. On the other hand, however, there are many opportunities for the Company to leverage its strengths to enter and grow in markets that are being created and expanded by introducing policies and changes in market needs. Also, in response to adaptation to climate change, the Group plans to utilize multiple production sites and work to reduce risks such as production stoppages through a meticulous business continuity system. At the same time, the development and sale of eco-friendly and adaptable products that are needed by society will provide opportunities for growth in markets that are expected to expand.

Response to Climate Change

Nippon Paper Group Plan for Shift to Carbon Neutrality



Period	Short-term	Mid-term	Long-term
Target	54% reduction compared with FY2013 (Scope 1 and 2)*		Carbon neutrality in 2050
Priority measures	Continuation and reinforcement of energy-saving measures Improve the basic unit by 1% or more compared to the previous fiscal year		
	Conversion to non-fossil fuels Non-fossil energy ratio of 60% by FY2030		
	Improved production efficiency Reorganization of production structure		Introduction of carbon-free fuels and CCUS
	Maximizing forest absorption of CO ₂ Sustainable forest management and utilizing breeding/propagation technology		

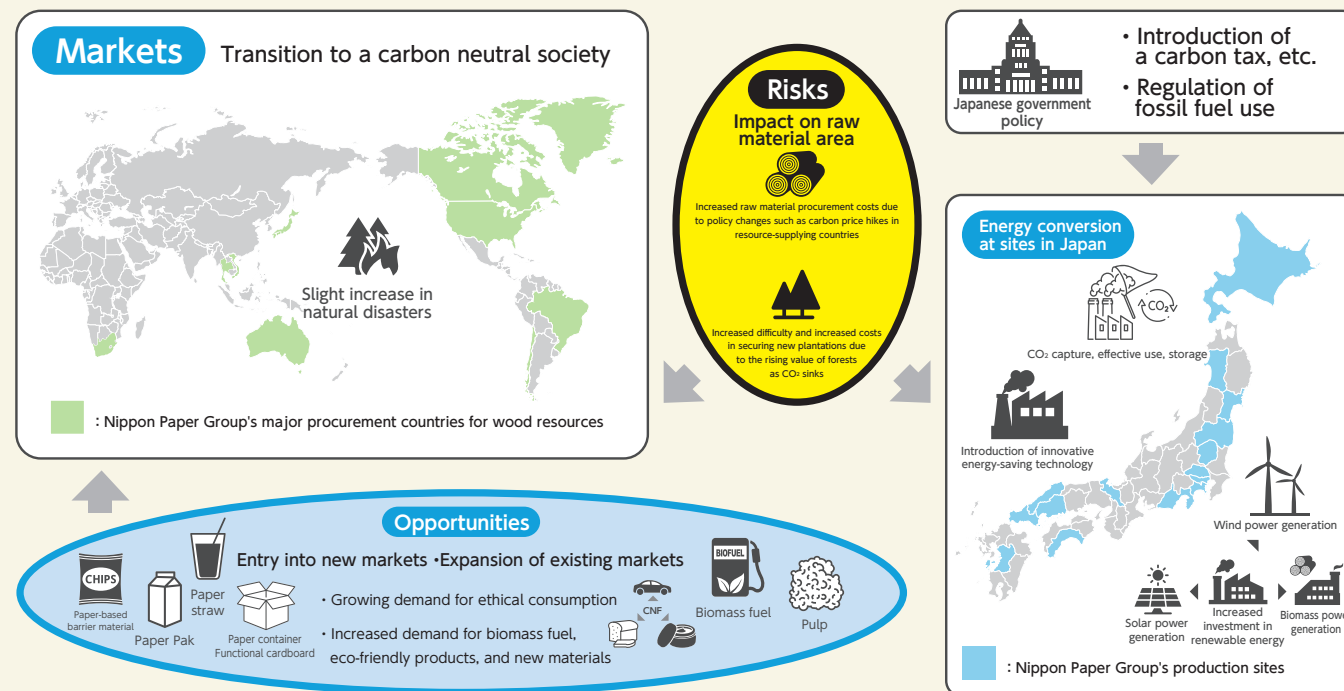
* Emissions related to manufacturing, excluding the energy business field

[1.5°C scenario]

2030

Costs such as a carbon tax will increase.

On the other hand, new business opportunities such as biofuels, environmentally friendly products, and new materials will emerge.



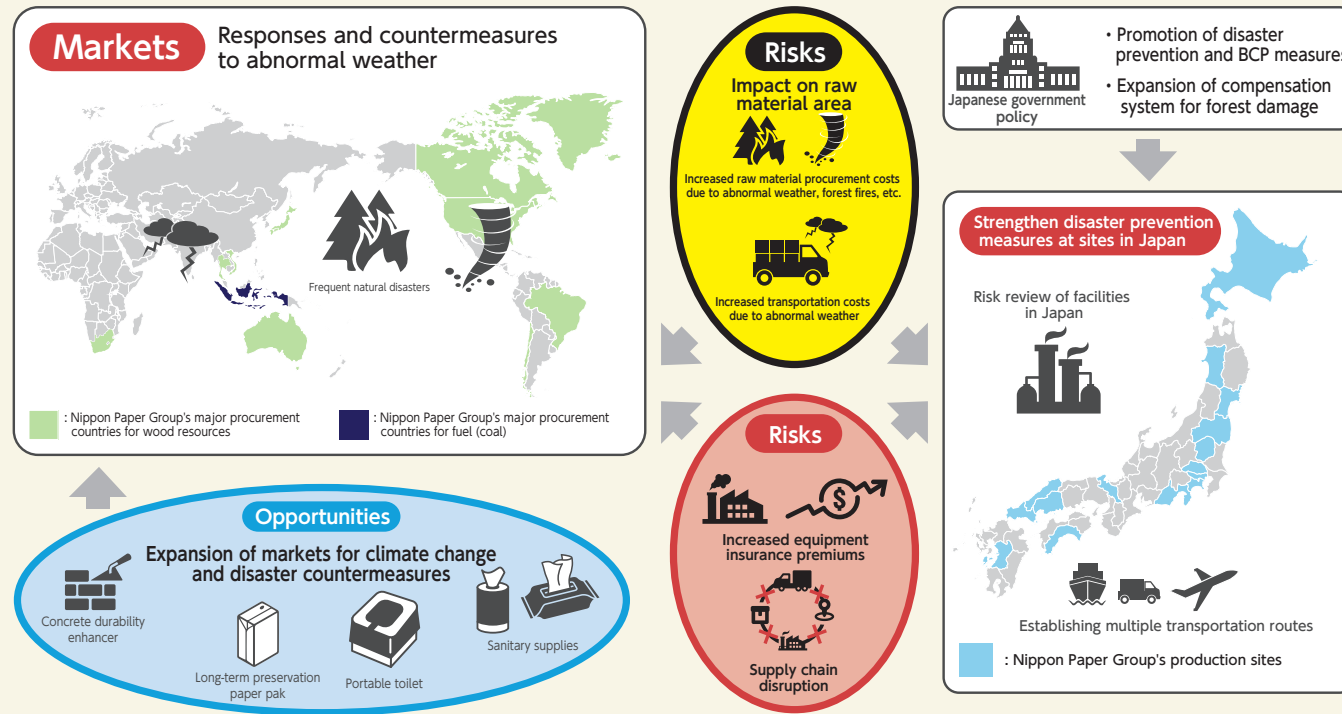
Response to Climate Change

[4°C scenario]

2030

Increased physical risk.

On the other hand, business opportunities for climate change and disaster response products will expand.



Response to Climate Change

Details of the Analysis Results

Climate Change-Related Risks

Risks as of 2030

Factors		Impact on the Company	Financial impact	
			1.5°C scenario	4°C scenario
Transition factors	Policy introduction (e.g., carbon tax, changes in energy mix)	Carbon tax*1 and energy procurement costs will increase.	High*2	Low*2
		Capital investment costs for fuel conversion and energy conservation will increase.	High	Low
		Raw material procurement costs will increase.	High	Low
		Increased acquisition cost of plantation project sites.	Medium	Low
	Changes in market needs	Increased procurement costs for certified wood chips.	Medium	Medium
		Development costs and capital investment costs for reducing environmental impact will increase.	Medium	Low to Medium
		Sales from non-renewable power generation projects will decrease.	High	Low
Physical factors	Increase in the number of severe disasters (frequent typhoons and heavy rains)	Stoppage of raw material procurement, production, product transportation, etc., resulting in reduced production volume and delayed or halted deliveries of products.	Medium to High	High
		Procurement, manufacturing, and logistics costs will increase.		
		Increase in turbidity of rivers, etc., from which water is taken, resulting in production stoppage and delay or stoppage of deliveries of products.		
	Increase in temperature and change in precipitation patterns	Losses in the company's plantation assets.	Medium	High
		Raw materials will become difficult to procure and procurement costs will increase.		
		Costs for search for alternative materials and technology development will increase.		
		Sales volume decreases or sales price declines due to difficulty in maintaining quality.		

*1 Carbon tax is set based on the IEA's NZE (Net Zero Emission) scenario.

*2 Carbon price impact small: less than 10 billion yen, medium: 10 billion yen or more and less than 50 billion yen, large: 50 billion yen or more (Qualitative evaluation except for *2)

1. Transition Factors

1-1. Risks Mainly Due to the Introduction of Policy

<Hikes in carbon and fuel prices due to introduction of carbon tax, etc.>

Under the 1.5°C scenario, carbon prices will increase mainly due to the introduction of policies such as carbon taxes, emissions trading schemes, and bans on the use of coal-fired power generation. At the same time, it is expected that fossil fuel prices will rise, and fuel procurement costs will increase. Since the pulp and paper industry is energy-intensive, financial plans are at risk of being significantly affected by the introduction of these policies.

Under the 4°C scenario, carbon prices will not increase and fossil fuel prices are not expected to rise significantly because no policies will be introduced, but changes in supply and demand for fossil fuel will occur and fuel prices will fluctuate. This is already part of the Company's normal risk management and the risk of being affected is considered small.

In response to the risk of higher fossil fuel prices expected in the 1.5°C scenario, in which all kinds of policies are introduced, the Group will make maximum use of its Nippon Paper Lumber biomass procurement network, which has among the best timber procurement performance in Japan, reducing this risk by accelerating the shift to non-fossil fuels.

Regarding the rise in carbon prices due to the introduction of emissions trading schemes and carbon taxes, the Group will mitigate risk of an impact on financial plans related to carbon price hikes at an early stage by taking speedier actions to reduce GHG emissions. Concerning measures to reduce GHG emissions, the Group continues to implement energy-saving measures at its paper and paperboard mills to reduce coal consumption with an index of 1% or more improvement in energy consumption per unit of production each year. Simultaneously, the Group works on converting to recycled fuels, such as biomass and waste fuels, and maximizes the use of black liquor*, carbon neutral energy.

The Group will mitigate the risk of an impact on financial plans related to carbon price hikes at an early stage by considering reorganization of production structure, reducing GHG emissions in an integrated manner, and achieving low-carbon consumption early through steps such as controlling output of coal boilers and stopping them.

The Group believes that there is a high possibility of carbon price hikes triggered by future introduction of emissions trading schemes and other such systems. Therefore, the Group will also work to mitigate risks by participating in the Ministry of Economy,

Trade and Industry's GX League and getting actively involved in the formation of systems, rules, and other resources so that these can contribute to corporate growth.

* Black liquor is comprised mainly of a wood component, lignin, and created as a by-product during the course of pulp manufacturing.

<Changes in energy composition>

In the 1.5°C scenario, there is a risk that the demand for biomass fuels will increase due to policies to promote the introduction of renewable energy, causing fuel prices to rise and procurement costs to increase. At the same time, under the current FIT system, there is a risk that the procurement cost of wood chips for paper production will also increase due to competition with biomass fuels.

In the 1.5°C scenario, there is a risk that the demand for biomass fuels will increase due to policies to promote the introduction of renewable energy, causing fuel prices to rise and procurement costs to increase. At the same time, under the current FIT system, there is a risk that the procurement cost of wood chips for paper production will also increase due to competition with biomass fuels.

In response to the procurement risks associated with the increased demand for biomass fuel due to the introduction of various policies, the Company believes that it can procure biomass fuels stably and at a relatively attractive price by making maximum use of its Nippon Paper Lumber biomass procurement network, which has among the best wood procurement performance in Japan.

With regard to wood chips for papermaking, the Company will reduce risks by securing raw materials and stabilizing purchase prices by strengthening relationships of trust based on our long track record with existing suppliers and developing and adopting inexpensive local resources.

<Impact on raw material procurement>

Since the Company imports most of the raw materials necessary for its manufacturing from overseas, it may be affected by the policy trends of resource-supplying countries. Under the 1.5°C scenario, carbon prices are expected to be raised due to stricter policies in resource-supplying countries, and there is a risk that raw material procurement costs will increase.

The Company collects information on policies in resource-supplying countries and strives to predict the occurrence of risks, while at the same time trying to reduce risks by diversifying supply sources.

Response to Climate Change

<Expansion of the carbon credit market>

In the 1.5°C scenario in which the world aims to become carbon neutrality (net zero CO₂), the market is expected to expand due to increased demand for carbon credits. Along with this, the demand for credits from forest absorption is expected to increase, leading to increased forest investment for credit creation and a subsequent rise in the price of land suitable for planting trees, so there is a risk that the cost of acquiring plantations for its plantation business will increase. Some regions are already witnessing this trend.

On the other hand, under the 4°C scenario, some stakeholders may secure plantation land from the perspective of promoting ESG management, regardless of whether policies are introduced or not, and regardless of the movements of society as a whole, but the risk of such actions on the Company's plantation business is considered small.

Expansion of the plantation business requires a large area of suitable land for plantation, so rising land prices may pose a risk to the Company. However, the Company can reduce this risk by utilizing its strengths, such as its proprietary technology for breeding and propagating highly efficient CO₂-fixing trees and operating plantation businesses in cooperation with third parties.

1-2. Risks Arising Primarily from Changes in Market Needs

<Rapid increase in demand for environmentally friendly products>

Under the 1.5°C scenario, demand for environmentally friendly products is expected to increase, and there is a risk that technology development costs, capital investment costs, etc. will increase in response to this demand while products and services with high environmental burden will no longer be selected in the market.

In the future, the market is expected to favor products and services derived from renewable raw materials, due to expectations of being environment friendly. Therefore, the Company believes that by accurately identifying and forecasting customer needs and further promoting the "paperization" that it is already working on, the Company will be able to promote the replacement of materials with renewable biomass materials, reduce risks associated with changes in market needs, and at the same time seize this as an opportunity to expand its business. The Company will further accelerate reduction of GHG emitted over the course of product manufacturing. At the same time, by taking advantage of the fact that its production sites are dispersed throughout Japan, the Company will offer products that contribute to the reduction of GHG emissions throughout the supply chain by shortening the transportation distance to delivery destinations and reducing GHG

emissions during transportation through the use of multiple production sites.

In addition, as part of changes in market needs, under the 1.5°C scenario, the demand for certified paper based on the forest certification system, which indicates that the paper is made from forest resources that have been properly managed, will increase more than ever due to the heightened awareness of the whole society about the proper management and use of forests, which will increase the procurement cost of certified wood chips that are a limited resource.

To reduce this risk, the Company will maintain and continue good relationships with certified timber suppliers, and at the same time, it will secure certified timber in a stable and efficient manner by acquiring certification in new plantation areas and by supporting suppliers in expanding certified resources.

2. Physical Factors

2-1. Risks Mainly Caused by an Increase in Severe Disasters

<Damage to production sites and distribution networks>

Under the 4°C scenario, severe disasters such as typhoons and torrential rains are expected to become more frequent, and the probability of damage to production sites and distribution networks is expected to increase, so the risk of a decrease in production volume due to temporary production stoppages and delays or stoppages in deliveries will become greater. In addition, in the event that the power supply is interrupted due to damage to power lines or other essential services, there is a risk that production sites that do not have their own power generation facilities will be forced to temporarily suspend production.

Although the Company cannot control the occurrence of natural disasters, it is working to reduce risks by establishing elaborate systems to ensure business continuation, such as backup systems for production and inventory controls. The Company is also trying to reduce risks by promoting measures to adapt to climate change, such as bulking up equipment installation sites and installing in-house power generation equipment for use in times of disaster.

<Deterioration of water intake quality>

The Company's main business, pulp and paper, uses water in its manufacturing process. If the water quality (turbidity) of the rivers, etc. from which water is taken deteriorates due to typhoons or heavy rains, product quality cannot be maintained, and there is a risk that production will be suspended until the water quality improves. This event is already occurring,

but is expected to become more frequent under the 4°C scenario.

Natural disasters are unavoidable, but the Company is taking measures to ensure that operations can continue as long as possible by strengthening its water intake purification facilities and methods, and at the same time, working to reduce risks by developing a detailed system for business continuity in case production is suspended.

2-2. Risks Mainly Caused by Rising Temperatures and Changes in Rainfall Patterns

<Forest fire occurrence>

As temperature rises, under the 4°C scenario, forest fires are expected to occur more frequently around the world. Since the Company's business model is based on forest resources, fires in the forests of its wood chip suppliers or in its own forests could pose a major risk in terms of stable procurement of raw materials and procurement costs. In addition, in the event that the Company's own forests are damaged by fire, there is a risk that the value of the Company's own forests will decline, and revenue from the Company's plantation business will decrease.

In order to reduce these risks, the Company is strengthening its fire prevention and extinguishing systems in its own forests, and at the same time, it is trying to reduce these risks by dispersing its own forests and suppliers in multiple countries and regions.

<Deterioration in plant growth>

The growth of plants is greatly affected by temperature and rainfall. Since the Company uses plant-derived raw materials such as wood chips, various types of pulp, starch, etc., there is a risk that procurement of raw materials will become difficult and procurement costs will rise in the 4°C scenario where plant growth is expected to decline due to rising temperatures and changes in rainfall patterns. In the event that the Company has difficulty in procuring raw materials, it would be hard to maintain the quality and function of its products, which may be a risk that its sales volume and price decrease. However, the Company is working to reduce these risks by diversifying its raw material supply sources and continuing to search for alternative materials.

Response to Climate Change

Opportunities for Business Expansion

Opportunities as of 2030

Factors			The Company's opportunities	The Company's strength	Market growth		
					1.5°C scenario	4°C scenario	
Transition factors	Policy introduction (e.g., carbon tax, changes in energy mix)	Renewable energy will be introduced.	Demand for power generation facility locations will increase.	• Company-owned forests and land in Japan, etc. • Biomass fuel production technology • Fuel procurement network • Utilization of existing boilers	Expansion	Stable	
			Demand for biomass fuels will increase.				
			Waste-derived fuels such as refuse derived paper and plastics densified fuel (RPF) and waste tire-derived fuel will be utilized more often.				
		Next-generation vehicles are becoming increasingly popular.	Storage batteries will spread and demand for raw materials for storage batteries will increase.	• CMC Technology and Production Facilities • CNF Technology and Production Facilities	Significant expansion	Expansion	
			Demand for CNF will increase due to the need to reduce the weight of automobiles.				
		Carbon credit market will be activated.	Demand for forest absorption credits will increase.	• Company-owned forests in Japan • Forest management technology • Breeding and propagation technology	Significant expansion	Stable	
		Resources will become more difficult to obtain due to stricter policies in resource-providing countries.	Demand for domestic lumber will increase.	• Company-owned forests and in japan seedling businesses • Recycled paper procurement network • Collaboration with Stakeholders • Unused recovered paper recycling technology	Expansion	Stable	
			Demand for recycled paper will increase.				
		Carbon recycling is advancing (utilization of carbon resources).	Increasing demand for carbon fixation and utilization by forests	• Breeding technology for high-efficiency CO ₂ -fixation trees • Company-owned forests in Japan	Expansion	Stable	
			Growing demand for chemical raw materials using wood-derived CO ₂	• Biomass-derived CO ₂ supply infrastructure (recovery boilers) • Chemical CO ₂ fixation and utilization technology	Significant expansion	Stable	
	Transition to a decentralized society	Increasing local production and local consumption of energy	Small scale fuel demand will increase.	• Fuel procurement network	Expansion	Stable	
		Decentralization of product consumption	Increased opportunities to sell products with reduced CO ₂ emissions during distribution while handling shipments from each production site	• Multiple production sites	Expansion	Stable	
	Changes in market needs	Demand for environmentally friendly products will increase.		Demand for biomass materials will increase as the need for paperizing increases due to decarbonization.	• Woody biomass materials development technologies (CNFs, paper-based packaging materials, liquid containers, functional corrugated cardboards, biocomposites, etc.) • Technologies to extract and utilize lignin • Technology for recycling unused wastepaper	Significant expansion	Expansion
				Demand for lignin products will increase.			
			Demand for paper made from sustainably sourced forest materials will increase.	• Track record of procuring certified forest materials • Relationship of trust with excellent suppliers • Sustainable forest management	Expansion	Expansion	
			Demand for products that reduce GHG emissions from livestock farming will increase.	• Cellulose material utilization technology	Expansion	Stable	
			Demand for halogen-free resins with low environmental burden will increase.	• Increased demand for functional coating resin “AUOREN®”	Expansion	Expansion	
			The decarbonization trend is intensifying in the aviation industry, increasing demand for sustainable aviation fuel (SAF).	• Pulp and cellulose manufacturing technology	Expansion	Expansion	
Physical factors	Increase in the number of catastrophic disasters	A rise in demand for stable product supply	Growing demand for purchasing from suppliers with established flexible BCP systems	• Multiple production sites	Expansion	Significant expansion	
		Overseas raw material suppliers and distribution networks are damaged.	Demand for domestic lumber will increase.	• Domestic Company-owned forests and seedling Businesses • Recycled paper procurement network • Fuel procurement network • Collaboration with stakeholders • Unused recovered paper recycling technology	Expansion	Significant expansion	
			Demand for recycled paper will increase.				
			Domestic demand for waste-derived fuels and biomass fuels will increase.				
		Increasing need to strengthen buildings	Demand for concrete admixtures and other materials will increase.	• Admixture for concrete (fly ash) technology	Expansion	Expansion	
	Demand for long-term food storage will increase.	Increasing demand for aseptic paper cartons for long-term storage of contents	• Total system supplier (processing from base paper, sales and maintenance technology of filling machines)	Expansion	Expansion		
	Increase in temperature and change in precipitation patterns	Decreases in the amount of plant growth	Demand for environmental stress tolerant trees will increase.	• Breeding and propagation technology	Expansion	Expansion	

Response to Climate Change

1. Transition Factors

1-1. Opportunities Associated with the Introduction of the Policy

<Increase in demand for renewable energy>

In the 1.5°C scenario, policies are expected to promote the introduction of renewable energy, which will increase the demand for locations to install solar, wind, and small hydroelectric power generation facilities, as well as the demand for biomass fuels.

The Company owns its forests and land in Japan, and it has an opportunity to expand its business of supplying renewable energy in cooperation with power generation companies. Increasing demand for biomass fuels will provide an opportunity to expand the biomass fuel sales business by making maximum use of the procurement network of Nippon Paper Lumber, one of the largest wood collection and sales companies in Japan.

In the 1.5°C scenario, where a rapid increase in demand for renewable energy is expected, the Company believes that it has the tangible and intangible assets, such as biomass boilers and facilities and technologies that use black liquor, a carbon-free fuel, to meet this demand, and can quickly respond to this market expansion and capture business opportunities.

<Dissemination and expansion of next-generation vehicles>

Since the transportation sector accounts for about 20% of Japan's CO₂ emissions, it is predicted that next generation vehicles such as electric vehicles will become more popular in the future.

In March 2021, the New Industry Creation Hatchery Center (NICHe) at Tohoku University announced that it had discovered that CNF*1s have a powerful energy storage effect, and that it had succeeded in developing the world's first dry, lightweight supercapacitor by using the Company's TEMPO-oxidized CNF to create an uneven surface with a controlled CNF surface shape. In addition to enabling high-voltage charging in a shorter period of time than conventional lithium-ion batteries, CNF-based energy storage is a technology that is expected to solve the problem of increasing energy storage capacity, which is currently an issue for electric vehicle batteries, and could make a significant contribution to the spread of electric vehicles, etc. The global supercapacitors market was valued at approximately USD 5.02 billion in 2021, and is expected to grow at a rate of 23.9% per annum from 2022 to 2030, reaching USD 22.5 billion in 2030. *2 With the spread of next-generation vehicles, the need to reduce vehicle

weight is expected to increase further. The size of the fiber-reinforced plastics market, including automotive components, was USD228.4 billion in 2019 and is expected to reach USD295.6 billion by 2027. *2 Currently, glass (glass fiber) and carbon (polymer-reinforced carbon fiber) are the most commonly used fibers for reinforcing materials, but with the spread of electric vehicles and other vehicles, there is a growing need for lightweight materials to further improve fuel efficiency. The specific gravity (weight per unit volume) of CNF is lower than that of other fibers, making it a highly effective lightweight fiber. In addition, CNF is a carbon neutral, plant-derived material with multifaceted value in environmental conservation, as it has less performance degradation due to material recycling than glass fiber reinforced resin.

The global CNF market size is estimated to be about 6 billion yen in 2023. As it is gradually being adopted for composite reinforcement materials for automobile parts and other materials, the market size is expected to expand to about 7.5 billion yen in 2025 (150 tonnes in 2022 to 270 tonnes projected for 2025) *3.

The diffusion of next-generation vehicles is a highly feasible event in both scenarios, with or without the introduction of policies, but in the 1.5°C scenario, the diffusion will be rapid due to policy support. The Company believes that it has the technological superiority and technological development capability to respond to this rapid spread, and that it can promptly respond to the rapid market expansion and grow the Company's business.

*1 Cellulose Nano Fiber

*2 Report by Report Ocean (U.S.) dated December 17, 2020

*3 Source: Yano Research Institute, https://www.yanoresearch.com/en/press-release/show/press_id/3237

<Expansion of the carbon credit market>

In the 1.5°C scenario where the world is aiming for carbon neutrality (net zero CO₂), the carbon credit market is expected to expand due to increased demand, and the demand for forest absorption credits is expected to increase accordingly.

The Company owns approximately 90,000 hectares of its forests in Japan and operates tree plantation projects in various overseas countries. In addition to forest management technology cultivated through the management of Company-owned forests in Japan and overseas plantation projects, the creation

of carbon credits by utilizing the Company's unique breeding and propagation technology that enables highly efficient CO₂ fixation is expected to enable the Company to enter the expanding market and capture business opportunities. The Company is committed to making contribution to formulation of rules regarding how forest absorption credits should be shaped and utilized from a forest owner's perspective, through such initiatives as the GX League Basic Concept advocated by the Ministry of Economy, Trade and Industry.

<Strengthen the policies of resource-providing countries>

Since the Company imports most of the raw materials necessary for its manufacturing from overseas, it may be affected by the policy trends of resource-supplying countries. In the 1.5°C scenario, there is a risk that raw material procurement costs will increase if resource-providing countries tighten their policies and raise carbon prices. On the other hand, the Company owns forests in Japan and utilizes such resources, and at the same time, it operates a seedling business that contributes to creation of new resources. The Company has also established diversified procurement networks in Japan for resources such as fuels and recovered paper. Accordingly, the Company is able to make a shift to utilization of domestic resources. In addition, the Company has already become one of the top-ranked companies in Japan in terms of the domestic timber utilization rate.

The Company is working with stakeholders to create a closed-loop recycling system for recovered paper, and at the same time, it is leveraging its strengths to make efficient and stable use of diverse resources, such as utilizing technologies to make use of paper that is difficult to recycle, such as used paper containers for food and beverage applications.

In October 2022, the Company began operating recycling facilities for food and beverage paper containers at its Fuji Mill to build a used paper recycling business. In addition, the Company is working with Hamamatsu City to recycle used paper containers and building a scheme for sorting and collecting paper cups and paper cartons. By 2030, It aims to stably collect and use unused wastepaper (12,000 tonnes per year), such as used paper containers.

Under the 1.5°C scenario, the Company expects the impact of the policies of resource-providing countries to occur within five years, but the Company believes it can maintain and expand its business by taking advantage of its access to domestic resources.

Response to Climate Change

<Promotion of carbon recycling>

In the 1.5°C scenario, carbon recycling, which is the process of capturing and reusing CO₂ from the atmosphere, is expected to progress rapidly, along with the reduction of GHG emissions through the reduction of fossil fuel use.

In its overseas plantation business, the Company continues the cycle of planting, nurturing, harvesting (wood chip production), and then replanting, by which, every year, the forests absorb and fix CO₂ in the atmosphere and use it as a wood resource.

As an example, the annual production volume of wood chips by AMCEL (Brazil), the Group's plantation company, is equivalent to approximately 1.5 million tonnes of forest CO₂ absorption. By positioning its overseas plantation business as a carbon recycling business and promoting the use of its proprietary breeding and propagation technologies that enable highly efficient CO₂ fixation, the Company can improve its CO₂ absorption and fixation capacity and contribute to the recycling of carbon resources, not just in the Company's own forests.

The Company aims to improve the CO₂ fixation efficiency in overseas tree plantation projects by 30% by FY2030, as compared with FY2013. The Company intends to secure future resources for the Company by contributing to improvement of productivity of forests across the globe and an increase in CO₂ fixation through provision of our breeding and propagation technologies and plantation technologies to other companies. The Company entered into a strategic partnership agreement concerning a plantation project in Indonesia with Marubeni Corporation in 2022, and commenced provision of technological support. In addition, the Company aims to secure about 0.1 million hectares of new plantation resources mainly in Asia. Since CO₂ derived from biomass obtained from sustainable forests is considered carbon neutral, carbon negativity (negative emissions) can be achieved by separating and recovering the CO₂ generated from the combustion of biomass fuels and storing it underground or recycling it. In the future, with the practical application of technologies for CO₂ separation, underground storage, and recycling, the Company can expect to achieve carbon negativity using CO₂ generated from biomass boilers and black liquor-fueled recovery boilers operating in Japan.

1-2. Opportunities Associated with Transition to a Decentralized Society

Under the 1.5°C scenario, the transition from a metropolitan-intensive society to a decentralized society is expected to proceed. As a result, local production and local consumption of energy will increase, and small-scale demand for fuel will likely increase. This trend has already begun, but it is expected to accelerate under the 1.5°C scenario. In response, the Company will have the opportunity to expand its biomass fuel sales business by making full use of the biomass procurement network of Nippon Paper Lumber, which is one of the largest wood collection and sales networks in Japan. In addition, with the shift to a decentralized society, the places of consumption of products are also expected to become more dispersed.

In the 4°C scenario, regardless of the temperature rise, there will be a shift to decentralization, but at a slower rate than in the 1.5°C scenario, in part due to the impact of increased risk of infectious diseases. In both scenarios, the Company believes that it can maintain and expand its business by taking advantage of the fact that its mills are dispersed throughout Japan and by responding to the decentralization.

1-3. Opportunities Arising from Changes in Market Needs

<Increase in demand for biomass materials>

The Company has built a business model based on carbon neutral forest resources, which enables it to provide products that meet the needs of customers who prefer environmentally friendly products. There is an ongoing movement to switch from plastic to paper packaging as a means of solving the problem of ocean plastic. In the 1.5°C scenario, this trend will be further accelerated in combination with climate change issues, and the demand for the use of biomass materials in various products other than packaging materials is considered to increase.

As part of the Company's strategy to meet the increasing demand for biomass materials, it is promoting "paperization" under the slogan, "Let paper do what it can do". In addition to developing and marketing "SHIELDPLUS[®]", a paper packaging material with unprecedentedly excellent barrier properties against oxygen and water vapor, the Company has also developed and started marketing products such as "waterproof liner", a multifunctional base paper for corrugated board that is a sustainable alternative to Styrofoam boxes, "SPOPS[®]", a replaceable paper container,

and "School POP[®]", which enables drinking without using straws. Moreover, biomass composites, which are made of "KC FLOCK[®]", powdered cellulose created by finely grinding pulp, and plastic, are under consideration for various applications as a material with low environmental burden, as the Company can reduce the use of plastic while improving the strength by using biomass composites. It believes that, by providing powdered cellulose suitable for composite material, it can respond to changing market needs and capture and expand business opportunities.

<Increased demand for products derived from sustainable forests>

The Company confirms the legality and sustainability of all woody raw materials it procures and ensures traceability through its supplier questionnaires, site visits and audits. At the same time, all of its woody raw materials are FM (Forest Management) materials under the forest certification system and have been risk assessed and managed.

In addition to utilizing the forest certification system, the Company has adopted a due diligence system to confirm the legality and sustainability of its woody raw materials, and it has established a system that enables it to promptly respond to inquiries from customers regarding raw material procurement. In addition, in order to supply certified forest paper, for which demand has been increasing in recent years, the Company will establish a system to secure certified forest materials in cooperation with suppliers.

The Company's sustainable procurement of forest resources is based on trusting relationships with its suppliers that it has built over the years, and the Company ensures certainty through its due diligence system and forest resource creation in procurement activities.

Moreover, in 2022, the Group's "Philosophy and Basic Policy Concerning Raw Materials Procurement" was revised and its contents were strengthened. Under the policy, the Wood Resource Procurement Guidelines were newly established, and the Group will respond to customer requests by further increasing the reliability of the wood resources the Group uses.

To maximize wood resources, the Company produces a variety of products such as industrial dispersants and lead-acid battery additives, made from lignin in addition to pulp.

The Company is committed to continuing to provide environmentally friendly products using sustainable wood resources as raw materials.

Response to Climate Change

<Increase in products that reduce greenhouse gas emissions>

The amount of greenhouse gases generated during the conversion of cattle excrement into fertilizer accounts for about 30% of the total emissions from the agriculture, forestry, and fisheries sectors in Japan, and research is being conducted to reduce these emissions.

Using the Company's proprietary technology to extract only cellulose fiber, which is easily digestible by cattle, from wood chips, it is developing livestock feed with superior fiber content and nutritional value.

Feeding cows with easily digestible feed is expected to reduce the water content of excrement and reduce GHG emissions generated when compost is made. Reducing GHG emissions in the livestock industry has become a global issue. In the 1.5°C scenario, there is a possibility that efforts to achieve this will accelerate, and the market for feed with a reduction effect may expand.

The Company believes that it can capture this business opportunity by utilizing the technologies it has accumulated in the pulp and paper business.

<Increased demand for sustainable aircraft fuel (SAF)>

The Company aims to start manufacturing bioethanol derived from domestic wood with an annual production capacity of tens of thousands of kiloliters by FY2027.

Considering the utilization of domestic wood and its contribution to a carbon neutral society, the bioethanol to be manufactured is assumed to be mainly used as raw material for domestic SAF^{*1}. At the same time, the Company will also consider carbon recycling initiatives that contribute to a carbon neutral society, such as CCU^{*2} using wood-derived CO₂ generated as a secondary product in bioethanol production and the effective use of residues from the fermentation process.

Utilizing its paper pulp manufacturing technology cultivated over the years, the Company plans to quickly establish a mass manufacturing technology and supply system for "wood-derived bioethanol" in units of 10,000 kiloliters, thereby accelerating its entry into the biochemicals market and contributing to the building

of a carbon neutral society.

^{*1} SAF: Sustainable Aviation Fuel. Sustainable aircraft fuel. This sustainable aviation fuel significantly reduces CO₂ emissions in its lifecycle, from production and collection to manufacturing and combustion, compared to conventional fuels, and can be utilized as is with existing infrastructure.

^{*2} CCU: Carbon dioxide Capture and Utilization. This refers to the separation and recovery of CO₂ and its effective use as a resource in crop production and chemical product manufacturing.

2. Physical Factors

2-1. Opportunities Due to the Increase in the Number of Severe Disasters

<Increase in demand for stable supply of products>

Severe weather disasters, such as typhoons and torrential rains, are expected to cause damage to production sites and distribution networks, further intensifying the demand from customers to maintain a stable supply of products.

In response, the Company is working to formulate a detailed system for business continuity. It is developing a system that will allow it to manufacture products at multiple plants. Since severe disasters are expected to become more frequent in the 4°C scenario, the Company believes that it can take advantage of the fact that its factories are dispersed throughout Japan to accelerate the transition to a more flexible production structure and further strengthen its system for business continuity.

Also, in the event that its overseas raw material suppliers are damaged and opportunities for domestic timber, recovered paper and domestic non-fossil fuel use expand significantly, the Company can take advantage of its strong timber, recovered paper and fuel procurement network as well as its efforts to secure recovered paper raw materials in collaboration with its customers. Furthermore, it believes that it can also maintain and expand its business by utilizing its unused recovered paper recycling technology and making extensive use of domestic resources.

<Increase in demand for long-term storage food containers>

The market for containers for long-term storage is expected to grow, as local governments and households are becoming

increasingly concerned about the importance of storing emergency food supplies to prepare for severe disasters that are expected to occur not only in a 4°C scenario but also in a 1.5°C scenario.

The Company sells "FUJIPAK," which enable room-temperature distribution and long-term storage of beverages and tofu. In addition, the "non-aluminum FUJIPAK," which does not use aluminum foil and can be distributed at room temperature, is attracting attention as an environmentally friendly container because it improves recyclability and reduces greenhouse gas emissions. The Company has developed a new container, NSATOM[®], which enables it to fill a wider variety of contents in addition to its long-term storage function. Since paper containers that can be stored for a long time are expected to contribute to de-PE(polyethylene) and food loss prevention, it will continue to develop new containers that meet the needs of the market and strengthen the Company's stable supply system.

2-2. Rising Temperatures and Changing Precipitation Patterns

<Increasing demand for environmental stress tolerant plants>

Since plants cannot move on their own, and environmental changes such as rising temperatures can cause stress and inhibit growth, efforts have been made for some time to develop plants resistant to high temperatures, salt damage, and drought.

Under the 4°C scenario, the demand for environmental stress tolerant plants may increase because the appropriate areas for plant growth are expected to change and decrease due to climate change.

The Company has been developing tree breeding and propagation technologies for many years and has developed a number of proprietary technologies for these. Because tree breeding takes time, it will be difficult to expand the business rapidly in 2030, but the Company will work to expand its business quickly after 2030, when the value of forests will further increase toward carbon neutrality.

Promotion of Resource Circulation

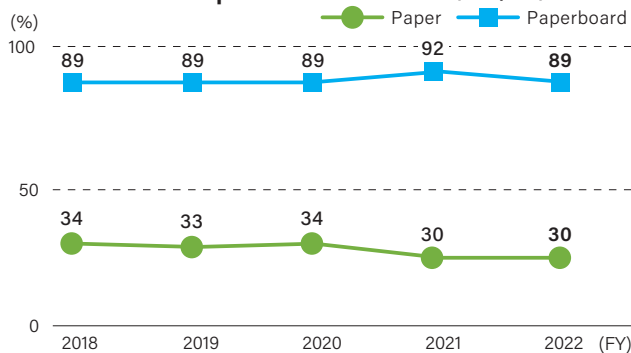
1 Basic Policy

→P83 The Nippon Paper Group Environmental Charter

2 Initiatives for Using Wastepaper

The Nippon Paper Group considers wastepaper as important raw material and is working on the recycling of unused wastepaper.

Trend of Used Paper Utilization Rate (in Japan*)



* From FY2021, Crecia-Kasuga is also included in the scope

CASE STUDY

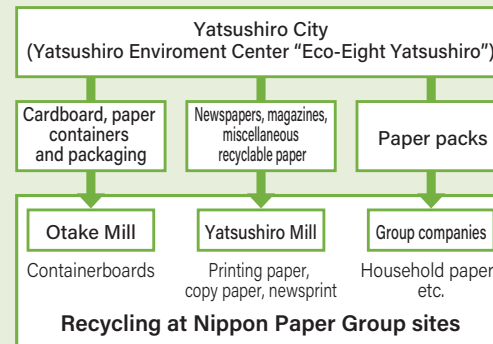
Collaborative Business for Recycling Used Food Paper Containers (Nippon Paper Industries)

Nippon Paper Industries has been conducting tests of self-collection of paper containers for ice cream and other foods with the support of Hamamatsu City since April 2021. This project, being carried out together with Hamamatsu Green Wave Co., Ltd., and NPO Ecolife Hamamatsu, uses collection boxes installed at Ecohama, a facility in Hamamatsu City to raise environmental awareness, and other locations where used paper containers are collected and brought to one of the Company's mills to be utilized as raw material for paper. This will contribute to raising general consumers' awareness of recycling, reducing the volume of incinerated rubbish, and fixing carbon by prolonging use of woody resources.

CASE STUDY

Circular Use of Wastepaper in Collaboration with Local Governments

The Company's Yatsushiro Mill, in collaboration with Yatsushiro City, has built a system to recycle used paper generated in Yatsushiro City. Various types of used paper (newspapers, magazines, miscellaneous recyclable paper, cardboard, paper packs, paper containers, and packaging) collected by Yatsushiro City are accepted by the Yatsushiro Mill and other plants of the Group, recycled using facilities and technologies such as recovered paper pulp production facilities, and used as raw materials for making paper.



Closed Loop Initiatives (Nippon Paper Industries)

The Company has established a "closed loop" scheme in which it directly purchases wastepaper from its customers in order to make long-term, stable use of collected waste newspaper and catalog paper as a raw material. In April 2023, the Company signed a new contract with DINOS CORPORATION Co., Ltd., regarding the sale and recycling of used paper, for the purpose of domestic circulation of resources by building a "closed loop" of catalog waste paper, and started operations.

Collection and Recycling of Paper Cups (Nippon Paper Industries)

Since 2019, the Company has been working to collect used paper cups at its headquarters and recycle them as raw materials for cardboard at its Ashikaga Mill. In FY2022, the Company collected 150,000 paper cups.

Collection and Recycling of Paper Cups Used in In-flight Services (Nippon Paper Industries)

Since December 2022, the Company has started recycling paper cups and other items in collaboration with Japan Airlines Co., Ltd. (JAL). The JAL Group properly sorts and collects the paper cups used in in-flight services. At the same time, the Group builds a unique route for its transportation, accumulation, and packaging, which has enabled the separate collection and recycling of used paper cups. Currently, this paper is recycled as cardboard and toilet roll paper, but in the future, the Company aims to realize horizontal recycling from paper cups back to paper cups.

Paper Carton Recycling "PakUpcycle"

The Company has conducted various initiatives with a catch phrase of "PakUpcycle[®]," coined by the Company by combining "Pak" (beverage paper pack) and "Upcycle" (to reuse unnecessary items through processing to add value as a product).

<Paper-Pak Carton Collection and Recycling>

The Company has installed Paper-Pak collection boxes at Group company sites and is working to increase employee awareness of paper packs recycling. In addition, the Company has positioned the collection of paper packs as an activity that enables society as a whole to make effective use of resources, and is working with collection companies to strengthen the efforts to promote recycling at various facilities and schools. In 2017, the Company commenced collection activities using a proprietary method, primarily in Nerima City, Tokyo. The collected paper packs are used as raw material for household paper products. (Results for FY2022: 3.7 tonnes)

<Recycling of Beverage Paper Packs with Aluminum>

The Company is working on the development of mixture of polyethylene and aluminum (hereinafter PolyAl) jointly with RIPRO Corporation, Japan and HAGIHARA INDUSTRIES INC. to material-recycle* the mixture, processed as waste in the recycling process of the beverage paper packs with aluminum. Boundary piles made from PolyAl are used by several forest cooperatives.

* Recycling method in which waste is recycled as raw material for a new product

Reduction of Environmental Burden

1 Basic Policy

→P83 The Nippon Paper Group Environmental Charter

2 Effective Management of Water Resources

- Nippon Paper Group uses water necessary for production activities from tap water, industrial water, groundwater, and rivers.
- For the sustainable use of water resources, the Group is working hard to reduce water consumption and the amount of water pollutants in its wastewater.
- In FY2022, the Group has received no information from the government or local residents that the mills of Group companies were impacting the environment due to their water intake.
- The Group conducts assessments in order to identify water risks, such as the frequency of water supply and flooding, and formulate appropriate countermeasures for each major production site in Japan and overseas.
- In the primary evaluation conducted in FY2022, in order to grasp the water issues in the regions where each site is located, water stress levels were evaluated using the WWF "Water Risk Filter"*; a water risk assessment tool for each basin, both in Japan and overseas at 55 sites.
- The evaluation results were "very low" at 2 sites, "low" at 52 sites, "medium" at 1 site, "high" and "very high" at 0 sites. Going forward, the Group will continue to assess water risks and build a production structure that responds to the risks of droughts and water disasters.

* Water Risk Filter: A tool for evaluating water risks developed by the World Wide Fund for Nature (WWF)

1. Reducing the Amount of Water Used

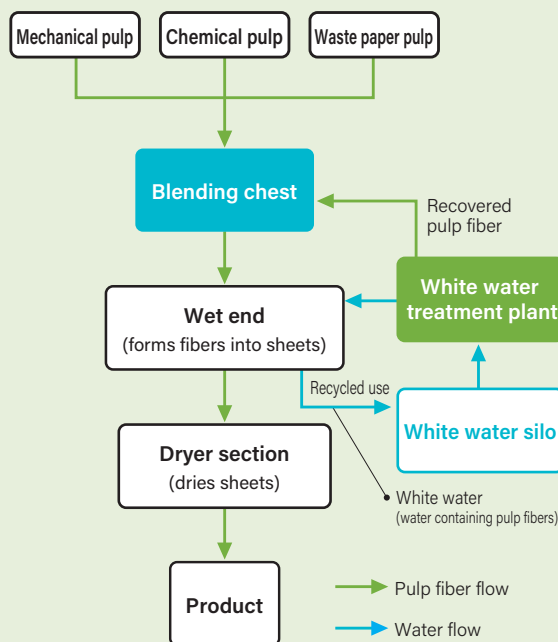
- The Group actively reuses water in production processes to reduce the amount of water used.
- The reuse of water in the production process leads to energy saving of equipment by reducing the amount of inflow water.

CASE STUDY

White Water Recycling

At the Group's paper mills, they collect water containing fine pulp fibers generated in the wet part called white water. The collected white water is separated into pulp fibers and reused water by the treatment equipment, the pulp fibers are returned to the preparation facility, and the reused water is returned to the wet part for recycling, in an effort to reduce water consumption.

White Water Circulation Flow Diagram



CASE STUDY

Recycling of Water Using Jet Nozzles (Nippon Paper Industries)

As the amount of recycled water in the manufacturing process increases, hydrogen sulfide is generated due to fouling within the system caused by closed processes and the rotting of accumulated fine pulp. In order to achieve both water saving and better operability, submersible jet nozzles that utilize the eductor* effect have been installed in Nippon Paper Industries' mills at Ashikaga, Soka, Gotsu, and Yatsushiro. The powerful liquid flow removes dirt and deposits from the bottom of the pit, thereby cleaning the system. In the future, the Company plans to expand this method to other mills in Japan.

* Sucking up the liquid inside the pit and discharging it with supplied water using pressure difference

2. Wastewater Management

- The Group discharges wastewater after reducing the amount of organic substances in the wastewater after reducing them to the standard values stipulated by laws and regulations and the values agreed upon with local governments.
- The Group is working toward reducing water pollutants by 15% compared to FY2018 by FY2030.
- Wastewater from the mills is purified using activated sludge treatment equipment before being discharged into the sea or rivers.
- Wastewater from the mills is thoroughly controlled through constant monitoring using measuring equipment and daily water quality inspections by inspectors.
- The Group has introduced an environmental information management data system for all businesses. In addition to water information (intake volume, wastewater volume, amount of pollutants), the Group will centrally manage a range of environmental information as a database and plan to promote sharing and data utilization at each site.

Reduction of Environmental Burden

3. Initiatives in Collaboration with Other Companies

The Group is working with other companies to implement initiatives for the sustainable use of water resources.

CASE STUDY

Participation in the JOKI Programme (Jujo Thermal Ltd.)

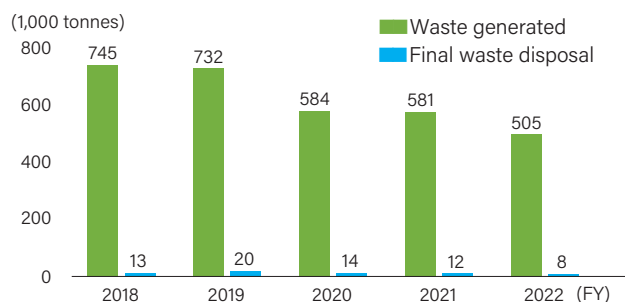
Jujo Thermal (Finland) participates in the JOKI programme, which aims to strengthen the protection of water resources in operating areas and improve water quality.

3 Waste Reduction

1. Waste Recycling

The Group is advancing initiatives such as revising production processes and making effective use of boiler ash as civil engineering material in order to reduce the amount of industrial waste sent to landfill and other forms of final disposal.

Waste Generated and Final Waste Disposal (in Japan*)



* From FY2021, Crecia-Kasuga is also included in the scope

CASE STUDY

Circular Use of Quicklime (Nippon Paper Industries)

At its papermaking mills, the Group uses quicklime to recover chemicals used in the pulp manufacturing processes and to manufacture fillers that impart functionality to paper. Quicklime waste is generated in this process. The Group has so far disposed of this material as an industrial waste. However, the Company's Ishinomaki and Iwanuma mills have started collaborating with a supplier that can recycle quicklime waste. Under this collaboration, the Ishinomaki and Iwanuma mills are working to reuse quicklime waste as a resource.

Processing Coal Fly Ash from a Boiler into a Construction Material (Nippon Paper Industries)

The Ishinomaki Mill operates a coal boiler to privately generate electricity on site. In the process, combustion ash is generated in its coal boiler. The Company processes the combustion ash through heat modification, and sells the material as CfFA® (Carbon-free Fly Ash) concrete admixture. Mixing CfFA® into concrete has the effect of making it more durable and longer lasting. CfFA® has so far been adopted in earthquake recovery construction (bridges and seawalls, etc.) in the Tohoku region of Japan.

Effective use of local waste (Nippon Paper Industries)

At the Company's Nakoso Mill, waste generated in neighboring areas is actively used as fuel. This waste includes shiitake mushroom beds and rubber chips from artificial turf. The use of waste as fuel allows the Nakoso Mill to reduce its use of fossil fuels. The local production and consumption of fuel has not only contributed to reducing GHG emissions from the Nakoso Mill, but it has also helped to reduce waste generated in local areas. In 2022, the Company won the 7th Fukushima Industrial Award Special Prize sponsored by Fukushima-Minpo.

Recycling of Paper Pallets

The Group is contributing to the effective use of renewable resources by collecting and reusing pallets through the Pallet Recycle Co., Ltd.

2. Response to the Plastic Resource Circulation Act

The Group is working on the control of generation and discharging of waste plastic and its recycling pursuant to the Plastic Resource Circulation Act, established in April 2022.

<Control of generation and discharging>

- Changing plastic products used in business activities to simple packaging and returnable containers
- The Group encourages waste paper suppliers to reduce plastic contamination in waste paper through the Japan Paper Association

<Recycling>

- Use of hard-to-recycle waste paper-derived plastics as a heat source
- Conversion of waste, including locally generated waste plastic, into solid fuel → P27

4 Controlling Chemical Substances

- The Group examines the chemical substances it uses in its production processes in accordance with its Chemical Substance Management Guidelines. The Group implements risk management by monitoring how much of these substances is used and how much is released into the environment. The Group also takes corrective actions as necessary.
- At risk communication → P25 sessions held at each mill and business office, the Company discloses to local stakeholders the management status of chemical substances subject to the PRTR system and the amounts released and transferred.

Reduction of Environmental Burden

Amounts of Substances Subject to the PRTR Law Released and Transferred*1 (FY2022)

Chemical Substance	Amount Released	Amount Transferred	Total released and transferred
Zinc water-soluble compounds	300	0	300
Acrylamide	12	0	12
Acrylic acid and its water-soluble salts	14	0	14
Acrylonitrile	1.0	0	1.0
Ethylbenzene	0.1	0	0.1
Ethylene glycol monoethyl ether	270	4,600	4,870
Xylene	252	0	252
Glutaraldehyde	20	1.7	22
Chloroform	36,306	27,844	64,150
Cyclohexylamine	740	0	740
Dichloromethane (synonym: Methylene chloride)	10,000	100	10,100
N,N-Dimethylacetamide	24	220	244
N,N-Dimethylformamide	49	300	349
Mercury and its compounds	18	0	18
Selenium and its compounds	0.4	0	0.4
Dioxins*2	1,254	11,014	12,267
O,O-Dimethyl O-(3-methyl-4-nitrophenyl) phosphorothioate (synonym: Fenitrothion or MEP)	2.6	0	2.6
Toluene	28,103	50,878	78,981
Naphthalene	0.4	0	0.4

Chemical Substance	Amount Released	Amount Transferred	Total released and transferred
Carbon disulfide	5,184	0	5,184
Arsenic and its inorganic compounds	0.4	0	0.4
Trimethylbenzene	175	0	175
Hydrogen fluoride and its water-soluble salts	19,317	0	19,317
Hexane	0.2	0	0.2
Benzene	0.04	0	0.04
Boron compounds	21,112	0	21,112
Polychlorinated biphenyls (synonym: PCBs)	0	4,671	4,671
Poly(oxyethylene) alkyl ether (limited to those the alkyl group is C=12-15 and mixture thereof)	6.5	0	6.5
Formaldehyde	1,240	66	1,306
Manganese and its compounds	5,045	0	5,045
Methacrylic acid	2.0	0	2.0
Methyl methacrylate	21	0	21
Methylnaphthalene	856	0	856
(1-Hydroxyethane-1,1-diyl)diphosphonic acid and its potassium salt and sodium salt	0	1,560	1,560
Total*3 Unit : kg	129,073	90,240	219,314

*1 A summary of the volumes Group companies reported in accordance with the PRTR Law.

*2 Dioxins unit : mg-TEQ

*3 Dioxins are not included in total data.

Reduction of Environmental Burden

5 Prevention of Soil and Air Pollution

- The raw materials and chemicals used by the Group's mills contain almost no heavy metals, trichloroethylene or other soil contaminants.
- In FY2022, following on from FY2021, there were no cases of soil contamination within the Group.
- The Group has introduced equipment and technology to reduce atmospheric pollutants, such as sulfur oxides (SOx) and nitrogen oxides (NOx) generated in the manufacturing process, to below the standard values stipulated by laws and regulations and agreed with local governments.
- Contaminants in the air are reduced with NOx removal equipment, desulfurization equipment, a dust collector, etc.

6 Preventing Noise and Vibration

The Group is engaged in efforts utilizing IoT technologies to prevent the occurrence of noise and vibrations. → P51

Preservation of Biodiversity

1 Basic Policy

 **→P83 The Nippon Paper Group Environmental Charter**

 **→P83 Basic Policy on the Preservation of Biodiversity**

2 Preserving Biodiversity in the Value Chain

- Nippon Paper Group strives to reduce the impact on biodiversity throughout the entire value chain, from raw material procurement to paper manufacturing processes, wastewater treatment, and GHG emissions control.
- The Group sustainably procures wood resources, which are the raw materials for the Group's products, from properly managed forests.

3 Preserving Biodiversity in Forest Management

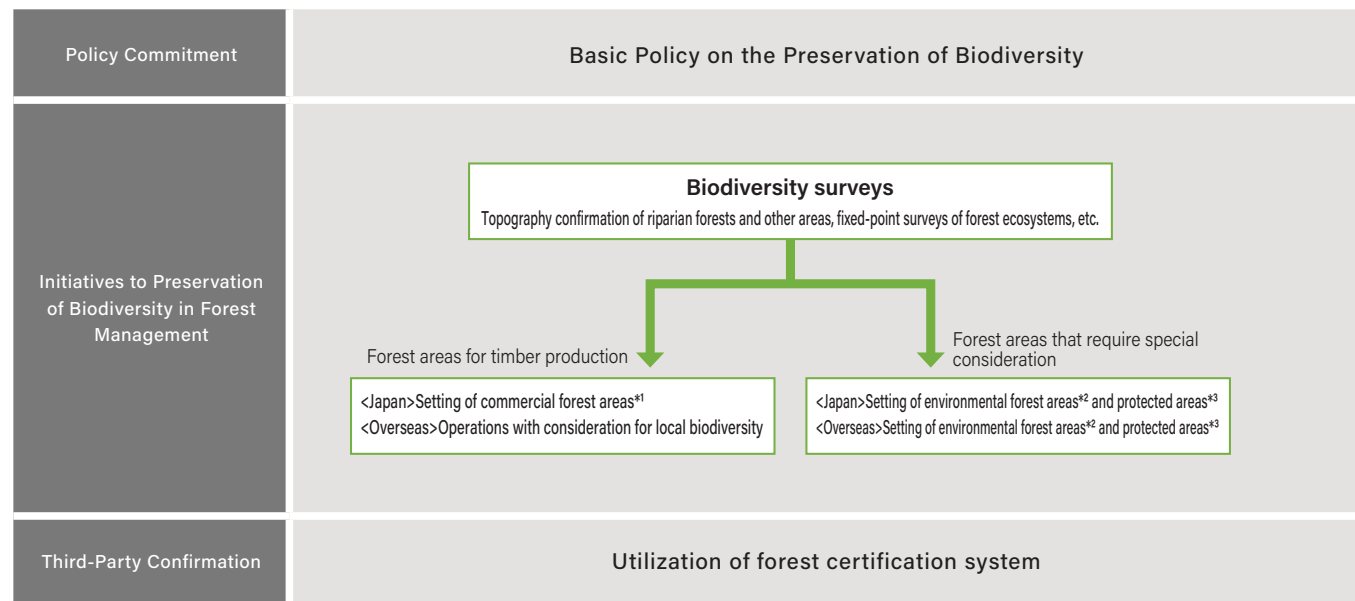
1. Initiatives to Preserve Biodiversity in Forest Management

- The Group manages sustainable forests in the company-owned forests in Japan and overseas.
- The Group conducts biodiversity surveys based on its Basic Policy on the Preservation of Biodiversity in the company-owned forests in Japan and overseas.
- In existing projects, the Group confirms topographical information that should be considered, such as waterfront forests, and conducts fixed-point surveys of forest ecosystems.
- Based on the results of biodiversity surveys, in areas that require special attention, the Group has established environmental forests, protected areas, and protected forests where logging is not performed.
- In managed forests where lumber is produced, the Group appropriately manages the forests by considering the location and timing of logging and implementing operations that consider local biodiversity.

2. Third-Party Confirmation

- By utilizing the forest certification system, the Group can have third-party confirmation that its forest management is being implemented, considering biodiversity.
- Nippon Paper Industries and overseas plantation company have obtained forest certification for all company-owned forests in Japan and overseas.

Initiatives to Preservation of Biodiversity in Forest Management



*1 Forest areas that are operated for the sustainable production of timber

*2 Forest areas that are not cultivated or logged for the production of timber

*3 Forest areas where logging and other operations are restricted to preserve biodiversity

Preservation of Biodiversity

CASE STUDY

Participation in the 30by30 Alliance for Biodiversity* (Nippon Paper Industries)

The Company participated in the "30by30 Alliance for Biodiversity" launched by the Ministry of the Environment. In FY2022, the Company provided information on the Ho-oh company-owned forest (Yamanashi Prefecture) as a trial and verification example of the screening process for a "site in harmony with nature," for which the Ministry of the Environment will start certification in FY2023. In the future, the Company will consider expanding the target area.

* A coalition of volunteer companies, local governments, and organizations, launched by the Ministry of the Environment to achieve the international goal of preserving 30% or more of land and sea areas as natural environment areas by 2030

Preserving Blakiston's Fish Owl* Habitat While Pursuing Business Activities Collaborating with the Wild Bird Society of Japan (Nippon Paper Industries)

The Company carries out initiatives to conduct business activities while protecting Blakiston's fish owl habitat with the Wild Bird Society of Japan.

* 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

Collaborating with the Wild Bird Society of Japan

Year	Activities
2010	Entered into an agreement on the protection of wild birds with which forestland owned by the Company in Eastern Hokkaido was identified as a sanctuary.
2015	Set a new standard for the compatibility of business activities with the preservation of Blakiston's fish owl habitat in company-owned forests in Eastern Hokkaido. Won Biodiversity Action Award of the Ministry of the Environment.
2020	Installation of artificial nest boxes to support Blakiston's fish owl breeding
2021	Won Hokkaido Biodiversity Conservation Awards of the Hokkaido Government.
2022	Introducing the initiatives at the Nippon Paper Group sustainability lectures → P02

Conducting Biodiversity Surveys on Overseas Company-owned Land (AMCEL)

AMCEL (Brazil) has about 170,000 hectares as protected areas of approximately 300,000 hectares of company-owned land. The protected areas are a habitat for many wildlife species and they also include forests with high conservation value where rare and endangered species live. AMCEL conducts biodiversity surveys on the company-owned land.

Biodiversity Preservation Initiatives of AMCEL

Activities	Description
Regular water inspections	Installation of equipment for monitoring the quality and level of water in the plantation area, and performance of regular water inspections
Wild animal and plant habitat research in company-owned forest	AMCEL conducts habitat research and monitoring of wild animals and fish in plantation areas in a joint effort with multiple research institutions and ecologists.
Monitoring of vegetation in protected areas	AMCEL conducts continuous monitoring research of vegetation in protected areas

Supporting the Activities of the Association for the Protection of Shirane-aoi*

To protect the Shirane-aoi, the Association for the Protection of Shirane-aoi (Japanese wood poppy) was established in 2000 by Gunma Prefectural Oze High School and Katashina-mura, Tone-gun, Gunma Prefecture. Nippon Paper Development, which manages the Suganuma company-owned forest, has provided operational support since the association's establishment and has opened a portion of the company-owned forest to the public. Since 2002, Group employees have participated in these activities as volunteers.

* Plants of the Ranunculaceae (buttercup) family designated as an endangered species in Gunma Prefecture

Eradicating Invasive Plant Species from Iriomote Island ~Cooperation with the Iriomote Island Ecotourism Association~ (Nippon Paper Industries)

Based on the agreement concluded in 2017 with the Okinawa Forest Office of the Kyushu Forestry Department of the Forestry Agency, in about 9 hectares of national forest on Iriomote Island, the Company has eradicated Bay Biscayne creeping oxeye*, an alien species that has invaded Iriomote Island, and investigated the invasion status of exotic plants in collaboration with the NPO Iriomote Island Ecotourism Association. In March 2022, the agreement was updated to continue the activities for another 5 years.

* A plant in the Asteraceae (sunflower) family which originated from the Americas, but was introduced throughout Okinawa for greenifying slopes and embankments, etc. It has strong propagating capabilities, and there are concerns over its impact on local ecosystems.

Mutual Cooperation in Forest Management with Coca-Cola Bottlers Japan

The Company, Nippon Paper Group company Marunuma Kogen Resort and Coca-Cola Bottlers Japan Inc. (hereinafter CCBJ) cooperate for the conservation and protection of forest and water resources. They are collaborating on initiatives to keep "Healthy forest" that nurtures "rich water." The water source area of CCBJ's Saitama Mill and Iwatsuki Mill are located in part of Suganuma company-owned forest in Katashina Village, Gunma Prefecture (1,746 ha), and the Group promotes the activities of forest conservation and maintenance.

Other Environment-related Data

1 Environmental Accounting (Domestic)

- Calculation standards are based on the Environmental Accounting Guidelines 2005
- Scope of organizations covered
 - Consolidated: Nippon Paper Industries; Nippon Paper Crecia; Crecia Kasuga; Nippon Paper Papyrus; GAC; Nippon Seitai; Nippon Paper Ishinomaki Energy Center; Yufutsu Energy Center; N&E; Daishowa Uniboard; Nippon Paper Development; Nippon Dynawave Packaging; Opal; Jujo Thermal; Siam Nippon Industrial Paper; Amapá Florestal e Celulose
 - Non-consolidated: Mishimakako; Osakakako; Kochikako; Nippon Paper Liquid Package Product; Akita Jujo Chemicals
 - Affiliated company: Fukuda Paper MFG

Environmental Conservation Costs (FY2022)

(Millions of Yen)

Categories	Main contents	Investment	Cost
(1) Business area costs	—		
1. Pollution prevention costs	Measures against air pollution, water pollution, noise and vibration	2,967	14,054
2. Global environmental conservation costs	Company-owned forest in Japan nursery care, overseas plantation business, energy-saving investment	3,893	700
3. Resources circulation costs	Efficient use of resources, cost of waste management	985	8,372
(2) Upstream/downstream cost	Expenses related to collection, recycling, and disposal of pallets and packing materials	—	3,478
(3) Administration cost	Costs for employee training, maintaining ISO 14001, analysis of air and water quality, and management of various conferences	—	301
(4) R&D cost	Product development that contributes to environmental conservation, such as promoting the use of recovered paper, and reduction of environmental impact at the manufacturing stage	—	2,620
(5) Social activity costs	Social contribution activities, group support, corporate action report	—	22
(6) Environmental remediation costs	Pollution Health Compensation Levy	—	406
Total		7,845	29,953

Environmental Benefits of Environmental Conservation (FY2022)

(Millions of Yen)

Effect	Amount
Income from company-owned forests in Japan	661
Reduced expenses from energy saved	2,510
Reduced disposal expenses through the effective use of waste	3,633
Gain on sales from the recycled waste	510
Reduced expenses through the recycling of shipping material	1,387
Total	8,701

Environmental conservation impacts (FY2022)

Categories	Environmental Impact Indicators		Results	YoY Change
Effects related to resources introduced to business activities	Plantation projects overseas	Overseas plantation areas	72kha	No change
	Energy-saving measures	Fuel reduction (Heavy oil equivalent)	40,715kl	UP 5,139kl
Effects related to environmental impact and waste from business activities	Greenhouse gas emissions		4.87Mt	Down 0.71Mt
	Air pollutant emissions	NOx emissions (NO equivalent)	5,852t	Down 955t
		SOx emissions (SO ₂ equivalent)	2,031t	Down 331t
		Soot and dust emissions	870t	Down 30t
	Effluent		741Mt	Down 58Mt
	Water contaminant emissions	COD/BOD emissions	35,888t	Down 1,745t
		SS emissions	18,190t	UP 148t
	Final waste disposal		8kt	Down 4.1kt
Effects related to goods and services produced from business activities	Product recycling	Recycled paper utilization rate (paper)	30%	No change
		Recycled paper utilization rate (paperboard)	89%	Down 3%
	Shipping material recycling	Pallet recovery rate	40%	Down 2%

Other Environment-related Data

2 Balance of Materials

Balance of Materials for All Businesses (Principal Materials) (3 years)

		Unit	FY2020*1	FY2021*1	FY2022*1
Input					
Energy Input	Purchased electricity	GWh	1,934	2,425	1,931
	Oil	Thousand kl	578	434	178
	Coal	Thousand t	2,039	2,287	1,192
	Gas	Thousand t	299	302	399
	Other fossil fuels	Thousand t	23	27	19
	Non-fossil fuels*2	Thousand t	5,347	5,919	5,268
	(Of which Black liquor)	Thousand t	3,985	4,307	3,995
Chemical substances subject to the PRTR Law*3	Amount handled	t	11,568	11,094	10,840
Water intake (water consumption)	Total amount of water intake (water consumption)	Million t	880	953	899
	River water	Million t	710	615	660
	Industrial water	Million t	140	291	190
	Well water	Million t	29	46	48
	Public water supply	Million t	1	1	2
	Rainwater	Million t	0	0	0
	Seawater, sea, ocean	Million t	0	0	0
Raw Material	External waste water	Million t	0	0	0
	Woodchips	Thousand BDt	5,446	4,699	4,735
	Logs	Thousand BDt	702	857	707
	Pulp	Thousand Adt	446	492	575
	Recycled paper(Pulp)	Thousand Adt	3,202	2,802	2,831
	Base Paper	Thousand Adt	123	122	136
	Others	Thousand Adt	—	384	77

*1 Covered: FY2020 https://www.nipponpapergroup.com/english/csr/npg_esgdb2021_e_contents.pdf
FY2021 https://www.nipponpapergroup.com/english/csr/npg_esgdb2022_e_contents.pdf
FY2022 https://www.nipponpapergroup.com/english/csr/npg_esgdb2023_e_contents.pdf

*2 Biomass fuels (including black liquor) and waste fuels

*3 Japan only. Dioxins are not included in total data.

*4 Coverage: Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papyrus

*5 Only in Japan, Aggregated by specially controlled industrial waste

*6 Nippon Paper Lumber, Daishowa Uniboard

[Units]GWh = Gigawatt hours, BDt = Bone-dry tonnes, Adt = Air-dry tonnes Note: t indicates Tonnes(also called Metric Tons)

		Unit	FY2020*1	FY2021*1	FY2022*1
Output					
Gas Emissions	GHG emissions(Scope 1 and 2)	Million t-CO ₂	6.90	6.79	5.95
	(Scope 1)	Million t-CO ₂	6.26	5.83	4.86
	(Scope 2)	Million t-CO ₂	0.64	0.96	1.09
	Emissions by type of greenhouse gas (Scope 1)				
	CO ₂	Million t-CO ₂	5.79	5.38	5.52
	CH ₄	Million t-CO ₂	0.03	0.03	0.03
	NO ₂	Million t-CO ₂	0.44	0.43	0.40
	SOx emissions	Thousand t	2.83	3.02	3.41
	NOx emissions	Thousand t	9.39	8.99	8.15
	Soot and dust	Thousand t	1.10	1.23	1.11
Chemical substances subject to the PRTR Law*3	Amount released	t	150	143	131
	Amount transferred	t	94	106	89
VOCs (volatile organic compounds)*4	Emissions	t	49	51	97
Waste Water	Waste water total	Million t	843	890	859
	Public water	Million t	835	877	849
	Sewerage	Million t	8	13	10
	COD/BOD	Thousand t	53	50	48
	BOD	Thousand t	—	43	9
	COD	Thousand t	—	7	39
	SS	Thousand t	24	25	25
	Nitrogen	Thousand t	1.3	1.3	1.2
	Phosphorous	Thousand t	0.2	0.2	0.2
	Total Waste Generated	Thousand BDt	760	848	743
Waste	Final disposal subtotal	Thousand BDt	72	102	102
	Recycled subtotal	Thousand BDt	688	746	585
	Hazardous waste generation*5	BDt	1,541	1,610	4,484
Products manufactured	Paper, Household Paper	Million t	3.29	3.64	3.31
	Paperboard	Million t	1.88	1.90	1.85
	Pulp	Thousand t	221	156	180
	Paper container	Thousand t	92	95	83
	Chemical products	Thousand t	93	62	90
	Building materials+others*6	Thousand t	80	197	214
Electricity	Electricity	GWh	2,384	2,199	2,241

Other Environment-related Data

Balance of Materials in the Pulp and Paper Businesses in Japan (Principal Materials) (3 years)

		Unit	FY2020*1	FY2021*1	FY2022*1
Input					
Energy Input	Purchased electricity	GWh	804	985	765
	Oil	Thousand kl	147	137	173
	Coal	Thousand t	1,619	1,521	1,166
	Gas	Thousand t	101	140	137
	Other fossil fuels	Thousand t	23	27	19
	Non-fossil fuels*2	Thousand t	3,582	3,823	3,804
	(Of which Black liquor)	Thousand t	2,561	2,803	2,737
Chemical substances subject to the PRTR Law*3	Amount handled	t	341	482	490
Water intake (water consumption)	Amount of water intake	Million t	757	756	709
	Water intensity	t/product-t	168	158	158
Raw Material	Woodchips	Thousand BDt	3,344	3,453	3,745
	Logs	Thousand BDt	23	20	14
	Pulp	Thousand Adt	350	393	480
	Recycled paper(Pulp)	Thousand Adt	2,658	2,693	2,324
	Base Paper	Thousand Adt	—	0.4	98
	Others	Thousand Adt	—	0.3	16

*1 Coverage : FY2020 Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papylia

FY2021 Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papylia, Crecia-Kasuga, Fukuda Paper MFG

FY2022 Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papylia, Crecia-Kasuga, Fukuda Paper MFG

*2 Biomass fuels (including black liquor) and waste fuels

*3 Japan only. Dioxins are not included in total data. Excludes chemical business

[Units]GWh = Gigawatt hours, BDt = Bone-dry tonnes, Adt = Air-dry tonnes Note: t indicates Tonnes(also called Metric Tons)

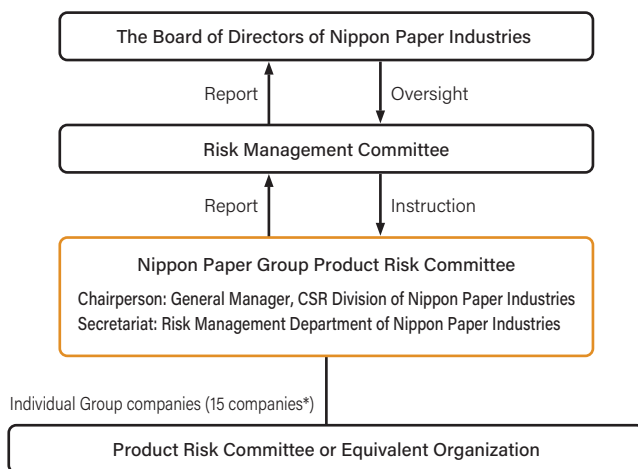
		Unit	FY2020*1	FY2021*1	FY2022*1
Output					
Gas Emissions	GHG emissions (Scope 1 and 2)	Million t-CO ₂	5.49	5.51	4.80
	(Scope 1)	Million t-CO ₂	5.17	5.04	4.24
	(Scope 2)	Million t-CO ₂	0.31	0.47	0.56
	GHG emissions intensity during production	t-CO ₂ / product-t	1.24	1.15	1.07
	Emissions by type of greenhouse gas (Scope 1)				
	CO ₂	Million t-CO ₂	—	—	4.38
	CH ₄	Million t-CO ₂	—	—	0.03
	NO ₂	Million t-CO ₂	—	—	0.39
	SOx emissions	Thousand t	1.7	2.1	2.3
	NOx emissions	Thousand t	7.0	6.5	5.8
Chemical substances subject to the PRTR Law*3	Amount released	t	104	97	90
	Amount transferred	t	6	15	90
VOCs (volatile organic compounds)	Emissions	t	49	51	60
Waste Water	Waste water total	Million t	731	729	671
	Public water	Million t	—	—	669
	Sewerage	Million t	—	—	2
	COD/BOD	Thousand t	36	38	28
	SS	Thousand t	16	18	15
	Nitrogen	Thousand t	1.2	1.3	1.1
	Phosphorous	Thousand t	0.1	0.2	0.1
Waste	Total Waste Generated	Thousand BDt	553	582	494
	Final disposal subtotal	Thousand BDt	13	12	8
	Recycled subtotal	Thousand BDt	541	570	484
Products manufactured	Paper, Household Paper	Million t	2.9	3.1	2.8
	Paperboard	Million t	1.6	1.6	1.5
	Pulp	Thousand t	11	17	158

Stable Supply of Products, Enhanced Safety

1 Basic Policy

📖 → P84 **Philosophy and Basic Policy on Product Safety**

2 Promotion Structure



* Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papyrus, Kokuei Paper, Nippon Paper Lumber, Daishowa Uniboard, Nippon Seitai, Kyoei Seitai, NP Trading, Flowric, Opal, Jujo Thermal, Siam Nippon Industrial Paper, Dyna Wave Holding Asia, Akita Jujo Chemicals (As of June 30, 2023)

- Nippon Paper Group's product safety activities are overseen by the Nippon Paper Group Product Risk Committee, which the General Manager of the CSR Division chairs.
- The Group complies with laws and regulations in Japan and overseas, and strives to ensure product safety through management methods suited to the characteristics of its business and products.
- In FY2022, the Committee reported to the Board of Directors through the Risk Management Committee on strengthening product risk management for affiliated companies.

3 Enhanced Product Safety

1. Efforts to Improve Product Safety

- The Group ensures product safety by conducting management based on laws and regulations such as the Food Sanitation Act and the Act on Securing the Quality, Efficacy and Safety of Pharmaceuticals and Medical Devices (Pharmaceuticals and Medical Devices Act), according to the characteristics of its business and products. Management methods are reviewed as appropriate.
- In FY2022, major Group companies formulated and began implementing product risk management rules based on minimum standards for product safety and quality assurance.
- With regard to food-related products, the Group engages in management in accordance with legal regulations on food safety, management systems and standards, and acquires certifications such as FSSC 22000 as necessary.

2. Response to the Positive List System for Food Product Utensils, Containers, and Packaging

- Food product utensils, containers, and packaging (made of synthetic resin) produced by the Group are in conformance with the Positive List System (which allows only substances that have been evaluated as safe. Hereinafter, "PL System") for synthetic resins stipulated by the Food Sanitation Act.
- Paper and paperboard will also be subject to the PL system in the future. The Group has begun initiatives to comply with the industry's new voluntary standards that correspond to the PL system.

4 Quality Management

1. Common Initiatives among Group Companies and Businesses

- Nippon Paper Industries has acquired ISO9001 certification, an international standard for quality management, as necessary.
- The Company has built quality management systems that match the characteristics of its products.
- The Company has established management systems to prevent product defects from occurring, and provide a response in the unlikely event that a defect does occur.
- Each management system is reviewed as necessary.

2. Quality Initiatives in the Paper and Paperboard Business (Nippon Paper Industries)

- Each sales department has technical staff in place who listen directly to customer requests.
- Utilizing an in-house database that connects production, sales, and technology departments together, the Company shares the necessary information with all personnel involved in quality control.
- The Risk Management Division, which is not a Quality Management Division, audits the above operation status and confirms that it is being operated appropriately.
- In preparation for possible product defects, the following measures are being implemented.
 - Establish reporting lines in case of a defect and launch an emergency organization as necessary
 - Ensure traceability
 - Take out product liability insurance (PL insurance) for main products
 - Implement countermeasures horizontally to prevent similar defects

Stable Supply of Products, Enhanced Safety

● The Company has established respective management systems in order to respond to customer requests, such as waste paper pulp blending ratios, forest certification, use of wood from forest thinning, etc.

- At the head office, procedures have been established and followed for identification of brands subject to management, issuance of certificates, etc.
- The Company manages production procedures at each of the Group's mills, based on the ISO 14001 environmental management system.
- Operational management of the foregoing is confirmed through internal and external audits, and each department makes revisions as necessary.

3. Initiatives in the Package Business (Nippon Paper Industries)

Paper-Pak Sales Division provides quality and technical support (as needed), local quality meetings, and product safety and health audits (once a year) at each business location of Nippon Paper Industries Liquid Package Products, which are production sites.

4. Occurrence of Product Incidents

The Group had no "Product Incidents" or "Serious Product Incidents"* in FY2022.

* "Product Incidents" and "Serious Product Incidents" as stipulated in Article 2, Paragraphs 5 and 6 of the Consumer Product Safety Act

5 Acquisition Status of Major Certifications Related to Product Safety

Acquisition* Status of Major Certifications Related to Product Safety at Japanese Production Sites (As of March 31, 2023)

Company name	Quality management system (ISO9001)	Quality management systems for food product safety and other certifications
Nippon Paper Industries	Shiraoi Mill, Akita Mill, Nakoso Mill, Ashikaga Mill, Soka Mill, Fuji Mill Yoshinaga, Gotsu Mill, Otake Mill, Iwakuni Mill, Higashimatsuyama Mill	FSSC22000: Gotsu Mill Halal Certification: Gotsu Mill
Nippon Paper Industries CNF-related	Fuji Innovative Materials Research Laboratory, Ishinomaki Mill's Cellulose Nanofiber Development Section, Biomass Materials Sales Promotion Department	—
Nippon Paper Crecia	Tokyo Mill	—
Nippon Paper Papylia	Harada Mill, Suita Mill, Kochi Mill	ISO22000: Kochi Mill
Nippon Seitai	Hokkaido Office, Maebashi Mill, Saitama Mill, Kansai Office	—
Kyouei Seitai	Headquarters, Koganei Mill, Hokkaido Mill	—
NIPPON PAPER UNITEC	Five head office sites at headquarters	—
Nippon Paper Ishinomaki Technology	Headquarters	—
GAC	Headquarters/Mill, Marketing Division	—
Flowric	Headquarters, Concrete Research Center, Nagoya Mill	—
N&E	Head Office Plant	—
Nippon Paper Liquid Package Product	—	FSSC22000: Egawa Mill, Ishioka Mill, Miki Mill
Akita Jujo Chemicals	—	Akita Prefecture HACCP: Head Office Plant

* Sites that have obtained certification for some manufacturing are also listed.

Acquisition* Status of Major Certifications Related to Product Safety at Overseas Production Sites (As of March 31, 2023)

Company name	Quality management system (ISO9001)	Quality management systems for food product safety
Opal	Acquired at 30 sites	FSSC 22000: Acquired at 8 sites
Jujo Thermal	Kauttua	ISO22000: Kauttua
Siam Nippon Industrial Paper	Siam Nippon Industrial Paper	Good Manufacturing Practice: Siam Nippon Industrial Paper
Nippon Dynawave Packaging	Longview Washington Mill	FSSC22000: Longview Washington Mill
TS Plastics	TS Plastics	FSSC22000: TS Plastics

* Sites that have obtained certification for some manufacturing are also listed.

Stable Supply of Products, Enhanced Safety

CASE STUDY

Establishment of a System to Respond to Earthquakes and Other Disasters (Nippon Paper Industries)

In the event of damage to production equipment and facilities as a result of a major disaster, the Newsprint Sales Division of the Company has a system in place to follow the emergency response guidelines established by the Japan Paper Association's Newsprint Committee to maintain the smooth supply of newsprint.

Development and Introduction of "e-musen junkai" (e-wireless patrol) System

(Nippon Paper Industries, NIPPON PAPER UNITEC, and Sakurai)

"e-musen junkai" (e-wireless patrol) is a facility monitoring system developed independently by the Group. In the past, signs of equipment abnormality were mainly detected by people patrolling the production site. By using "e-musen junkai," temperature and vibration acceleration data of machinery in operation can be accumulated by IoT, and trends can be monitored with numerical data.

This helps to prevent equipment problems, noise, and vibration before they occur, contributes to stable machinery operation, and also contributes to resolving the issue of skill transfer due to labor shortages. In addition to promoting installation to all of the mills in Japan, the Group is also selling the system outside the Group in Thailand and other countries.

6 Stable Supply of Products

- The Company is securing stable supplies of raw materials and systematically developing and updating production facilities to supply its customers with the quantity they need when needed.
- Sales departments and production departments coordinate in developing flexible and lean production plans and inventory management.
- Anticipating that carrying out normal business operations will become difficult in the event of large-scale disasters, outbreaks of infectious diseases, and other serious consequences, each department formulates a BCP (business continuity plan) based on the BCM (business continuity management) scheme and reviews it as necessary.

7 Employee Training and Education

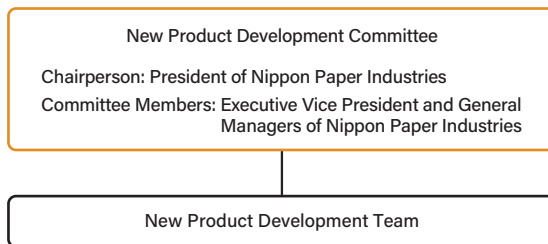
- The Nippon Paper Group Product Risk Committee conducts training on product safety.
- The Group provides technical personnel and others with information on laws and regulations centered on chemical substance management.

Responses to Changes in the Social Environment

1 Basic Policy

As a comprehensive biomass company, Nippon Paper Group responds appropriately to changes in the social environment and customer needs, while providing products and services that contribute to the building of a sustainable society, through which the Group aims to improve its corporate and economic value, thereby realizing the Group's corporate philosophy.

2 System for Advancing New-product Development



- The Group has established its New Product Development Committee to accelerate business structure transformation.
- The committee discusses topics related to the development of new products and new businesses (such as the development of products derived from wood resources in line with growing environmental awareness), and (1) selects persons responsible for development, (2) allocates resources, and (3) determines whether to continue/discontinue the topics.
- The New Product Development Team under the committee searches for topics related to new products and new businesses, and manages the progress of development themes.

3 Products that Contribute to the Building of a Sustainable Society

- The Group will continue to contribute to building a sustainable society and achieving SDGs (Sustainable Development Goals) by providing products and services that leverage its diverse technologies and know-how in the field of renewable wood resources.
- Each of the companies in the Group promotes the development of environmentally friendly products at each stage of the product life cycle, including raw material procurement, product manufacturing, use, post-use, and disposal.

CASE STUDY

Straw-free School Lunch Paper Pack "School POPSM" (Nippon Paper Industries)

The product is designed to be easy to open and hygienic so that you can drink directly from the carton, and a straw hole in the carton is left in consideration of those who need straws. Nippon Paper Industries contributes to addressing climate change issues by cutting CO₂ emissions by reducing the use of disposable straws.

"Long-lasting Roll" Series (Nippon Paper Crecia)

The "SCOTTIE[®] Toilet Rolls FLOWERPACK 3 times long use 4 Rolls (Double)" lasts 3 times longer than the conventional product*, so you can reduce the hassle of replacing and save storage space. In addition, it contributes to a reduction of environmental impact, such as reducing the core of rolls and reducing CO₂ emissions by improving the loading rate during delivery.

* SCOTTIE[®] FLOWERPACK 12 Rolls (Double)



→WEB

Products that Contribute to the Building of a Sustainable Society
<https://www.nipponpapergroup.com/english/csr/sdgs-product.html>

4 Addressing Customer Issues

The Group works on proactive communication with customers, from daily sales activities by sales departments to quality patrols by technical staff, in order to understand and respond to a wide range of customer issues and needs.

Main Initiatives

Company name	Method	Details
Nippon Paper Group	Inquiries on the website	Acceptance of inquiries on businesses, products, activities, etc. are accepted in both Japanese and English.
Nippon Paper Group	Factory tours and inspections	Acceptance of factory tours* for local students and residents, and factory audits by certification bodies, etc.
Nippon Paper Industries	Technical lectures for customers	Conducting technical lectures(Paper-Pak School) for customers in charge of filling machine at dairy and beverage companies.
Nippon Paper Crecia	Establishment of customer consultation desk	Offering a system whereby the opinions and questions of customers can be utilized for the further development and improvement of products.

* Restrictions in some areas to prevent the spread of COVID-19.

5 Participation in ESG Information Sharing Platform

As a supplier, the Group participates in international platforms that share information on and improve companies' environmental and social practices in the supply chain.

Platform Participation and Assessment

Company name (site)	Name of platform	Year of participation	Assessment / audit
Nippon Paper Industries	EcoVadis	2016	Awarded gold medal in 2021 and 2022
Nippon Paper Liquid Package Product (Egawa Mill)	Sedex	2019	Undergone "SMETA Audit" for CSR assessment

Respect for Human Rights

1 Basic Policy

→P84 The Nippon Paper Group Human Rights Policy

- This policy was approved by the Board of Directors of Nippon Paper Industries in May 2022.
- This policy has been prepared in both Japanese and English, and is disclosed on the website of the Nippon Paper Group so that all stakeholders, including all employees and suppliers of the Group, are aware of it.
- In addition to this Policy, all business entities of the Group comply with laws and regulations including minimum wages.

→P81 Principles and Basic Policies Concerning Raw Materials Procurement

- In September 2022, Principles and Basic Policies Concerning Raw Materials Procurement (hereinafter, Procurement Policy) was revised.
- During the preparation process, the Group repeatedly engaged in dialogue with external experts and reflected stakeholders' opinions in the revised content.
- The document was prepared in Japanese and English and disclosed on the website of the Group to convey the content to its suppliers worldwide.

Nippon Paper Group's Commitments Relating to Human Rights

Year	Topics	
2004	Signed and began participating in the United Nations Global Compact	● Expresses support for the 10 Principles in 4 fields, including human rights
2004	Established the Philosophy and Basic Policy on Human Rights, Employment and Labor	● Declaration of respect for basic human rights and prohibition of forced labor and child labor
2005	Established the Principles and Basic Policies Concerning Raw Materials Procurement	● Stated consideration of human rights throughout the supply chain
2022	Established the Nippon Paper Group Human Rights Policy by revising the Philosophy and Basic Policy on Human Rights, Employment and Labor	<ul style="list-style-type: none"> ● Revised in accordance with international human rights norms, endorsing the UN's Guiding Principles on Business and Human Rights ● Declared respect for human rights in all business activities of the Group
2022	Revised the Principles and Basic Policies Concerning Raw Materials Procurement	● Revised the content to make the response to social issues such as respect for human rights and climate change more effective

2 Promotion Structure

The Group has established its Risk Management Committee, which is chaired by the president and representative director, operates under the supervision of the Board of Directors of the Company, and holds meetings at least once annually. This risk management promotion structure handles risks related to the Group's human rights.

→P08 Risk Management Promotion System

3 Human Rights Due Diligence

1. Human Rights Due Diligence Initiatives

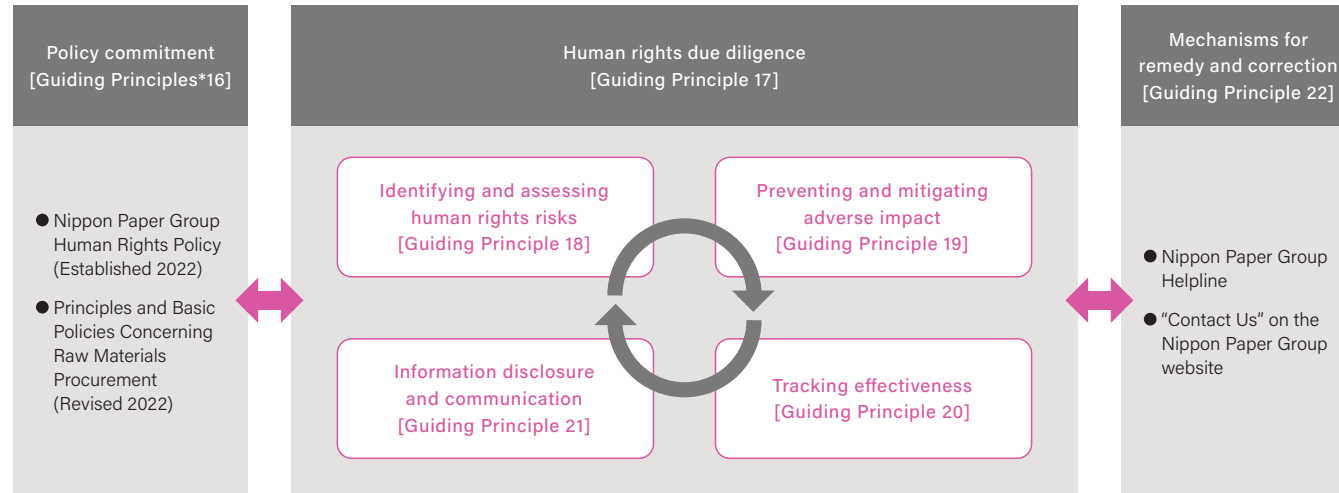
- The Company launched the Human Rights Working Group and introduced human rights due diligence in 2021.
- The Company has constructed a human rights due diligence system based on the "corporate responsibility to respect human rights" required by the United Nations Guiding Principles on Business and Human Rights.
- In 2022, the Company has evaluated human rights risks (forced labor, child labor, freedom of association, discrimination, customer-related risks, and community-related risks) for all stakeholders (employees and customers of the Company itself, Group companies, suppliers, local communities, etc.) in value chains related to the Paper and Paperboard Business, the Paper-Pak Business, and the Chemical Business. Then the Group has identified human rights issues that are high-risk and should be prioritized.
- The Company is working to address high-priority human rights issues, such as by reviewing the content of the survey forms for business partners.
- Going forward, the Company will continue to conduct regular human rights risk assessments and expand the scope of assessment.

Initiatives to Confirm Respect for Human Rights in the Value Chain

Year	Content
2007~	● Confirmed initiatives related to human rights in audits for overseas chip suppliers based on the Action Plan for Wood-based Raw Material Procurement
2011~	● Confirmed initiatives related to human rights in <u>CSR surveys</u> →P02 for overseas consolidated companies (For all consolidated companies from 2021)
2015~	<ul style="list-style-type: none"> ● Conducted on-site interviews concerning human rights at overseas chip suppliers ● Conducted interviews concerning human rights at contractors of mills in Japan
2021~	● Conducted human rights due diligence by the Human Rights Working Group

Respect for Human Rights

Overview of Human Rights Due Diligence (Nippon Paper Industries)



* The United Nations Guiding Principles on Business and Human Rights

2. Identification of Human Rights Issues

The Company identified human rights issues that should be prioritized through the following process.

- (1) Referring to various kinds of international guidance, such as the human rights guidance tools formulated by the United Nations Environment Program Finance Initiative and the Caux Round Table Japan's "Important Human Rights Issues by Industry (9th edition)," the Company has organized the human rights issues in the Company's* value chain and made a list of human rights risks for each stakeholder.
- (2) All human rights risks on the list were scored from the perspectives of "adverse impact on human rights," "probability of occurrence," and "relationship / distance with the Company," and the Company identified human rights that should be prioritized.

* The Paper and Paperboard Business, the Paper-Pak Business, and the Chemical Business

3. Human Rights Surveys at Contractors of Mills in Japan

- The Company sends survey forms to contractors of mills in Japan and has them conduct self-checks to confirm compliance with labor and safety laws and regulations (once a year, not yet done in FY2022).
- Survey results are shared with the human resource managers of each mill for the purpose of support for improvements.
- Follow-up surveys have been conducted since FY2019.
- In FY2022, the Company reviewed the contents of the questionnaires based on the results of the human rights risk assessment (the survey is scheduled to resume in FY2023).

4. Confirmation of Consideration for Human Rights at Overseas Wood Chip Suppliers

- Based on the Procurement Policy the Company has employees in charge of procurement or local representatives visit overseas wood chip suppliers to conduct interviews covering matters such as health, hygiene, safety, disaster preparedness, working conditions, and local environmental concerns.
- The target area of the surveys is all countries from which the Company procures wood chips, with priority given to countries with high-volume transactions or high risks.
- The Company is improving the current surveys by reviewing the contents of the interviews every year based on the results of previous interviews and dialogue with external stakeholders.

Results of On-Site Surveys of Overseas Chip Suppliers

Year of Survey	Country	Results
FY2018	Vietnam, Chile	No problems found.
FY2019	Malaysia, Russia	No problems found.
FY2020	Thailand	No problems found.
FY2021	Australia	No problems found.
FY2022	Vietnam	No problems found.

5. Human Rights Surveys in the Group

The Group conducts annual CSR surveys to confirm the status of human rights initiatives at each Group company

Respect for Human Rights

4 Remedy Mechanism

- The Company accepts inquiries regarding concerns about any possible violation of human rights through the Nippon Paper Group Helpline, which the Company set up as an internal whistleblower system.
- The Group's website also accepts inquiries in Japanese and English through the "Contact Us" page, which is open to anyone.
- The Company's Compliance Office and associated departments respond to inquiries received through the Nippon Paper Group Helpline and the Group's corporate website. In FY2022, there were 35 human rights-related complaints (harassment-related).
- The Group was subject to no legal actions whatsoever regarding human rights in FY2022.



→P11

Whistleblower System (Remedial Measures)

- Nippon Paper Group Helpline
- "Contact Us" on the Nippon Paper Group website

5 Other Initiatives

1. Employee Training and Education

- In pursuit of personnel management cognizant of human rights, the Group has employees responsible for personnel matters participate in training courses hosted by government agencies.
- The Group conducts compliance training to encourage all employees to help prevent harassment in the workplace.



→P11

Achievements in Compliance-related Employee Training and Education

2. Labor Initiatives

The Group implements the following initiatives regarding respect for human rights in labor.

- Support for the universal principles advocated by the UN Global Compact (freedom of association and recognition of the right to collective bargaining)
- Continuous dialogue between labor and management →P63

3. Local Community Initiatives

The Group implements the following initiatives to protect the human rights of people in the areas where the Group conducts its business.

- Environmental communications →P25
- Coexistence with local communities in overseas plantation projects →P19

4. Relationships with Other External Organizations and Other Institutions

- The Company holds dialogues with external experts to confirm objective evaluations of its human rights initiatives and consider improvements.
- The Company has been a member of Amnesty International Japan since 2007 and has the opportunity to share opinions at least once a year. In FY2022, the Company exchanged opinions on matters such as on revisions to the Procurement Policy and local surveys of overseas suppliers' human rights performance.
- The Company has participated in EcoVadis since 2016 and has been registered as a supplier. The Company was awarded a Gold Medal for the successive year of 2022 after 2021, as its efforts for human rights and other initiatives have been highly praised.
- The Company participates in the Global Compact Network Japan's Human Rights Due Diligence Subcommittee to collect information and exchange opinions on the latest trends in human rights and the initiatives of each company.



→WEB


Opinion from External Expert on Human Rights Initiatives (Integrated Report 2023 p.55)

https://www.nipponpapergroup.com/english/ir/npg_ir_2023_e_42-59.pdf

Realization of Diverse Work Styles

1 Basic Policy

In the Nippon Paper Group Mission, Nippon Paper Industries states that one of the requirements of its Vision is "instilling pride in employees." In order to promote the diversity of human resources and respond to environmental changes such as pandemic outbreaks of infectious diseases, the Company is pushing ahead with the development of a working environment and a review of work systems that realize diverse work styles.

 **→P84 The Nippon Paper Group Human Rights Policy**

 **→WEB Human Resource Strategy** (Integrated Report 2023 p.30)
https://www.nipponpapergroup.com/english/ir/npg_ir_2023_e_16-41.pdf

2 Improving Its Working Environment for Diverse Work Style

1. Support for Balancing Childcare and Work

- The Company has implemented systems that exceed the provisions stipulated under Japan's Child Care and Family Care Leave Law to support the achievement of a balance between childcare and work.
- The Company issued a Childbirth and Childcare Guidebook summarizing information necessary for achieving a balance between childcare and work. The handbook has also been posted on the Company's intranet to provide information for employees.
- In 2016, the Company acquired "Kurumin" certification as a child-rearing support company.

<Main systems for supporting a balance between childcare and work>

- Childcare leave (can be taken until a child is 1 year and 2 months old)
- Childcare support measures (shorter working hours, exemption from overtime work, and other benefits) can be used until the end of the school year in which the child is in the third grade of elementary school.
- Abolition of rules restricting uniform pay increases for employees taking childcare leave
- Expired annual paid leave can be taken for the purposes of raising a child or short-term childcare leave

Action Plan Based on the Act on Advancement of Measures to Support Raising Next-Generation Children

The Company has formulated the following action plan to enable all employees to achieve their full potential by creating an environment where employees can balance work and child care and where all employees can work comfortably.

1. Planning period

Two years from April 1, 2023 to March 31, 2025

2. Contents

- Goal 1** Implement a system to limit jobs, work locations, etc., for workers who wish to do so.
<Details of initiatives>
Examination of measures to be implemented in April 2023
Introduction of the system after October 2024
- Goal 2** Redevelop a re-employment system for those who retired due to childbirth or childcare.
<Details of initiatives>
Consider measures to promote the use of the system in April 2023 and implement the steps after October 2023.

2. Support for Balancing Nursing Care and Work

- The Company has implemented systems that exceed the provisions stipulated under Japan's Child Care and Family Care Leave Law to support the achievement of a balance between nursing care and work.
- The Company issued a Nursing Care Guidebook summarizing information necessary for achieving a balance between nursing care and work. The handbook has also been posted on the Company's intranet to provide information for employees.

<Main systems for supporting a balance between nursing care and work>

- Nursing care leave (up to 1 year in total for each eligible family member)
- Abolition of rules restricting uniform pay increases for employees taking nursing care leave
- Expired annual paid leave (held over leave) can be taken for the purposes of leave for nursing care for family members.

3. Reduction of Working Hours

- The Company promotes flexible working styles by introducing systems that encourage diversity **→P61** (a flextime system that does not set a core time, a system for taking annual paid leave in hourly increments, and a system to work from home).
- The Company is working towards reducing working hours by ensuring employees depart before 19:00, enforcing no overtime work days, and improving operational efficiency in each department.

4. Other Systems

In addition to items 1 to 3, the Company is promoting the development of systems that realize diverse work styles.

<Other main systems for realizing diverse work styles>

- Financial assistance for employees transferred alone (without their family) who are not the head of their household*
* 12 times a year round-trip transportation expenses for returning home or other incidental costs
- Spouse overseas accompaniment leave system
- Self-declaration leave system*
* Leave for self-development, international contributions, and volunteer activities
- Expired annual paid leave (preserved leave) can be taken for purposes such as volunteering, absence from work related to fertility treatment or pregnancy, and intermittent absence from work associated with treatment of a disease
- Guaranteeing exercise of civil rights*
* If employees exercise their right to vote or any other civil rights or perform a public duty during working hours for an unavoidable reason, they must be given the time required for such action based on their request and they shall be deemed to have worked during that time.
- A system to overseas personnel
* A hardship allowance based on climate, security, medical care, etc. is added to the salary of employees stationed overseas. Bonuses are paid according to the same standards as in Japan. Operation of systems suitable for each region

5. Welfare

The Company has welfare programs that include the development of company housing and single dormitories, the ownership of recreational facilities, and property formation (property accumulation savings, employee stock ownership association, housing loan system, etc.).

Realization of Diverse Work Styles

6. Achievements Related to Diverse Work Styles

Status of Use of Systems Related to Childbirth, Childcare, and Nursing Care

(— is unaggregated)

	Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Employees taking childcare leave	Consolidated companies in Japan	Persons	23	23	28	30	166
Male	Consolidated companies in Japan	Persons	3	2	5	13	146
Female	Consolidated companies in Japan	Persons	20	21	23	17	20
Employees taking childcare leave	Nippon Paper Industries	Persons	11	13	11	12	113
Male	Nippon Paper Industries	Persons	3	2	5	8	104
Female	Nippon Paper Industries	Persons	8	11	6	4	9
Rate of taking childcare leave (Male)	Consolidated companies in Japan	%	—	—	—	—	82.0
Rate of taking childcare leave (Female)	Consolidated companies in Japan	%	100	100	92	94	100.0
Rate of taking childcare leave (Male)	Nippon Paper Industries	%	—	—	—	—	91.2
Rate of taking childcare leave (Female)	Nippon Paper Industries	%	89	100	86	80	100.0
Rate of returning to work after childbirth	Consolidated companies in Japan	%	90	100	100	99	100.0
Employees taking nursing care leave	Consolidated companies in Japan	Persons	2	1	0	1	2

* Until FY2021, employees taking childcare leave are calculated for those who used childcare leave system. From FY2022, they are calculated for those who used childcare leave system, etc. and who used leave system for the purpose of childcare under Child Care and Family Care Leave Law.

Total Working Hours and Rate of Taking Annual Paid Leave

(— is unaggregated)

	Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Total working hours (All employees*)	Nippon Paper Industries	Hours per person	1,923	1,894	1,888	1,905	1,884
Total working hours (Union members)	Nippon Paper Industries	Hours per person	1,900	1,885	1,861	1,870	1,850
Rate of taking annual paid leave	Consolidated companies in Japan	%	—	74.4	64.7	70.8	74.2
Rate of taking annual paid leave	Nippon Paper Industries	%	75.1	76.6	67.9	73.6	78.4

* All employees = union members + managers

3 Employee Training

CASE STUDY

Diversity Study Sessions

The Company conducts diversity training for employees every year. In FY2022, the Company invited outside lecturers to hold diversity study sessions for management-level employees so that they could learn about its systems related to childbirth and childcare. In the study session, participants learned about the current situation and issues regarding childcare leave for men, the Company's systems related to childbirth and childcare, the prohibition of disadvantageous treatment, and the relevant issues. Male employees who took childcare leave at the Company, and their supervisors, were interviewed, and "real voices" were also shared on the importance of communication when taking childcare leave. Participants not only commented, "I had better understanding of the Company's systems," but also said, "I understood the importance of communication between superiors and subordinates," and "I learned the importance of creating a workplace with high psychological security." Judging from these comments, this was an opportunity for managers to change their mindsets. Subsequently, the Company will continue implementing diversity education for employees to realize diverse work styles.

Active Participation of Diverse Human Resources

1 Basic Policy

Nippon Paper Industries states that one of the requirements of its Vision for the Group Mission is "instilling pride in employees."

The Company is promoting organizational development that enables diverse work styles and allows diverse human resources to maximize their potential, and which aim for better engagement (building relationships to ensure growth for both employees and companies).



→P84 The Nippon Paper Group Human Rights Policy

2 Employment and Recruitment Efforts and Status

- Nippon Paper Group strives to maintain stable employment and continue hiring new employees.
- The Group employs without discrimination based on the "Nippon Paper Group Human Rights Policy".
- Instruct interviewers in training sessions to prohibit discrimination based on race, religion, nationality, place of origin, gender, educational background, etc.
- Clearly and formally communicate the recruitment process to all recruitment candidates
- The Group carries out employment based on the place of operation.

1. Recruitment of New Graduates and Mid-career Employees

- The Company discloses information on the hiring of new graduates on its website.
- In addition to utilizing human resources within the company, the Company is also hiring mid-career employees.

2. Employment of People with Disabilities

- The Company's employment rate of people with disabilities is 2.31%, above the regulatory employment rate of 2.3% (as of April 1, 2023). The Company will continue to work to maintain and improve the employment rate at each site.
- The Company aims to achieve the employment rate of people with disabilities of 2.8% by 2030 (120% of the statutory employment rate).
- The Company assigns people with disabilities to workplaces in consideration of the nature of their disabilities.
- At the head office of Nippon Paper Industries, the Company provides pre-employment workplace training before new employees join the Company, to prevent mismatches at the time of hiring. Furthermore, regular follow-up interviews are held at intervals of one month, three months, six months, and one year after joining to help employees settle into the workplace after joining the Company.
- The head office is equipped with barrier-free toilets which can be used by not only people with disabilities but also by anyone. The Company is also gradually promoting barrier-free facilities at its mills.

3. Employment of Elderly Persons

- The Company operates a re-employment system up to age 65 so that retired employees can continue to work according to their motivation and ability, at least until they are old enough to receive their pension.
- Currently, labor-management discussions are underway, intending to introduce an extension of the retirement age for union members (retirement age of 65) in April 2024.

4. Rehiring Retired Employees

- The Company has established the NICORE (Nippon Paper Comeback & Re-entry)* system as a way for former employees to take advantage of the experience and skills they have cultivated over the years to play an active role in the company once more.

* If a former employee registers in the human resource bank in advance in preparation for when they want to work or are able to work again, the Company will notify the registrant system that provides detailed information on job vacancies. There is no question about the reason for leaving when registering for the human resources bank.

- In FY2022, two employees re-entered the company using this system and began working again.

5. Dispatched Workers

The cost of accepting dispatched workers is borne by the Company.

Active Participation of Diverse Human Resources

6. Statue of Regarding Employment, Recruitment, etc.

Number of Employees (Consolidated companies, as of the end of each fiscal year)

	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Number of employees on a consolidated basis	Persons	12,943	12,592	16,156	16,129	15,959
Male	Persons	11,503	11,118	13,984	13,926	13,593
Female	Persons	1,440	1,474	2,172	2,203	2,366

Number of Overseas Employees (Consolidated companies, as of the end of each fiscal year)

	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Number of overseas employees	Persons	2,587	2,504	5,961	6,050	6,062
Male	Persons	2,263	2,158	4,965	5,038	4,927
Female	Persons	324	346	996	1,012	1,135
Ratio of upper management* from the local community	%	82.1	89.3	94.7	94.6	94.9

* Managerial personnel at the level of section manager or positions higher

Number of Employees by Region (Consolidated companies, as of the end of FY2022)

	Unit	Japan	Oceania	Asia	North America	Other
Number of employees	Persons	9,965	4,368	237	545	844
Male	Persons	8,729	3,492	173	469	730
Female	Persons	1,236	876	64	76	114

Number of Employees by Age Group (Nippon Paper Industries, March 31, 2023)

	Unit	Less than 30	30 to 50	Over 50	Total
Number of employees	Persons	876	2,579	1,605	5,060
Male	Persons	792	2,395	1,448	4,635
Female	Persons	84	184	157	425

Average Age of Employees and Years of Employment (Consolidated companies in Japan, as of the end of each fiscal year)

	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Average age of employees	Age	43.4	43.7	43.6	44.4	44.5
Male	Age	43.3	43.6	43.6	44.4	44.5
Female	Age	43.6	43.7	43.5	43.9	44.2
Average years of employment	Years	19.3	19.2	18.8	19.0	19.0
Male	Years	19.5	19.3	19.1	19.3	19.2
Female	Years	17.8	17.8	17.0	16.9	17.1

Number of Hires and Turnover Rate (Consolidated companies in Japan)

	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Number of new graduates hired	Persons	200	182	214	209	174
Male	Persons	171	146	167	166	133
Female	Persons	29	36	47	43	41
Number of mid-career recruits	Persons	204	222	172	122	167
Male	Persons	180	199	149	109	143
Female	Persons	24	23	23	13	24
Turnover rate (Includes employees leaving at the mandatory retirement age)	%	5.7	4.6	3.0	3.3	6.0

Retention Rate after Joining the Company (Nippon Paper Industries, as of the end of each fiscal year)

	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Retention rate after 10 years of employment	%	69	73	66	60	63

Active Participation of Diverse Human Resources

Number of Employees Seeking Reemployment after Retirement / Employees Reemployed after Retirement Age

	Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Number of employees seeking reemployment after retirement	Nippon Paper Industries	Persons	168	95	80	126	155
Number of employees reemployed after retirement age	Nippon Paper Industries	Persons	168	95	81	126	155
Number of employees reemployed after retirement age	Consolidated companies in Japan	Persons	332	296	301	591	401

Number of Managers / Ratio of Female Employees in Management (At the end of each fiscal year)

	Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Number of managers	Nippon Paper Industries	Persons	1,134	1,121	1,132	1,218	1,162
Female	Nippon Paper Industries	Persons	26	27	30	33	37
Ratio of female employees in management	Nippon Paper Industries	%	2.29	2.43	2.65	2.71	3.18
Number of managers	Consolidated companies in Japan	Persons	2,227	2,302	2,385	2,404	2,393
Female	Consolidated companies in Japan	Persons	55	62	67	69	82
Ratio of female employees in management	Consolidated companies in Japan	%	2.47	2.69	2.81	2.87	3.43
Number of managers	Consolidated companies outside Japan	Persons	151	196	358	556	531
Female	Consolidated companies outside Japan	Persons	24	33	82	129	119
Ratio of female employees in management	Consolidated companies outside Japan	%	15.9	16.8	22.9	23.2	22.41

Number of Dispatched Workers and Part-time Workers (Consolidated companies in Japan, as of the end of each fiscal year)

	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Dispatched workers	Persons	89	108	111	105	121
Male	Persons	41	47	46	38	44
Female	Persons	48	61	65	67	77
Ratio of dispatched workers	%	0.8	1.1	1.1	1.0	1.2
Number of part-time workers	Persons	465	512	514	465	536
Male	Persons	293	293	290	279	287
Female	Persons	172	219	224	186	249

7. Other Employment-related Information

- The Company conducts risk assessments and respond to labor issues related to new business and existing business.
- The Company did not carry out layoffs in FY2022.
- There were no employees affected by the Company's M&A in FY2022.
- Average annual salary (including bonuses and extra wages) of the Company as of the end of FY 2022 was 6,599,485 JPY.
- Calculated based on the provisions of the Act on Promotion of Women's Participation and Advancement in the Workplace, the wage gap between male and female regular employees (ratio of female employees with male employees as the denominator) at the Company in FY 2022 was 75.5%. Regarding the gender gap, there is no difference in wages for doing the same work, and the difference mainly depends on whether allowances are paid for shift work that male employees are engaged in.

Active Participation of Diverse Human Resources

3 Promotion of Women's Participation and Advancement in the Workplace

1. Responding to 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

In order to create an employment environment in which diverse human resources can demonstrate their abilities and play an active role throughout their lives, the Company will formulate an action plan as follows.

1. Planning period

Five years from April 1, 2021 to March 31, 2026

2. Contents

Goal 1 The Company will set the ratio of female employees, compared to man employees, promoted to section manager from a lower rank in the previous three business years at 80% or higher.

Goal 2 At head office divisions, which have no production sites, the rate of usage of systems such as flextime, taking leave in hourly increments and working from home will be set at 70% for both male and female employees to promote diversity.

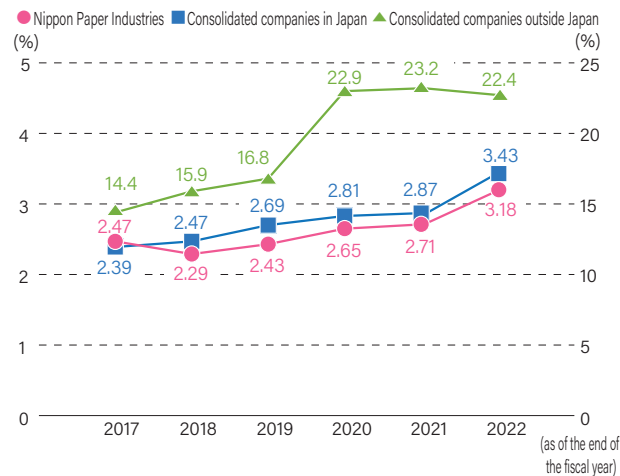
3. Intermediate performance (FY2022)

Target 1 101%

Target 2 93.2%

2. Ratio of Female Employees in Management and Hiring of New Graduates for Career-track Positions

Ratio of female employees in management



Hiring of New Graduates for Career-track Positions (Nippon Paper Industries)

	Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Career-track hires	Persons	50	48	43	48	43
Female	Persons	13	17	13	19	21
Ratio of female career-track hires	%	26	35	30	40	49

4 Recruitment and Development of Human Resources

The Company is working to develop human resources who take on change as an investment in human capital to promote transformation of the business structure and yield results. The Company will take various measures to nurture employees who will be the source of expanding profitability of growing businesses and reinforcing competitiveness of foundation businesses, while also enabling staffs themselves to improve their individual skills and realize personal growth through their careers.

1. Recruitment and Development of Career-track Employees

The Company defines the ideal type of person that career-track employees should aim to be as "leaders who will promote change." The Company is implementing the following initiatives to secure such personnel.

- Hiring human resources with the abilities to continue attempting new challenges, to exercise fair judgement and to engage in teamwork by involving those around them, and the mental strength to overcome difficulties
- Strengthening the development of "autonomous human resources" with global perspectives that can face the "challenge" of new things.

2. Leadership Training System

The Company works to develop its leadership personnel through OJT and OFF-JT, which includes systematic rotations, Job-level-based training, and selective training.

- Fostering leaders with broad perspectives who do not become fixated on a single issue, by transferring them to various positions both within and outside their department, and at affiliate companies in a planned manner
- Besides Job-level-based training at OFF-JT, the Company has established a dispatch system for career-track employees to overseas business sites.
- After employees are promoted to management positions, the Company also conducts training related to management and other skills.

- In February 2022, the Company received "Eruboshi Certification (Stage 2 certification)."

Active Participation of Diverse Human Resources

3. Priority Initiatives in Human Resources Development

The Company provides its employees with fair learning opportunities, and has developed a system for enabling those with motivation and abilities to further increase their skills, with a focus on the following five key points.

(1) Support for voluntary skill acquisition

- Hierarchical training
 - Hierarchical training, such as that for new hires, groups based on the year of joining the Company, and new managers, is conducted jointly by Group members.
 - Hierarchical training at the head office
 - Hierarchical training at mills is conducted not just for a single mill but together with neighboring mills
- Selective training
 - Group training (accounting, leadership, logical thinking, etc.)
 - Distance learning (approximately 240 courses including business skills, qualifications/certifications, languages, digital skills, etc.)
- Other systems
 - Dispatching employees to colleges/universities in Japan (to obtain a degree)
 - Systems that pay rewards for qualifications

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

- Constructing a talent management system*
 - * An information system that centrally manages and visualizes basic employee information and talent information, such as abilities, experience, and skills, and leads to strategic human resource development and placement
- Implementation of employee surveys to ascertain what kind of job assignments they wish to have (target: all employees, once a year).
- Establishment of an internal recruitment system, so that individual employees can consider their skills and how they want to develop their careers, and then apply for positions posted by any of the Group companies.
- Establishment of an "in-house side jobs system*"
 - * Without being transferred, employees can be involved in the work of another department that they are interested in for up to 20% of the prescribed working hours, allowing them to take on the challenge of new operation while working on the main business of the department to which they belong.

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

- Open invitation to applicants and implementation of long-term dispatch to overseas bases of the Group.

(4) Reinforcement of production frontline capabilities

- Creating a committee to strengthen frontline capabilities in FY2006 in all mills. Organizing and 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) Life plan design support

- Offering 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.

4. Provision of Education and Training

- In FY2022, the number of hours of education per employee at consolidated companies in Japan was 4.6 hours.
- The Company's educational expenses related to human resource development, supervised by the Human Resources Department, in FY2022 amounted to 35,718,660 JPY. The average training cost per employee targeted for such training was 36,899 JPY, and the average training time was 12.2 hours.

Active Participation of Diverse Human Resources

5 Reinforcing Engagement

1. Fair Evaluation and Compensation

- The Company carries out the following as part of a fair and transparent personnel examination.
 - Inform employees of wage regulations, including wage structure and the criteria for pay raises and promotions.
 - Clarify evaluation criteria and items.
 - Conducting review sessions where managers provide feedback on performance evaluations and results to employees (for all general employees, twice a year)
 - Introduction of outside companies specializing in human resource assessment to enhance objectivity for decisions on promotions to management and other positions
- The Company has adopted a "Performance Evaluation System" under which employee compensation is determined based on performance.
- The Company has established programs such as president awards, business site manager awards, president awards for patents, and outstanding technician awards, to recognize special achievements.
- The Company has established a system under which incentives are paid to achievements of employees.
 - e-Kaizen Program: A proposal system for business improvement. The impact of proposals is evaluated in points and incentives are paid according to the points
 - Invention Compensation System: Appropriate consideration will be paid to employee invention in accordance with the Patent Act

2. Employee Engagement Survey

- The Company has conducted an employee engagement survey once in two years since 2019.
- This survey is positioned as essential to further strengthen the relationship between employees and the Company so that both can grow.
- Based on the survey results, the Company strives to improve communication within the workplace and the working environment.

6 Industrial Relations

- The Group participates in the United Nations Global Compact and supports the universal principle of labor standards advocated by the United Nations regarding "approval of freedom of association and the right to collective bargaining."
- The Company and principal consolidated subsidiaries have formed labor unions. They maintain harmonious labor-management relations even at companies without labor unions.
- The Company has adopted a union-shop system, and 100% of employees subject to labor agreements are members of the labor union (number of labor union members: 4,435 [as of March 31, 2023]).
- In the common labor-management goal of "developing the company and improving the welfare of union members," the Company has established various specialized labor-management committees, such as the "Agreement Management Expert Committee" and the "Manpower Measures Expert Committee." Along with this, based on the agreements between labor and management, the Company is working on various measures and improving working conditions and environments. The Company also holds labor-management conferences on a regular basis to facilitate communication between labor and management, such as explaining management policies, management plans, and company-wide performance to the labor union.

Promotion of Occupational Safety and Health

1 Basic Policy

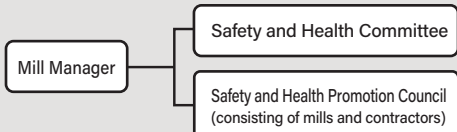
P86 Philosophy and Basic Policy on Safety and Health Measures

- This policy also applies to contractors and related contractors of mills working on the Company's premises.

2 Promotion Structure



Example of a Mill's Safety and Health Organization Structure (Nippon Paper Industries)



1. Occupational Safety and Health Promotion Structure

- Nippon Paper Industries regularly holds health and safety meetings attended by both employees and management, including safety and health personnel from the head office, mills, and labor unions, where the opinions of employees are represented.

- Meetings of the Safety and Health Committee and Safety and Health Promotion Council (consisting of mills and contractors) are held separately at each location including mills and offices, once a month.
- The Company promotes safety and health management activities by cooperating and collaborating with management and employees, as well as contractors and related contractors of mills working at each location.
- The Company has established a communication system between the mills and the head office, as well as between departments within the head office, to report necessary information in the event of a disaster to the Nippon Paper Group Safety and Disaster Prevention Committee and its management.

2. Reporting to the Board of Directors

- The Group's occupational health and safety and disaster prevention activities are overseen by the Nippon Paper Group Safety and Disaster Prevention Committee, chaired by the officer in charge of safety and disaster prevention, and reports to the Board of Directors through the Risk Management Committee.
- In FY2022, the committee reported to the Board of Directors on risks and examples of safety and disaster prevention, as well as the status of occupational accidents.

3 Occupational Safety and Health Management System

- The Group operates its own Nippon Paper Occupational Safety and Health Management System (NPSS).

NPSS (Nippon Paper Occupational Safety and Health Management System)

NPSS incorporates specific, ongoing, and voluntary activities at each mill and business site as safety and health plans, following company policies and measures relating to safety and health. The system is helping to improve safety and health levels by preventing occupational accidents, promoting worker health, and creating comfortable working environments. It also implements measures to predict and prevent health and safety risks, not only for existing work but also for new work and where changes in work have been made.

- The Company formulates annual plans for Occupational Safety and Health Management Systems at each mill and business office and conducts training.
- The Company has a system for reviewing and improving the content of education and the target employees, as necessary.

- The Group formulates and promotes safety and health plans for each mill, business site, and Group company and conducts Mill Safety Audits at least once a year as part of its drive to maintain and improve safety standards.
- The Company also incorporates into its safety activities any advice from external experts on ways to improve its standards, including safety diagnoses conducted by the Japan Industrial Safety and Health Association.

4 Acquisition of Occupational Safety Certifications and Awards

Acquisition of ISO 45001 Certification (As of March 31, 2023)

Company name	Number of certified sites
Opal	22 sites
Jujo Thermal	1 site

* 2 out of 55 in Japan and overseas consolidated companies certified (Consolidated companies in Japan: 0 out of 28 companies, overseas consolidated companies: 2 out of 27 companies)

External Awards for Safety Activities (FY2022)

Company (office) name	Award
Nippon Paper Industries (Otake Mill)	62nd National Conference of the Pulp and Paper Industry on Safety and Health (Safety Excellence Award 2nd Class)
Nippon Paper Industries (Asahikawa Mill, Ishinomaki Mill, Nakoso Mill, Fuji Mill, Akita Mill)	62nd National Conference of the Pulp and Paper Industry on Safety and Health (Safety Excellence Award)
Nippon Paper Industries (Iwakuni Mill Safety and Health Cooperation Association, Otake Mill Safety and Health Cooperation Association)	62nd National Conference of the Pulp and Paper Industry on Safety and Health (Safety Excellence Award)
Nippon Paper Papyrus (Kochi Mill)	62nd National Conference of the Pulp and Paper Industry on Safety and Health (Safety Excellence Award)
Siam Nippon Industrial Paper	2022 Company with an Excellent Safety and Health Environment (Gold Medal)

Promotion of Occupational Safety and Health

5 Efforts regarding Health and Hygiene

- In cooperation with the health insurance union, the Group implements the following initiatives to promote employees' health and prevent and detect illness early.
 - Regular physical examinations and lifestyle-related disease checkups at all Group companies that are members of the Nippon Paper Industries Health Insurance Union
 - Improve work environments based on the results of regular workplace visits by industrial physicians
 - Health examinations for spouses of employees
 - Walking competition events and providing health-related information using health promotion apps
 - Quit smoking program (health insurance support project)
- The Company implements the following mental health initiatives for our employees.
 - Mental health counseling for all employees and their families in collaboration with external EAP (employee support service)
 - Consultation by a specialist for employees who are judged to require care in a "stress check" (conducted once a year)
 - Rehabilitation work system when returning to work (a system that allows employees to come to work and work on a trial basis before fully returning to work)
- The Company implements the following initiatives for employees posted abroad regarding global health issues such as infectious diseases.
 - Periodical medical examinations, lifestyle-related disease examinations, and complete medical examinations at the time of assignment and return for employees stationed overseas and their accompanying spouses
 - Vaccinations as required, according to the situation of the overseas posting/business trip destination

6 Initiatives Related to Safety and Disaster Prevention

1. Ensuring Safety within Mills

Medium-term Safety Activity Plan (Established July, 2020)

Plan pillars	(1) Developing safe working environments, (2) Managing risks, (3) Training personnel to work safely
Ultimate environment	Ensuring that nobody* ¹ is injured within the premises of its mills
The goal	To build a foundation for achieving zero disasters based on an independent safety-conscious climate
Plan duration	2020-2025
Performance indicators* ²	2020-2022 Serious occupational accident eradication measures period (Serious occupational accidents: 0, Frequency rate for lostworktime injuries: 0.4)
	2023-2025 Period for preparing for zero occupational accidents (Serious occupational accidents: 0, Frequency rate for lostworktime injuries: 0.1)

*1 This ultimate environment includes all stakeholders on Nippon Paper Group premises including Group employees, employees of contractors of mills working on site, and visitors from outside.

*2 Mill management indicators are determined every 12 months

- Based on its mission of Ensuring that nobody is injured within the premises of its mills the Company conducts safety patrols in collaboration with labor unions and contractors, and gives instructions and guidance to correct unsafe practices.
- Provide personal protective equipment and other safety equipment for safety and health-related work.
- Provide guidance to contractors and promote voluntary safety activities, including risk prediction and risk assessments.

2. Other Safety and Disaster Prevention Countermeasures

- The Group implements the following measures for operations with a high risk of injury.
 - Manage facilities in accordance with Japan's Industrial Safety and Health Law and other laws and regulations, and regularly evaluate workplace environments
 - In locations where chemical substances are handled, the Group investigates the dangers and toxicity of these substances and uses what it learns to take appropriate risk reduction measures and manage residual risks
 - Special medical examinations for employees engaged in certain types of hazardous work
- The Group implements the following measures to prepare for emergencies such as natural disasters and fires.
 - Create disaster preparedness manuals reflecting local hazard map information
 - Participation in regular disaster drills and lifesaving courses in collaboration with local fire departments and other public safety agencies
 - Undergo regular disaster prevention surveys by specialist risk assessment companies (Nippon Paper Industries)
- The Group implements the following initiatives aimed at raising awareness of traffic safety.
 - Traffic safety training and lectures
 - Participate in traffic safety campaigns hosted by local police stations

Promotion of Occupational Safety and Health

7 Occupational Accidents

Occupational Accidents (Calendar year)

		2018	2019	2020	2021	2022
Lost-time injury frequency rate* ¹	Nippon Paper Industries	1.21	0.73	0.39	0.51	0.95
	Nippon Paper Group * ³	1.16	0.54	0.37	0.46	0.86
	Nippon Paper Group * ³ contractor	0.54	0.98	1.10	0.62	0.52
	Manufacturing industry	1.20	1.20	1.21	1.31	1.25
	Pulp, paper and converted paper product manufacturing industry	1.88	1.94	1.54	1.85	1.59
Occupational Accident Severity Rate* ²	Nippon Paper Industries	0.02	0.03	0.01	0.04	0.12
	Nippon Paper Group * ³	0.03	0.03	0.01	0.03	0.09
	Nippon Paper Group * ³ contractor	0.47	0.55	1.10	0.09	0.11
	Manufacturing industry	0.10	0.10	0.07	0.06	0.08
	Pulp, paper and converted paper product manufacturing industry	0.22	0.63	0.39	0.06	0.19
Number of work-related employee/contractor fatalities	Nippon Paper Industries	0	0	0	0	0
	Nippon Paper Group * ³	0	0	0	0	0
	Nippon Paper Group * ³ contractor	1	1	2	0	0

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

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

*3 Scope: Manufacturing locations of Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papylia, and Nippon Paper Liquid Package Product

Number of Violations of the Labor Standards Act* (Nippon Paper Industries)(Calendar year)

2018	2019	2020	2021	2022
0	0	0	0	0

* Number of cases subject to judicial disposition for violations of the Labor Standards Act

8 Training and Education for Employees, etc.

- The Group promotes the spread and establishment of safety and health awareness by conducting safety training for employees, contractors, and related contractors.
- The Company ensures providing the education mandated under the Industrial Safety and Health Act based on the Guidelines on Safety and Health Education established by the Ministry of Health, Labour and Welfare.
- The Company also provides training on emergency lifesaving, heat stroke prevention, and traffic safety, as well as safety education for temporary site visitors.
- The Company encourages participation in safety-related qualifications (e.g., RST*) and external training to gain specialized knowledge.

* Rodosho (Ministry of Labor in Japanese) Safety and Health Education Trainer

- The Company conducts a survey once a year to keep abreast of the status of safety and health education at each of its mills and offices.

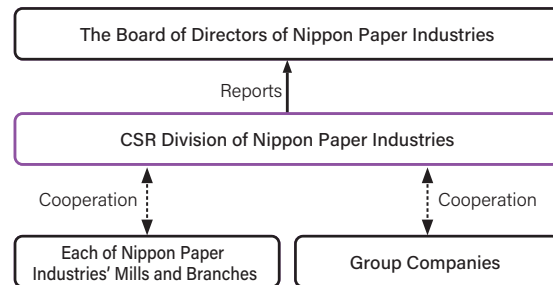
Coexistence with Local Communities and Society

1 Basic Policy

As a member of society, the Nippon Paper Group wants to contribute to the development of society as a whole. While continuing to supply products that society needs, the Group wants to contribute to protecting the global environment and developing culture and local communities. Accumulating activities for that purpose will lead to gaining society's trust and continuing our business activities while coexisting with the local community.

 [→P86](#) **Philosophy and Principles of Social Contribution Activities**

2 Promotion Structure



- The Group continues to carry out activities to deepen coexistence with each community while utilizing the Group's expertise and resources.
- In FY2022, reports on Nippon Paper Industries' biodiversity conservation activities were submitted to the Management Executive Committee. [→P03](#)

3 Main Activities for Coexistence with Communities and Society, and Social Contribution Activities

List of Main Activities for Coexistence with Communities and Society and Social Contribution Activities

Activity classification	Activity description
Local community activities	
Activities for regional cleaning, safety, disaster prevention and disaster support activities	<ul style="list-style-type: none"> ● Cleaning activities around business sites, etc. ● Donation of flower seedlings to elementary schools, etc. ● Children's "emergency 110" patrol project (110 is the number to dial for emergency assistance in Japan) ● Traffic safety initiatives ● Cooperation in preventing bank transfer fraud ● Participation in fire brigades in plantation areas* ● Contribution of relief funds in the event of natural disasters, lending of temporary housing sites to disaster victims, and provision of relief supplies
Preserving local culture and respect for indigenous peoples	<ul style="list-style-type: none"> ● Protecting indigenous heritage sites* ● Designating indigenous heritage sites as permanent protected zones* ● Participating in and sponsoring local events
Social welfare activities	<ul style="list-style-type: none"> ● Copier-paper sale in support of the Pink Ribbon Campaign ● Distribution of compost using bark and biomass residuals to farmers around plantations* ● Financial support for elderly care facilities ● Participating in and cosponsoring social welfare events ● Support for breast cancer network* ● Opening company-owned welfare facilities such as gymnasia to the local residents, various organizations, individuals, and other general public
Providing awareness-raising opportunities	<ul style="list-style-type: none"> ● Sustainability lectures →P02
Advancing science and technology	<ul style="list-style-type: none"> ● Supporting the Fujihara Foundation of Science
Environmental activities	
Utilization of company-owned forests and preservation of biodiversity	<ul style="list-style-type: none"> ● Supporting the activities of the Association for the Protection of Shirane-aoi →P45 ● Preserving blackston's fish owl habitat while pursuing business activities →P45 ● Improving breeding conditions for the Blackiston's fish owl by installing artificial nesting boxes ● Eradicating invasive plant species from Iriomote Island →P45
Promoting recycling activities	<ul style="list-style-type: none"> ● Collection and recycling of paper cups →P39 ● Paper Carton Recycling →P39 ● Effective use of local waste →P41
Responsibility to local communities	<ul style="list-style-type: none"> ● Environmental communication →P25 ● Participation in programs aimed at protecting and improving local water resources* →P41
Educational activities	
Workshops and visiting classes	<ul style="list-style-type: none"> ● Conducting the School of Friendship for Forests and Paper ● Cooperation in teaching school classes
Providing opportunities to tour group companies and their mills	<ul style="list-style-type: none"> ● Acceptance of factory tours
Employment support, provision of products to educational sites	<ul style="list-style-type: none"> ● Internships that welcome students for opportunities to experience a workplace ● Implementation of vocational training for community residents around plantations* ● Providing in-house products to educational institutions
Providing educational opportunities through music and sports	<ul style="list-style-type: none"> ● Sponsorship of music competitions and sports events ● Supporting sports classes for children from low-income families*

* Overseas activities

Coexistence with Local Communities and Society

CASE STUDY

1. Local Community Activities

Designating Indigenous Heritage Sites as Permanent Protected Zones (AMCEL Brazil)

Heritage site excavation surveys carried out on approximately 16,000 hectares of land owned by AMCEL between August 2013 and January 2014 resulted in the discovery and retrieval of 21 archaeological artifacts. AMCEL has designated the entire area as a permanent protected zone, and is working to ensure the preservation of the site in collaboration with local government and research institutions. The company is also conducting educational activities, such as by holding educational lectures on cultural heritage at schools in the city of Tartarugalzinho.

Distribution of Compost Using Bark and Biomass Residuals to Farmers around AMCEL's Plantations (AMCEL Brazil)

AMCEL distributes free compost made from biomass residues such as bark generated during tree planting and forestry activities to local farmers around its plantations. This activity promotes agriculture in the local community and has been praised by the farmers as leading to the organic cultivation of crops. It also leads to the effective utilization of unused biomass residue.

Participating in and Cosponsoring Social Welfare Events

The Company and Nippon Paper Trading etc. gather pet bottled beverage caps collected in-house and donate them to NPOs. After the donated caps are sold, the proceeds are replaced with vaccines and provided to children worldwide. In addition, many of the Group companies in Japan cooperate with the Japanese Red Cross Society in blood donation. The Company's Higashimatsuyama Plant received a letter of appreciation for its cooperation over the years.

2. Educational Activities

Conducting the School of Friendship for Forests and Paper (Nippon Paper Industries)

The "School of Friendship for Forests and Paper" is a unique natural environment classroom that utilizes Nippon Paper Industries' owned forests. In October 2006, the Company held an event in the Suganuma company-owned forest in Gunma Prefecture (Marunuma Kogen) for the purpose of providing opportunities for ordinary parents and children to come in contact with the rich nature and experience the connection between forests and paper, which is indispensable in life. The event is planned and operated by using its employees' knowledge and experience. In FY2022, the Company held the "Online School of Friendship for Forests and Paper", where participants can choose their preferred location. For the 35 elementary school students and their guardians who participated, the Company held classes on the role of forests and the environmental characteristics of paper, as well as workshops using leaves from company-owned forests. Participants made comments such as "I want to live an eco-friendly life," and "I want to learn more about forests and paper."

Implementation of Vocational Training for Community Residents Around Plantations (AMCEL Brazil)

AMCEL owns vast land, including plantation land, and strives to deepen its cooperation and dialogue with local residents. As part of this, it asks what the community wants to learn for employment, and continuously holds seminars on themes that match those questions. In recent years, it has invited apiculture technicians to provide technical guidance and materials for apiculture, thereby supporting the economic independence of the local people.

Supporting Sports Classes for Children from Low-income Families (AMCEL Brazil)

AMCEL supports sports classes for children in local communities. The activities are conducted by the environmental patrol of the Amapá state police, with the objective of encouraging the healthy development of children in low-income families through sports classes and preventing them from becoming involved in crime or drug abuse. AMCEL continues to support this initiative by providing uniforms worn by participants.

Social Contribution Activity Expenses (Nippon Paper Industries)

	FY2020	FY2021	FY2022
Social contribution activity expenses (Donation amount) (Million Yen)	75	58	49























4 Support for Employees' Social Contribution Activities

The Company systematically supports employees' participation in volunteer activities.



























- A system to allow employees to take leave for volunteering (Japan Overseas Cooperation Volunteers, etc.)
- System for taking leave for volunteer activities (use of expired annual paid leave [held over leave])

ESG (Environmental, Social, Governance) Data









● Environmental data

-   P23 Forest Certification
-   P27 GHG Emissions (Scope 3)
-   P27 Ratio of Fossil Energy Usage
-   P41 Waste Generated and Final Waste Disposal
-   P46 Environmental Accounting
-   P47 Balance of Materials
-   P47 GHG Emissions (Scope 1 and 2)
-   P47 Emissions by type of greenhouse gas (Scope 1)
-   P47 Energy Input
-   P47 Water Intake (Water Consumption) / Waste Water
-   P47 COD / BOD

● Social data

-   P23 Forest Certification
-   P57 Status of Use of Systems Related to Childbirth, Childcare, and Nursing Care
-   P57 Total Working Hours / Rate of Taking Annual Paid Leave
-   P58 Employment Rate of People with Disabilities
-   P59 Number of Employees
-   P59 Number of Overseas Employees / Number of Employees by Region
-   P59 Number of Employees by Age Group
-   P59 Average Age of Employees / Average Years of Employment
-   P59 Number of Hires / Turnover Rate / Retention Rate after Joining the Company
-   P60 Ratio of Female Employees in Management
-   P60 The wage gap between male and female regular employees
-   P62 Training Time / Training Costs
-   P66 Lost-time Injury Frequency Rate / Occupational Accident Severity Rate
-   P68 Social Contribution Activity Expenses

● Governance data

-   P03 Number of Board of Directors Meetings Held / Average Rate of attendance
-   P05 Number of Female directors / Number of Female audit & supervisory board members
-   P05 Number of Outside Directors / Number of Outside Audit & Supervisory Board Members
-   P07 Remuneration for Directors

Other Data

Main External Evaluation (Nippon Paper Industries)

Evaluations	Acquisition year	Organizers, evaluation groups, and others
"Kurumin" mark acquired 	2016	Ministry of Health, Labour and Welfare
Eruboshi Certification (Stage 2 certification) acquired 	2022	Ministry of Health, Labour and Welfare
Rated 4 stars in the 4th Nikkei SDGs Management Survey 	2022	Nikkei Inc.
Awarded EcoVadis gold medal 	2021 2022	EcoVadis
DBJ Environmental Rating: "Efforts in consideration of the environment are particularly advanced"** 	2018	Development Bank of Japan Inc.
ESG / SDGs evaluation-type found procurement Top level "AAA" 	2018	Sumitomo Mitsui Banking Corporation

* In November 2018, the Company received an environmental rating loan from the Development Bank of Japan (DBJ), and the rating result was evaluated as "Efforts in consideration of the environment are particularly advanced."

Main ESG Indices Adopted (As of June 2023)



2022 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)



Sompo Sustainability Index

Nikkei Climate 1.5°C Target Index
Morningstar Japan ex-REIT Gender Diversity Tilt Index
S&P Japan 500 ESG Index

Participation in Initiatives

Initiatives	Organizer	Year of Participation
United Nations Global Compact	—	2004
GX League Basic Concept	Ministry of Economy, Trade and Industry of Japan	2022
TCFD(Task Force on Climate-related Financial Disclosures)	—	2021
Committee on Nature Conservation	KEIDANREN (Japan Business Federation)	1992
Japan Partnership for Circular Economy	KEIDANREN (Japan Business Federation)	2021
Initiative for Biodiversity Conservation	KEIDANREN (Japan Business Federation)	2021

Principal Organization Memberships (As of July 2023)

Organization	Position
Japan Paper Association	Vice Chairman
Japan Tappi	President
Forest Management Association	Director
Japan Woody Bioenergy Association	Director
Agricultural Resource Certification Council	Director
Paper Recycling Promotion Center	Vice President
Japan Paper Exporters' Association	President
Japan Paper Importers' Association	Director
Japan Association of Milk Packaging and Machinery	Vice Chairman
Committee for Milk Container Environmental Issues	Vice Chairman
Association of Large-scale On-site Power-plant Owners	Director
NanoCellulose Japan	Chairman
Japan Clean Ocean Material Alliance	Executive Secretary

Political Contribution Amount (Nippon Paper Industries)

	FY2020	FY2021	FY2022
Political contribution amount (thousand yen)	35	100	7

Other Data

Status of CoC Certification Acquisition at Main Production Sites (As of July 31, 2023)

Company name	FSC*		PEFC
	Mill, production company	License no.	Mill, Production company
Nippon Paper Industries	Asahikawa Mill	FSC*C001751	—
	Shiraoi Mill		Shiraoi Mill
	Ishinomaki Mill		Ishinomaki Mill
	Iwakuni Mill		Iwakuni Mill
	Yatsushiro Mill		Yatsushiro Mill
	Iwanuma Mill		—
	Akita Mill		Akita Mill
	Nakoso Mill	FSC*C020977	—
	Soka Mill	FSC*C133163	—
	Ashikaga Mill		—
	Fuji Mill Yoshinaga, Fuji	FSC*C133678	Fuji Mill Yoshinaga
	Otake Mill	FSC*C132226	Otake Mill
	Gotsu Mill	FSC*C154187	—

Company name	FSC*		PEFC
	Mill, production company	License no.	Mill, production company
Other Nippon Paper Group Companies	Nippon Paper Papylia Harada Mill, Suita Mill, Kochi Mill	FSC*C005984	Nippon Paper Papylia Harada Mill, Suita Mill, Kochi Mill
	Nippon Paper Crecia Kaisei Mill, Koyo Mill, Kyoto Mill, Tokyo Mill	FSC*C124287	—
	Nippon Dynawave Packaging	FSC*C131932	Nippon Dynawave Packaging
	Siam Nippon Industrial Paper	FSC*C135609	—
	Jujo Thermal	FSC*C012566	Jujo Thermal
	Opal Opal Bag Solutions Thomastown	FSC*C127957	Opal Opal Bag Solutions Thomastown
			Opal Bag Solutions Revesby
	Opal Functional Coatings Campbellfield		Opal Functional Coatings Campbellfield
	Opal Cartons NZ Auckland		Opal Cartons NZ Auckland
	Opal Cartons NZ Christchurch		Opal Cartons NZ Christchurch
	Opal Cartons Christchurch		Opal Cartons Christchurch
	Opal Cartons Botany		Opal Cartons Botany
	Opal Cartons Heidelberg		Opal Cartons Heidelberg
	Opal Cartons Regency Park		—
	Opal Fibre Packaging Brooklyn		Opal Fibre Packaging Brooklyn
	Opal Fibre Packaging Scoresby		Opal Fibre Packaging Scoresby
	Opal Fibre Packaging Launceston		Opal Fibre Packaging Launceston
	Opal Fibre Packaging Revesby		Opal Fibre Packaging Revesby
	Opal Fibre Packaging Townsville		Opal Fibre Packaging Townsville
	Opal Fibre Packaging Rocklea		Opal Fibre Packaging Rocklea
	Opal Fibre Packaging Athol Park		Opal Fibre Packaging Athol Park
	Opal Australian Paper Maryvale Mill	FSC*C002059	Opal Australian Paper Maryvale Mill
	Opal Australian Paper Preston		Opal Australian Paper Preston
	Opal Packaging Australia Botany Mill*	FSC*C113466	—
	—	—	Opal Kiwi Packaging Auckland
	—	—	Opal Kiwi Packaging Christchurch
	—	—	Opal Kiwi Packaging Hastings
	TS Plastics	FSC*C181943	—

* Opal Paper and Recycling Botany Mill site

Basic Policy, etc.

Corporate Governance Policy

Chapter 1 General Provisions

Article 1 (Purpose)

This Policy defines guidelines of basic views on the Company's corporate governance so that the Nippon Paper Group (hereinafter referred to as the "Corporate Group") can achieve sustainable growth and medium- to long-term increases in corporate value based on the Corporate Group's philosophy itemized below:

Corporate Group's Philosophy

Mission

-Reason for existence in society and significance -

The Nippon Paper Group aims to contribute to better living and cultural progress everywhere it does business

Vision

- Vision for implemented the philosophy -

A corporate group that meets the following requirements and is sustainably needed by society

1. Drive social sustainability through our business
2. Delight our customers
3. Instill pride in employees
4. Give back to society

Values

- Values to which employees attach importance to implement the philosophy, and judgment criteria -

Challenge : Embrace new challenges

Fairness : Be fair

Teamwork : Champion teamwork

Slogan

-Near-term policy factored in the business environment -

Nippon Paper Group : Shaping the future with trees

Constantly creating new value and contributing to better living and cultural progress, as a comprehensive biomass company shaping the future with trees.

Over many years, we have nurtured trees, made paper, and offered a wide range of products that support people's life and culture.

We have managed forests in an appropriate manner, and pursued a variety of businesses by fully utilizing wood resources out of sustainably managed forests. Those businesses address social issues such as global warming and depletion of resources on earth, and contribute to running sustainable society.

Going forward, we will continue to provide a wide range of products and services that make the most of the outstanding properties of wood, as we strive to maximize the value of sustainable forest resources for the future.

Article 2 (Basic views on corporate governance)

1. The Company shall make the top priority of management further enhancing management transparency among its stakeholders including shareholders, in order to achieve fair management. To ensure separation between business execution and management supervision, the Company shall adopt the executive officer system and strive to strengthen the supervisory function of the Board of Directors. In addition, the Company shall, as the headquarters for managing the Group, promote its growth strategy, monitor businesses under its control, and promote legal compliance. The Company shall work on further reinforcing corporate governance by providing the following policies:

- (i) The Company shall, having respect for shareholders' rights, work to put in place an environment where its shareholders can exercise their rights in an appropriate manner and ensure the substantive equality of shareholders.
 - (ii) The Company shall recognize the importance of social responsibilities and public duties, strive to appropriately collaborate with various stakeholders including shareholders, employees, customers, business partners, creditors, and local communities, and develop a corporate culture and climate for business to be operated in a sound manner based on strict self-discipline.
 - (iii) The Company shall provide for its disclosure policy separately, make appropriate disclosures of corporate information including non-financial information, and strive to ensure the transparency of corporate management.
 - (iv) The Company shall work on strengthening the functions of the Board of Directors based on fiduciary responsibility and accountability to shareholders. It shall promote the use of independent outside directors, establish voluntary committees to ensure the transparency of procedures concerning executive appointments and compensation in particular, and have independent outside directors as key members. It shall make analyses and evaluations on the effectiveness of the Board of Directors as a whole and strive to improve the functions of the Board of Directors.
 - (v) The Company shall have constructive dialogues with shareholders, in order to contribute to its sustainable growth and medium- to long-term increases in corporate value.
2. The Board of Directors shall, as core management principles that all of the Company's officers and employees share, and on which all activities rely, separately provide the Nippon Paper Group Action Charter and the Nippon Paper Codes of Conduct.

Basic Policy, etc.

Chapter 2

The Company's Corporate Governance Structure

Article 3 (Roles of the Board of Directors)

1. The Board of Directors shall bear the supervisory function of management as a whole including the execution of duties by executing persons, ensure fair and transparent management, and make the most appropriate decisions for the Company through decisions, etc. on the important execution of business that are to be made by the Board of Directors under laws and regulations.
2. Regarding the execution of business other than the execution of important business set forth in the preceding Paragraph and its decisions, its authority shall be delegated to the President & Representative Director and other Corporate Officers, and the Board of Directors shall supervise the status of the execution of duties by the President & Representative Director and other Corporate Officers.
3. Outside directors shall, to enhance the Corporate Group's sustainable growth and medium- to long-term corporate value, supervise the execution of business by the Board of Directors, the senior management, etc., and conflicts of interest between the Company and the senior management, etc., from the viewpoint of stakeholders.
4. In view of the importance of environmental and social challenges related to sustainability, the Board of Directors shall provide various philosophies and basic policies regarding social responsibilities to be performed by Corporate Group companies, raise awareness of officers and employees, and strive to facilitate the sustainable development of society and enhance the corporate value of the Corporate Group by promoting active efforts to resolve challenges while giving consideration to stakeholders.

Article 4 (Composition of the Board of Directors)

1. The Company's board members shall number 12 or fewer members as provided for by the Articles of Incorporation. While based on the necessary and appropriate number to ensure the effective management system required for a holding company that bears the supervisory function for executing the Group's business and substantive discussions at board meetings, the composition of the Board of Directors shall also be decided by fully taking into account the viewpoint of ensuring diversification and expertise in the Board of Directors.
2. The Company's Board of Directors shall ensure a balance of knowledge, experience, and abilities within the Board of Directors as a whole and diversification by having it composed of inside directors who have excellent abilities to execute and manage each business in charge, and outside directors who have specialized knowledge and extensive experience.

Article 5 (Nomination policy of nominees for directors)

1. The Board of Directors shall decide nominees for directors of the Company from among a wide variety of human resources on the condition that they have all the requirements listed below:
 - (i) Those who have extensive knowledge of and a wealth of experience in the Corporate Group's management controls and business operations; and
 - (ii) Those who fully understand the social responsibilities and missions of the Company's business, and can exercise management control and perform business operations in a fair and precise manner based on strict self-discipline.
2. Notwithstanding the provision set forth in the preceding Paragraph, nominees for outside directors shall be decided from among a wide variety of human resources on the condition that they meet all the requirements listed below:

- (i) Those who meet the criteria for judging independence provided for by the Tokyo Stock Exchange and are deemed not likely to generate conflicts of interest with general shareholders;
- (ii) Those who understand the Company's management philosophy and have a full understanding of the Corporate Group's social responsibilities and roles; and
- (iii) Those who fully recognize the role of an outside director, can supervise the Company's directors and management, and can offer precise and appropriate opinions and advice using expert knowledge and experience in the fields of corporate management, economics, legal affairs, accounting, tax affairs, auditing, etc.

Article 6 (Nomination policy of nominees for statutory auditors)

1. The Board of Directors shall, with the consent of the Board of Statutory Auditors, decide nominees for the Company's statutory auditors from among a wide range of human resources on the condition that they meet all the requirements listed below:
 - (i) Those who have extensive knowledge and a wealth of experience of the Corporate Group's management controls and business operations; and
 - (ii) Those who can conduct audits on the status of business execution by directors from a fair and objective standpoint and can contribute to enhancing the soundness and transparency of management.
2. Notwithstanding the provision set forth in the preceding Paragraph, nominees for outside statutory auditors shall be decided from among a wide range of human resources with the consent of the Board of Statutory Auditors on the condition that they meet all the requirements listed below:

Basic Policy, etc.

- (i) Those who meet the criteria for judging independence provided for by the Tokyo Stock Exchange and are deemed not likely to generate conflicts of interest with general shareholders;
- (ii) Those who understand the Company's management philosophy and have a full understanding of its social responsibilities and roles;
- (iii) Those who fully recognize the role of an outside statutory auditor and can audit the status of business execution by directors from a neutral and objective viewpoint and contribute to enhancing the soundness and transparency of management using expert knowledge and experience in the fields of corporate management, economics, legal affairs, accounting, tax affairs, audit, etc.

Article 7 (Policy for directors and statutory auditors training, etc.)

1. The Company shall continuously provide information on economic circumstances, industry trends, legal compliance, corporate governance, financial accounting, and other matters that directors and statutory auditors require for performing their roles and functions, as well as give support for the execution of duties of directors and statutory auditors by ensuring opportunities to participate in external training that each director and statutory auditor desires.
2. In addition to the preceding Paragraph, the Company shall ensure outside directors and outside statutory auditors have opportunities for forming a full understanding through explanations from each division in charge, director in charge, or other suitable persons of the Corporate Group's management strategy, business plans, status of each business, business environment, business challenges, etc., when they assume the relevant post, and in a timely manner during their tenure of office.

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

1. Regarding a director's monthly compensation, his/her base compensation shall be decided according to his/her job responsibilities at the Company. Of that, 70% shall be fixed and the remaining 30% shall be paid on a sliding scale based on the achievement of the mid-term management plan. The base compensation shall be determined by using objective external survey data and taking into consideration the Company's business performance, business size, business environment, etc. Performance indicators shall be set to function effectively as motivation for achieving performance targets, and reviewed as necessary according to changes in the business environment. In addition, directors shall contribute a certain amount of their monthly compensation to the Directors' Shareholding Association to acquire treasury shares. Meanwhile, they shall receive neither bonuses nor directors' retirement benefits.
2. The Company shall pay stock-based compensation to directors by way of the Board Benefit Trust in order to further clarify the linkage between director compensation and its stock value and have them share with its shareholders not only the benefits of an increase in share prices but also the risks of a decline in share prices, thereby increasing their consciousness of the need to contribute to the improvement of the Company's business performance and to increasing its corporate value over a medium- to long-term. For share-based compensation, treasury shares acquired through a trust with the monetary contributions from the Company and monetary equivalent of treasury shares converted at market value shall be given to directors through the trust. The number of shares to be provided shall be calculated based on the number of points according to job responsibilities. In principle, share-based compensation shall be paid upon retirement of directors. The composition ratio of fixed compensation, performance-linked compensation, and share-based compensation for directors shall be appropriately set in light of the purpose of each compensation.

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.

Article 9 (Personnel & Remuneration Advisory Committee)

1. The Company shall, as an advisory body to the Board of Directors, establish the Personnel & Remuneration Advisory Committee, whose key members are independent outside directors, to further enhance corporate governance.
2. The Personnel & Remuneration Advisory Committee shall, with regard to the nomination process, quality and the reason for nomination of nominees for the Company's directors and statutory auditors, the criteria for judging the independence regarding independent outside directors, directors' compensation structure, etc., study their appropriateness, etc. upon receipt of inquiries from the Board of Directors, and submit recommendations in consideration of evaluations of the Company's business performance, etc.
3. The members of the Personnel & Remuneration Advisory Committee shall be composed of the President & Representative Director, General Manager for Personnel & General Affairs Division and independent outside directors, and Manager of Personnel Department shall serve as the secretariat of the Committee.
4. The Personnel & Remuneration Advisory Committee shall proceed with its studies while receiving appropriate involvement and advice from independent outside directors.
5. The Board of Directors shall, after receiving recommendations from the Personnel & Remuneration Advisory Committee, make a decision on nominations for directors and statutory auditors, compensation for directors, etc.

Basic Policy, etc.

Chapter 3 Responses to Protect Stakeholders' Interests

Article 10 (Management system for related-party transactions)

In case the Company conducts transactions with its officers, major shareholders, etc. (related party transactions), it shall, in advance, submit the said transactions to the Board of Directors and obtain its approval, except in clear cases where the said transaction terms and conditions are similar to those of general transactions, so that such transactions may not harm the Company, common interests of shareholders, etc. Material facts on the said transactions shall be reported to the Board of Directors.

Article 11 (Policy for strategic holding of stocks, etc.)

1. The Company considers it critical to build cooperative relationships with various companies to expand business and achieve sustainable development. From the long-term viewpoint of enhancing the Company's corporate value, the Company shall hold stocks that it deems strategically necessary, taking into comprehensive account importance on business strategy, relationships with business partners, etc.
2. Of listed stocks held based on the preceding Paragraph (hereinafter, "strategic holdings of stocks"), major stocks shall be verified with regard to the effects of holding them, etc. in terms of the medium- to long-term economic rationale for holding, maintaining, and reinforcing comprehensive relationships with business partners, and reports thereon shall be made to the Board of Directors on a regular basis every year.

3. Regarding the exercise of voting rights on strategic holdings of stocks, the Company shall closely examine the contents of proposals and appropriately exercise rights after making a judgment on whether or not the said proposals will contribute to increasing the corporate value of the Company and the investee company. Regarding proposals that impair the corporate value of the Company and the investee company, the Company shall not agree to vote for them.

Article 12 (Whistle-blowing system)

1. The Company shall set up a whistle-blowing system (Nippon Paper Group Help Line) so that the Corporate Group's employees, etc. may directly report to or consult with a contact within the Group or external contact office outside day-to-day reporting lines with regard to acts violating laws and regulations, social norms, corporate ethics, company rules, etc., or inappropriate acts without having concerns about the risk of suffering disadvantageous treatment, and also so that such reports and consultations may be objectively verified and dealt with in an appropriate manner.
2. The operational status of the whistle-blowing system shall be reported to the operating manager by the unit responsible for operations on a case-by-case basis, and the operating manager shall make reports to the Board of Directors where appropriate. In addition, the unit responsible for operations shall make regular reports to the statutory auditors with regard to the status of whistle-blowing from the Corporate Group's employees, etc.

Chapter 4 Dialogues with Shareholders, etc.

Article 13 (Policy for constructive dialogues with shareholders, etc.)

1. The Company shall attach importance to constructive dialogues with shareholders, etc. and strive to have dialogues with them at various opportunities.

2. The Company shall, through constructive dialogues with shareholders, etc., make efforts to obtain their understanding on the Corporate Group's management policy, and simultaneously work on the Corporate Group's sustainable growth and medium- to long-term increase of corporate value by listening to the opinions of shareholders, etc., and absorbing analyses of management and opinions from the standpoints of capital providers, etc. to reflect them in its management.

Supplementary Provisions

Article 1 (Enforcement of the Policy)

The Policy shall come into force as from November 5, 2015.

Article 2 (Amendment and repeal of the Policy)

Amendment and repeal of the Policy shall require approval from the Board of Directors.

Basic Policy, etc.

Basic Views on Internal Control System

1. “System to ensure that Company directors execute their duties in conformance with laws/regulations and its Articles of Incorporation”

- (1) The Board of Directors shall build an effective internal control system and a system to comply with laws/regulations and the Articles of Incorporation, so that the Company's business may be executed in a proper and sound manner.
- (2) The Board of Statutory Auditors shall conduct audits on the effectiveness and functions of the internal control system.

2. “System to ensure the appropriateness of businesses of the Company and its subsidiaries”

- (1) System for storing and managing information on the execution of duties by directors
Statutory documents and other documents on the execution of duties by directors shall be stored and managed appropriately in accordance with document management rules.
- (2) Regulations for managing risks of losses by the Company and its subsidiaries, and other systems therefor
Regarding risks associated with executing the business the Company and its group companies, necessary rules and guidelines are to be established at responsible departments according to the contents of individual risks, efforts are to be made to prevent risks through measures such as education and training based on manuals; and, in the event that risks occur, the parent company and subsidiaries shall prevent losses by the Corporate Group from expanding in an integrated manner, and the necessary system shall be put in place to minimize such losses.

- (3) System to ensure directors execute their duties effectively on behalf of the Company and its subsidiaries
 - (i) A system whereby each body and organization, such as the Board of Directors, performs duties effectively based on decision-making rules, including the Rules of the Board of Directors' Meeting, the Rules for Final Approval, Job Authority Rules, etc., and duties are executed in an appropriate and effective manner shall be established.
 - (ii) The Company shall clarify where responsibility and authority lie by adopting the executive officer system and separating the supervisory function and the decision-making function of the Board of Directors over management as a whole and business execution of individual departments by executive officers.
 - (iii) The Company shall formulate mid-term plans for each business (by group company), clarify challenges and goals, and carry out thorough performance management by business year based thereon.
 - (iv) To develop the Corporate Group as a whole, the Company shall hold meetings of the Group Management Strategy Committee where appropriate to deliberate important matters, such as management strategies, by business field.
- (4) System to ensure that job execution by employees of the Company and its subsidiaries conforms to laws/regulations and the Article of Incorporation.
 - (i) The Company has established the “Nippon Paper Group Action Charter” and the “Nippon Paper Codes of Conduct” to ensure full awareness of legal compliance.
 - (ii) Management Planning Office shall conduct internal audits of the Company and its group companies based on the Internal Audit Rules.
 - (iii) The Company provides and operates the “Nippon Paper Group Help Line” as the Corporate Group's whistle-blowing system.

- (5) System to report to the Company on the execution of duties by directors of subsidiaries
 - (i) To ensure the appropriate execution of the Group's business, the Company shall provide the “Group Companies Management Basic Policy” and Associated Companies Operational Rules to conduct business management within the Group in an appropriate manner by applying to the Company for final approval through before-the-fact or after-the-fact reporting systems, etc.
 - (ii) Statutory Auditors shall preside over the Company's Board of Statutory Auditors, as well as the “Nippon Paper Group Statutory Auditor Liaison Committee” composed of auditors of the Company's key group companies, discuss audit policy, auditing method, etc. on a regular basis, reinforce links with them such as by exchanging information, and ensure appropriate execution of business within the Group.
 - (iii) The Company holds Presidents' Meetings of associated companies periodically and receives reports on the status and challenges of key group companies.
- (6) Matters related to the system regarding employees who should assist statutory auditors with their duties, on the said employees' independence from directors and on ensuring the effectiveness of instructions given to the said employees
 - (i) The Company shall appoint assistants to statutory auditors from among the Company's employees to assist statutory auditors in the execution of their duties. Such appointments require prior agreement from the Board of Statutory Auditors.
 - (ii) In accordance with instructions of statutory auditors, employees assisting statutory auditors in executing their duties are to accept instructions for such duties on a preferential basis.

Basic Policy, etc.

- (7) The system for directors and employees to report to a statutory auditor, the system to report to other statutory auditors, and the system to ensure that audits by statutory auditors are conducted effectively
- (i) When a director, an executive officer, or an employee becomes aware of a serious violation of laws/regulations or the Article of Incorporation regarding job execution or misconduct, or a fact that could inflict a significant loss on the Company, he/she shall report it to the Board of Statutory Auditors without delay. Statutory auditors may, at any time, request reports from directors, executive officers, and employees.
- (ii) Otherwise, in order that information on the Company is communicated to statutory auditors in an appropriate manner, the Company, while not limited to reports from directors, executive officers, and employees, shall put in place an environment where information may be exchanged closely with accounting auditors, corporate lawyers, etc.
- (iii) Representative directors shall communicate with statutory auditors such as by having meetings with them as far as possible or by other means. In addition, at the request of statutory auditors, they shall ensure their attendance at important meetings.
- (iv) At meetings of the “Nippon Paper Group Statutory Auditor Liaison Committee,” statutory auditors shall receive explanations from group companies’ auditors on the contents of reports received from officers and employees of such companies.
- (v) The department in charge of the Company’s “Nippon Paper Group Help Line” shall report regularly to the Company’s statutory auditors on the status of whistle-blowing from Corporate Group’s officers and employees.

- (vi) The Company shall provide rules for operating the “Nippon Paper Group Help Line,” in which it is to be clearly stipulated that users of the whistle-blowing system should not suffer disadvantageous treatment and also that those who give disadvantageous treatment to such users may have internal disciplinary measures imposed.
- (vii) Based on audit plans provided by statutory auditors, the Company shall provide an annual budget for paying expenses, etc. incurred for executing the duties of statutory auditors.
- (viii) When statutory auditors request the Company to make an advance payment of expenses based on Article 388 of the Companies Act regarding the execution of their duties, the Company shall process such expenses or debts promptly.
- (8) System to ensure the reliability of financial reports of the Company and its subsidiaries
To ensure the reliability of financial reports, the Company shall put in place internal controls on financial reports and make appropriate use thereof based on rules for internal controls on financial reports. In addition, it shall continuously evaluate its effectiveness and implement necessary improvement measures.
- (9) System of the Company and its subsidiaries to eliminate anti-social forces
The Company and its subsidiaries shall have no relationships with anti-social forces and groups. They shall respond firmly to any unreasonable request. In addition, they shall also respond in cooperation with external expert organizations as appropriate.

(Revised on November 5, 2021)

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 the corporate development and the personal contentment of individual employees, and create a company filled with dream and hope.

(Established on April 1, 2004)

Basic Policy, etc.

Codes of Conduct

1. Fulfillment of social responsibilities

- (1) We shall contribute to society through our business activities, centered on paper manufacturing, as a good corporate citizen.
- (2) When conducting businesses overseas, we shall respect local cultures and customs.
- (3) We shall stand up firmly against antisocial factions and groups.

2. Fair, transparent and liberal corporate activities

- (1) We shall not become involved in a cartel, collusive behavior, inappropriate labeling or other acts that violate the provisions and spirit of Anti-Trust Law and related regulations, and we shall conduct fair business transactions.
- (2) We shall not become involved not only in bribery of public officers, illegal political contributions or offering of profits, but also in actions that could be conceived as back-scratching or cozy relations with legislature or administrative bodies.
- (3) We shall not become involved in after-hours entertainment or gift giving that is unacceptable given community standards and general business practice.

3. Winning trust of customers

- (1) We shall consistently provide products and service that are socially useful, of high quality and with a high degree of safety, and environmentally friendly.
- (2) We shall provide quality labels and other product information accurately and fairly, to enable customers to make informed choices.
- (3) We shall take every opportunity to listen to the opinions of customers, and endeavor to maximize customer satisfaction.

4. Strict handling of corporate information

- (1) We shall manage business information, intellectual property rights, customer information, personal information and other important internal information strictly and appropriately.
- (2) We shall not obtain or use information on customers or competitors in an illegal way.
- (3) We shall respect the intellectual property rights of others.

5. Fair and positive disclosure of corporate information

We shall positively disclose not only business-related information but also fair and reliable information on our environmental and community activities to our customers, consumers, shareholders, investors, business partners, regional communities, administrative bodies, employees and other stakeholders.

6. Active involvement with environmental issues

- (1) We shall promote afforestation projects, to create and make effective use of sustainable forest resources.
- (2) We shall promote energy conservation, the use of wastepaper and other measures to effectively use resources that are limited in quantity.
- (3) We shall manage and reduce all types of discharge and waste generated in the course of corporate activities.
- (4) We shall research and develop manufacturing technologies, and products and services that are in harmony with the environment.

7. Desirable mindset of employees

- (1) To act with a willingness to improve oneself and to take up challenges, to make corporate development consistent with personal contentment.
- (2) To abide by laws, regulations and social codes, and to be responsible for one's own conduct.
- (3) To respect each other's human rights and to consider the positions of others when taking action.
- (4) To distinguish at all times between official and private settings, and to avoid using business positions for personal benefit.
- (5) To restrain from using for private purposes nonpublic information obtained in one's company or in the course of business.

(Established on April 1, 2004)

Basic Policy, etc.

Nippon Paper Group Basic Policy on Prevention of Bribery to Public Officials

The Group formulates this basic policy in relation to the prevention of bribery to public officials and compliance with related laws and regulations in relevant countries (including Japan) based on the Group Mission and the provisions of the Action Charter as well as the spirit thereof.

1. Prohibition of bribery

Officers or employees*² of Nippon Paper Group*¹ must not, either directly or indirectly*⁴, provide a bribe in any form (whether the amount is large or small) to public officials*³.

2. Compliance with laws and regulations of relevant countries

Officers or employees of Nippon Paper Group must not, either directly or indirectly, give, offer or promise entertainment, gifts or other benefits that would violate laws and regulations of relevant countries (including Japan) to public officials.

3. Duty of record keeping

If you make a payment to or give entertainment or gifts to public officials with the intention of it not constituting a bribe or violating laws or regulations, you must accurately record*⁵ such payment, entertainment or gifts in their entirety.

4. Provision of education/training

Nippon Paper Group will provide education/training for its officers and employees on a regular basis based on these guidelines in order to prevent bribes to public officials and ensure the appropriateness of business execution.

*1 Nippon Paper Group: Refers to Nippon Paper Industries Co., Ltd. and its subsidiaries (meaning companies of which Nippon Paper Industries Co., Ltd. controls decisions on the financial and business policies, including indirect investment subsidiaries).

*2 Officers or employees: Refers to directors and auditors, as well as executive officers, full-time employees, contract employees, employees on a short-term contract, temporary employees, part-time employees and other persons who are employed by Nippon Paper Group.

*3 Public officials: Refers to those who hold legislative/administrative/judicial office, officials of public agencies/public corporations, officials of public international institutions and any other persons similar or equivalent to the foregoing.

*4 Indirect bribe: Refers to a bribe provided through a third party such as a distributor, agent, or consultant.

*5 Accurately record: Refers to keeping accurate books and records in reasonable detail.

(Established on November 8, 2017)

Nippon Paper Group Basic Policy on Compliance with Competition Laws

The Group formulates this basic policy in relation to the compliance with competition laws of relevant countries (including Japan) based on the Group Mission and the provisions of the Action Charter as well as the spirit thereof.

1. Compliance with competition laws of relevant countries

Officers or employees*² of Nippon Paper Group*¹ must not in any way take part in a cartel or bid rigging that would violate laws and regulations of relevant countries (including Japan), or in any act that could be suspected of being involved in the foregoing with competitors or trade associations.

2. Contact with competitors

Do not have contact with any competitors unless there is a good reason. If you have had contact with a competitor, you must accurately record the background and correspondences thereof, and properly keep such records. You should conduct activities regarding trade associations in an extremely restrictive manner to the extent that does not cause suspicion under competition laws, taking into account that such activities are opaque and may easily give rise to the suspicion that they tend to suppress competition.

3. Agreement with competitors

No agreement that would impede fair trade*³ must be entered into with competitors.

4. Interventions to distributors, unjust discrimination

Do not unreasonably restrict prices, quantity, sales territories, suppliers, marketing method, etc. in relation to deals entered into by distributors with their suppliers. Furthermore, do not unjustly discriminate against distributors in relation to prices, quantity, payment terms, and other terms and conditions.

Basic Policy, etc.

5. Dumping

Do not sell any products or services at an unfairly low price without regard for profit.

6. Abuse of superior bargaining position

Do not impose unreasonable conditions on suppliers regarding raw materials, subcontractors, distributors, etc., taking advantage of your superior bargaining position.

7. Misrepresentation

Do not make any false indication or representation, or misleading or unfounded indication or representation in operating activities or promotional activities.

8. Provision of education/training

Nippon Paper Group will provide education/training for its officers and employees on a regular basis based on these guidelines in order to prevent a violation of competition laws and ensure the appropriateness of business execution.

*1 Nippon Paper Group: Refers to Nippon Paper Industries Co., Ltd. and its subsidiaries (meaning companies of which Nippon Paper Industries Co., Ltd. controls decisions on the financial and business policies, including indirect investment subsidiaries).

*2 Officers or employees: Means directors and auditors, as well as executive officers, full-time employees, contract employees, employees on a short-term contract, temporary employees, part-time employees and other persons who engage in the business of Nippon Paper Group.

*3 An agreement that would impede fair trade: Typical examples include price cartels, bid rigging, division of markets/sales territories/customers, etc.; regardless of whether they are in writing or oral, or in whatever form.

(Established on November 8, 2017)

Disclosure Policy

1. Basic Disclosure Stance

Nippon Paper Group (the Group) pursues a fundamental policy of disclosing corporate information proactively and fairly to all Group stakeholders, and raising the level of management transparency in accordance with its Action Charter and Codes of Conduct.

2. Criteria for Disclosure

1. The Group conducts expeditious disclosure based on the principles of transparency, fairness and consistency, in line with the Japanese Corporate Law, Financial Instruments and Exchange Act and other relevant laws, as well as the Rules on Timely Disclosure of Corporate Information (the Rules on Timely Disclosure) stipulated by the securities listing regulations of security exchanges.
2. Even for information that does not fall under the categories stipulated in the relevant laws and the Rules on Timely Disclosure, the Group carries out rapid and accurate disclosure of information useful to stakeholders and the broader society, to the fullest extent possible, regardless of any advantages or disadvantages that may accrue to the Group as a result of such information disclosure.

(Established on October 1, 2005)

3. Methods of Disclosure

1. Information disclosure pursuant to the Rules on Timely Disclosure is conducted through the Timely Disclosure network (TDnet) operated by the Tokyo Stock Exchange (TSE) and media organizations such as press clubs affiliated with these securities exchanges.
2. For information that does not fall under the categories stipulated in the Rules on Timely Disclosure, depending on the importance and urgency of the information in question, the Group carries out disclosure through an appropriate method or methods, including the issuing of press releases and the holding of press conferences.
3. The information disclosed in accordance with the two methods outlined above is posted promptly on the Group's Web site.

4. Silent Period

To prevent unauthorized release of earnings information and ensure fairness, the Group observes a "silent period" from the day following the closing date of each fiscal period until the date on which each set of financial results is announced. During the silent period, as a rule, the Group refrains from responding to questions regarding its financial results and from making related comments. However, in the event that during the silent period it becomes clear to Group management that results are likely to differ substantially from forecasts previously disclosed, the Group will effect an information disclosure in the appropriate manner.

Basic Policy, etc.

5. Disclaimers

1. Any information disclosed by the Group that is not historical fact comprises forward-looking statements, which have been made based on judgments and assumptions using the best information available at the time of disclosure. Actual results may differ materially from forecasts due to a range of contingencies, including, but not limited to, macroeconomic conditions and other external factors.
2. While the Group endeavors to ensure the accuracy of the information it discloses, the Group does not guarantee or give any warranty as to the accuracy, timeliness or completeness of the information or material it discloses, or of any information provided by external Web sites linked from the Group's Web site. Furthermore, the Group assumes no liability or responsibility for any damage to users of this Web site, or to users' computers or other property, arising from users' access, use or downloading of any information or materials provided on this Web site.
3. Information disclosed by the Group is provided solely for the purpose of facilitating greater understanding of the Group. No information is disclosed for the purpose of soliciting investments. Any investment decisions made by users of this information are made at the user's own discretion and risk.

6. Changes to Information Disclosed and Disclosure Policy

1. Any information disclosed by the Group is subject to change without notice.
2. The Group may, without notice, amend or change this disclosure policy, as it deems appropriate.

Principles and Basic Policies Concerning Raw Materials Procurement

Since the establishment of the "Philosophy and Basic Policy Concerning Raw Materials Procurement" on October 5, 2005, the Nippon Paper Group (the "Group") has been developing a raw materials procurement system that can be deemed credible by a wide range of stakeholders. The Group has been striving to implement this through managing its global supply chain in a way to address relevant environmental and social challenges. To achieve its mission, which is "to contribute to better living and cultural progress everywhere it does business," the Group has revised the Group's procurement policy to the "Principles and Basic Policies Concerning Raw Materials Procurement" (the "Policies"). The revision is intended to enable the Group to address issues such as human rights and climate change more effectively. At the same time, the Group has recently established the "Wood Resources Procurement Guidelines" (the "Guidelines") for forest resources, which are the core resources of the Group's business operations.

The Policies and the Guidelines were prepared by studying relevant guidelines such as the "OECD Due Diligence Guidance for Responsible Business Conduct" and other guidelines, and based on advice from external experts. Moreover, both the Policies and the Guidelines conform to the "Nippon Paper Group Human Rights Policy", which has been developed according to international standards relating to human rights. The "Nippon Paper Group Human Rights Policy" is based on the "Guiding Principles on Business and Human Rights" developed by the United Nations, and also aligns with the "International Bill of Human Rights" and the "ILO Declaration on Fundamental Principles and Rights at Work".

The Policies and the Guidelines are communicated to all stakeholders by publishing them on the Group's website in both Japanese and English. The Group also works to build a sustainable supply chain in cooperation with suppliers through risk minimization and improvement processes in accordance with the Policies and the Guidelines.

■ Governance

The Policies and Guidelines are reviewed once a year by the Nippon Paper Group Raw Materials Committee under the supervision of the Board of Directors of Nippon Paper Industries Co., Ltd., based on changing social situations and business trends.

■ Scope of Application

The Policies and Guidelines cover all raw materials and fuels procured by Nippon Paper Industries Co., Ltd., and its consolidated subsidiaries, for the manufacture of products.

[Principles]

We shall strive to contribute to better living and cultural progress everywhere it does business through implementing sustainable procurement practices for raw materials in collaboration with our suppliers. To do this, we shall make our best effort to identify social and environmental issues relating to our procurement practices and to address the challenges identified.

[Basic Policies]

1. Legal compliance and fair and equitable transactions

- (1) We respect international standards and comply with relevant laws and regulations.
- (2) We conduct fair business transactions and provide equitable opportunities for competition.
- (3) We adequately manage information obtained through our procurement activities.

Basic Policy, etc.

2. Addressing social issues

- (1) We ensure prevention of human rights violations and workers' rights violations by facilitating the efforts to respect human rights issues* within our supply chains.

* Anti-discrimination or harassment, anti-forced labor or child labor, respect for workers' rights (the right to organize, bargain and act collectively), prevention of low-wage labor and excessive working time, ensuring occupational safety and health, etc.

- (2) We promote our initiatives to respect the rights of local communities* in the regions where we procure raw materials. By doing so, we aim to harmoniously coexist with local communities and to contribute to the community development.

* Ensuring provision of sufficient information in advance and seeking the understanding of local communities in utilizing land and resources in the relevant area, respect for the rights and culture of indigenous peoples, provision of support and employment opportunities to local residents, etc.

- (3) We carry out confirmation to ensure that we do not procure illegally harvested wood, conflict minerals and other resources that may involve human rights violations.

Note: This Paragraph 2 of the Policies aligns with the "Nippon Paper Group Human Rights Policy".

3. Addressing environmental issues

- (1) We use forest and water resources sustainably for the conservation of such resources.
- (2) We minimize our negative impact on biodiversity and take measures for its conservation.
- (3) We carry out procurement in a manner that contributes to energy saving and reduction of greenhouse gas emissions as part of our response to climate change.
- (4) We seek to make effective use of resources and to reduce waste by promoting the use of recycled materials, such as used paper, to contribute to building a society based on a circular economy.
- (5) We work to mitigate any potential environmental impact by procuring raw materials with chemical substances that have been properly managed and handled.

4. Ensuring traceability and monitoring

- (1) We ensure traceability according to the levels of associated risks and implement Paragraphs 1 to 3 of the Policies above throughout our supply chain during our procurement activities.
- (2) We conduct monitoring and aim to minimize the risk and impact of the implementation of Paragraphs 1 to 3 of the Policies.
- (3) We conduct interviews with suppliers who do not conform with Paragraphs 1 to 3 of the Policies, request improvement, and provide support to help with such improvement. If no improvement is made, we review whether to continue transactions with them.

5. Communication with stakeholders

- (1) We reflect on our dialogues with stakeholders on our processes to improve our procurement activities.
- (2) We actively disclose information about the Group's procurement activities.

(Revised on September 1, 2022)

Basic Policy, etc.

Wood Resources Procurement Guidelines

The Nippon Paper Group is committed to addressing social and environmental challenges including human rights issues in accordance with the “Principles and Basic Policies Concerning Raw Materials Procurement”. The Group strives to source its raw materials according to the “Wood Resources Procurement Guidelines” below in order to use forest resources sustainably.

* Applicable to whole logs, wood products, woodchips and pulp for paper manufacture, and wood biomass for fuels that have been procured by Nippon Paper Industries Co., Ltd. or its consolidated subsidiaries in order to manufacture their relevant products.

1. We do not procure illegally harvested wood.
2. We are committed to the promotion of zero deforestation and do not engage in procurement that is complicit in forest reduction or degradation.
3. We do not engage in procurement that contributes to the degradation of forests that are categorized as High Conservation Value (HCV), such as forests with biodiversity importance, and forests with High Carbon Stock (HCS).
4. We promote forest resource management and resource procurement that contribute to the increase of CO₂ absorption and fixation from forests.
5. We strive to vitalize the forestry industry of relevant countries and promote the use of wood resources originating from the countries where products are manufactured for the Group.
6. We promote the use of recycled materials such as sawmill residues, wood construction waste, and unused wood materials.
7. We aim to increase procurement of wood resources that are audited or certified by third parties such as forest certification systems.
8. We ensure traceability of the wood resources we procure to confirm the point of origin, the forest type, and the forest management method.
9. We actively hold dialogues and engage with our suppliers to promote communication throughout the supply chain.

(Established on September 1, 2022)

The Nippon Paper Group Environmental Charter

[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

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

Basic Policy on the Preservation of Biodiversity

[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.

(Established April 1, 2016)

Basic Policy, etc.

Philosophy and Basic Policy on Product Safety

[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.

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

Nippon Paper Group Human Rights Policy

The Nippon Paper Group adopted the “Philosophy and Basic Policy on Human Rights, Employment and Labor” on October 1, 2004, stipulating respect for human rights, including non-discrimination, prohibition on forced labor and child labor. We also adopted the “Philosophy and Basic Policy Concerning Raw Materials Procurement” on October 5, 2005, stipulating respect for human rights through the entire supply chain as a basic policy, and thereby promoting dialogues with stakeholders concerning raw materials procurement.

Against this backdrop and based on these previous measures taken, we hereby adopted the Nippon Paper Group Human Rights Policy, aiming at fulfilling our group mission, “contributing to better living and cultural progress everywhere it does business”, and in order to ensure increased effectiveness in respecting human rights.

This Policy was drafted in accordance with the international standards including principles concerning fundamental rights expressed in the International Bill of Human Rights and the ILO Declaration on Fundamental Principles and Rights at Work, guided by the UN Guiding Principles on Business and Human Rights, and with advice given by external experts. The Policy was approved by the board of directors of the Nippon Paper Industries, Co., Ltd. on May 30, 2022.

This Policy is drafted in dual languages (Japanese and English) and is made known to all stakeholders by disclosing it through website of the Nippon Paper Group.

■ Scope of Application and Expectations for Business Partners

This Policy applies to all directors, officers, and employees of the Nippon Paper Group.

The Nippon Paper Group expects that our business partners, including suppliers, promote measures concerning respect for human rights in collaboration with us, and we will exercise leverage for their support and compliance with this Policy.

■ Compliance with Applicable Laws and Regulations

The Nippon Paper Group complies with laws and regulations applicable in each country and region where we conduct business activities. Provided that, in case there is any conflict between the international human rights standards and laws and regulations of each country and region, we will seek ways to honor the principles of the internationally recognized human rights.

■ Human Rights Due Diligence

The Nippon Paper Group establishes the process of human rights due diligence in accordance with the steps based on the UN Guiding Principles on Business and Human Rights, and endeavors to prevent or mitigate adverse impacts on human rights.

■ Dialogue and Consultations with Stakeholders

In implementing this Policy, the Nippon Paper Group will hold sincere consultations with stakeholders potentially affected by our business activities.

■ Education

The Nippon Paper Group provides periodic education and training for all directors, officers, and employees to ensure appropriate implementation of this Policy.

Basic Policy, etc.

■ Remedies

In case we identify that we have caused adverse human rights impacts directly or indirectly, the Nippon Paper Group will take remedial measures through dialogue and appropriate procedure, utilizing existing grievance mechanisms. In particular, as grievance mechanisms in accordance with the UN Guiding Principles on Business and Human Rights, we notify and operate the “Nippon Paper Group Helpline”, which enables consultation and direct reporting for all directors, officers, and employees. We also operate the “Application Form for Inquiries concerning the Nippon Paper Group”, which enables reporting from outside companies through our website.

■ Information Disclosure

The Nippon Paper Group discloses information on measures taken concerning human rights through our website, etc..

■ Material Issues concerning Human Rights

The Nippon Paper Group recognizes our material issues concerning human rights as attached, and will proceed with measures to respect human rights based on this Policy. We will try to review material issues at an appropriate timing following changes in social circumstances or business trends.

(Date of adoption: May 30, 2022)

[Annex attached]

[Annex]

1. Prohibition on Discrimination and Harassment

We do not discriminate people on grounds including nationality, race, national origin, sex, age, religion, disease, disability, sexual orientation and gender identity. We do not conduct any act of harassment, including sexual harassment and power harassment.

2. Prohibition of Forced Labor and Child Labor

We do not allow forced labor in any form of employment. We do not allow employment of children under minimum age of employment specified by laws and regulations of each country and region.

3. Respect for Labor Rights

We respect workers' freedom of association, right to collective bargaining and right to act collectively. We strive to prevent low-wage labor and excessive working time.

4. Facilitation of Pleasant Working Environment

We understand the importance of occupational safety and health as well as maintaining workers' work-life balance, and try to promote physical and mental health. We establish and maintain structures to make the most of the individuality and capabilities of a diverse range of human resources, and promote personal training and skill development programs to help improve individual employees' abilities and skills.

5. Co-existence with Regions and Local Communities

We understand the possibility that our business activities could give impact on local communities, including socially vulnerable group of people, including children, older persons, indigenous peoples, migrants, national and ethnic minorities, and different risks that may be faced depending on attribution including sex. We will strive to coexist with local communities. We also endeavor to conserve environment which future generations may live without anxiety.

Basic Policy, etc.

Philosophy and Basic Policy on Safety and Health Measures

[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.

(Established on October 1, 2004)

Philosophy and Principles for Social Contribution Activities

[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.

(Established on April 1, 2004)