



**Japan Paper Association
Sustainability Report** **2024**



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1 Preface

The Japan Paper Association launched activities in 2020 with its member companies to contribute to the realization of the international goals, SDGs, which aim to achieve a sustainable and better world by the year 2030.

In 2020, we compiled the industry's policies and initiatives into "Towards 2030," and in 2021, we published the first sustainability report of the pulp and paper industry in Japan, which publicized the industry's initiatives both domestically and internationally. The content of the report has been updated and enhanced every year, and now we are pleased to publish the 2024 edition.

In FY2022, the SDGs Committee in the Japan Paper Association played a central role in developing the principles of action that the Japan Paper Association and its member companies should pursue in order to achieve their sustainable development, and in April 2023, we established the "Japan Paper Association Basic Principles for Sustainability" consisting of six principles and disseminated the stance of the Japanese pulp and paper industry both domestically and internationally.



Wood, the starting raw material for our paper production, is not only a renewable resource, but also an excellent resource that absorbs and fixes CO₂, the main cause of global warming, and generates and releases oxygen, which is essential for us to live. The pulp and paper industry has naturally long embodied the concept of a circular economy, "circulate raw materials and products while maintaining their highest value, and regenerate nature," by establishing the material cycle of wood resources through planting, growing, using, and planting again, as well as by circulating wood fibers in advanced recovered paper recycling systems that utilize, recover, and reuse manufactured paper and paperboard products.

The pulp and paper industry is currently facing major changes in the demand environment, as symbolized by a significant decline in demand for newspapers, printing and information paper, and other graphic paper, due to structural factors such as the shift in information tools from paper to electronic media, and the declining birth rate. Furthermore, we are facing a difficult business environment such as the continuous yen's depreciation which is a headwind for our industry as well as global economic stagnation, the continuously high raw material and fuel prices, and pullback in consumer spending due to soaring prices of various commodities. However, we, the pulp and paper industry, are committed to fulfill our mission to provide a stable supply of materials and products that support industrial activities and people's lives, while materializing the principles set forth in the "Japan Paper Association Basic Principles for Sustainability," such as taking into consideration the natural environment including the challenge of decarbonization to realize a carbon neutral society and the biodiversity preservation, promoting respect for human rights, and strengthening our governance. Furthermore, by making maximum use of the wood fiber utilization technologies we have cultivated over many years of our activities in the production of paper and paperboard products, we have been working to transform ourselves to a biorefinery industry that produces new-generation fuels such as sustainable aviation fuel (SAF) from wood, a biomass resource, and new materials such as cellulose nanofibers (CNF) and bioplastics, which are expected to be used in a variety of applications including materials for automobile parts. We believe that we can further contribute to the realization of a sustainable society.

The target year for the SDGs, 2030, is just around the corner. The year 2050, when the international community aims for a carbon-neutral world, is also not far away. As an essential industry that supplies products indispensable to our daily lives, we in the pulp and paper industry are committed to contributing to economic growth and the realization of a sustainable society.

Japan Paper Association
Chairman

J. Nozawa

2 Snapshot

Overview of the pulp and paper industry in Japan

..... Production & economic activities

Supply of essential products

<p>Annual production of paper and paperboard (2022)*1</p> <p>23.68 million tons</p> <p>Paper and paperboard consumption per capita (2022)*1</p> <p>183.6 kg per capita</p>	<p>Percentage to the world's production volume (2022)*1</p> <p>5.6%</p> <p>Value of manufactured goods shipped (2021)*2</p> <p>7.2 trillion yen</p>	
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..... Environment & energy

CO2 emissions from production activities, reduction of CO2 emissions

Reduction of CO2 emissions originating from fossil energy (compared to FY2013)

5.43 million tons

Progress rate compared to the reduction target for FY2030 (7.15 million tons)

75.8%

CO2 emissions from production activities

13.40 million tons



Effective use of resources, effective utilization rate of waste

Composition ratio of renewable energy

44.3%

Reduction rate of final waste disposal (compared to FY2000)

86.8%

Effective utilization rate of waste

98.2%



Reduction of environmental impact

Emissions reduction rate of volatile organic compounds (VOC)*3 (compared to FY2000)

92.5%



 Reporting period for numerical values is FY2023, unless otherwise noted.

 Reporting range for numerical values is 31 regular member companies of the Japan Paper Association, unless otherwise noted.

..... Forest resources & natural capital

Absorption of CO₂

Increase in area of afforestation in Japan and abroad over 33 years (compared to FY1990)

244,000 ha

≈ 340,000 soccer court surfaces
≈ Area of Saga Prefecture



Soccer court surfaces
340,000



Resource circulation^{*4}

Recovered paper utilization rate

67.1%

FY1990



FY2023



Recovered paper recovery rate

82.6%



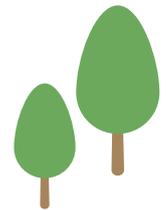
Preservation of biodiversity

Percentage of companies that have positioned it in their management plan

84.6%

Percentage of legality-confirmed wood used

100%



..... Social responsibility

Job creation and retention, promotion of D&I

Number of employees^{*5}

69,489

Intensity rate for occupational accidents^{*6}

0.16

Percentage of female employees^{*5}

16.3%

Number of paper, paperboard, and pulp manufacturing establishments in Japan^{*7}

361 locations



*1) Source: RISI Annual Review

*2) Source: 2022 Annual Business Survey, Ministry of Economy, Trade and Industry (scope: all establishments).

*3) VOC stands for Volatile Organic Compounds, a generic term for organic compounds that are volatile and become gaseous in the atmosphere. It includes a wide variety of substances such as toluene, xylene, and ethyl acetate.

*4) Source: Yearbook of Current Production Statistics, Ministry of Economy, Trade and Industry, and Trade Statistics, Ministry of Finance (coverage is nationwide)

*5) Survey by the Japan Paper Association (scope of coverage: employees including temporary and part-time employees of 31 regular member companies and their consolidated subsidiaries in Japan).

*6) Intensity rate is an index that represents the severity of occupational accidents (scope includes JPA's member companies and cooperating companies).

*7) Source: 2023 Annual Business Survey - Tabulation Across Industries, Statistics Bureau of Japan (<https://www.stat.go.jp/data/kkj/kekka/index.html>).

The number of establishments is the number of enterprises in the manufacture of "pulp" (Industry Group No. 141) and "paper (including 'handmade Japanese paper')" (Industry Group No. 142) in Japan (as of June 1, 2023).

3

Value Creation Model of the Pulp and Paper Industry

The pulp and paper industry is an essential industry*1 that contributes to a sustainable society.

Supply of products that support economic development and social life through production activities

The pulp and paper industry produces and supplies many essential products*2 that support industrial activities and home life, such as newsprint, printing paper, corrugated container, toilet paper, and industrial paper.

In recent years, we have been contributing to climate change issues through the development and production of products that utilize renewable wood resources, including efforts to develop new materials such as cellulose nanofibers*3 and other plastic substitutes like paper straws.

Contribution to environmental conservation through appropriate management of natural capital, such as forest resource circulation and recovered paper recycling

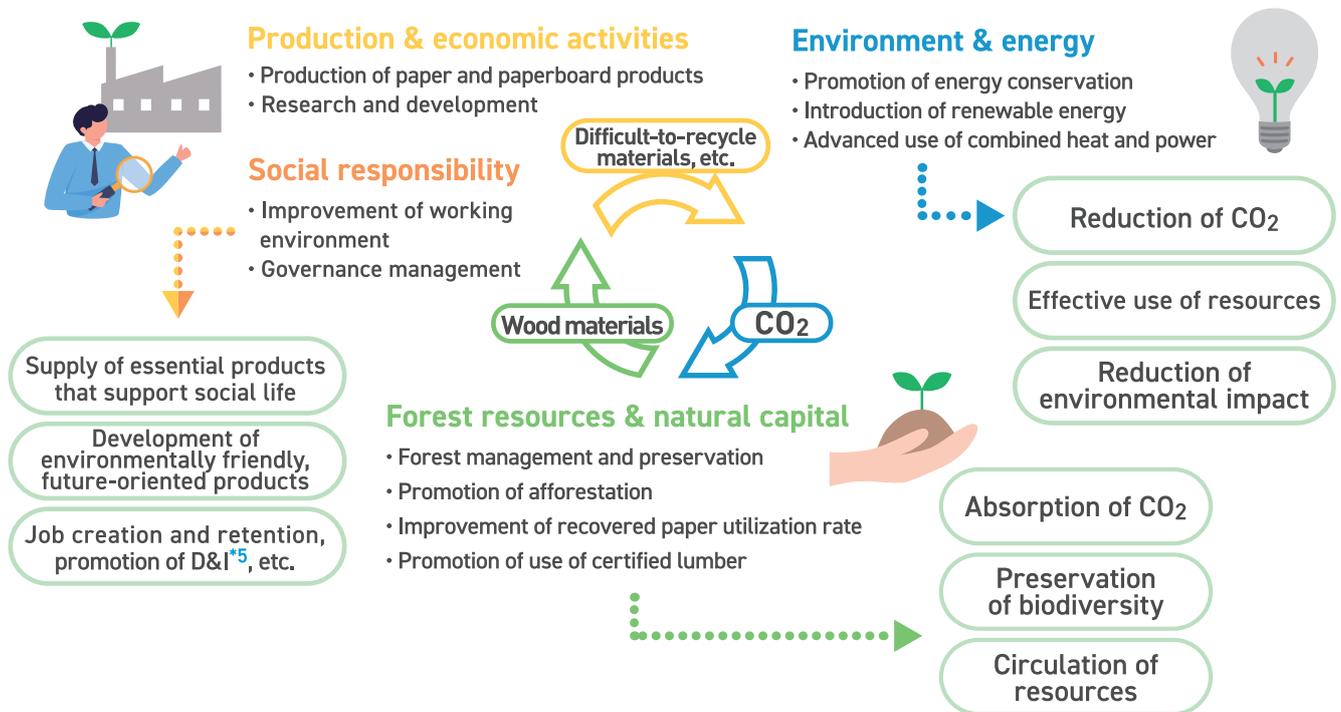
The raw material for paper is wood, a renewable resource. For this reason, the pulp and paper industry has focused on sustainable forest management. Through these efforts, we are contributing to environmental conservation such as preserving the biodiversity that forests nurture and adapting to climate change by absorbing CO₂.

In addition, the pulp and paper industry has created a process where used paper (recovered paper) is collected and turned into paper again. As a producer of paper and also a consumer of recovered paper, the pulp and paper industry is making further efforts to use as much recovered paper as possible and to further improve its recycling technologies.

Proactive efforts to counter global warming through the effective use of energy

The pulp and paper industry actively utilizes biomass energy such as by-products of pulp production from wood (black liquor), wood waste, and paper sludge, as well as combustible waste such as RPF, and plays a role in the effective use of energy and resource recycling in the papermaking process.

In this way, the pulp and paper industry is working to reduce the use of fossil fuels, which are considered a cause of global warming, and in January 2021, we were among the first to declare that we would achieve virtually zero CO₂ emissions by 2050, and we are working toward the development of a carbon neutral*4 industry.



*1) Essential industries are industries that supply products essential to people's lives.

*2) Essential products are products that are essential to people's lives.

*3) Cellulose nanofiber is a material made from wood fibers micronized to the nano-order (one millionth of a millimeter), and is an excellent material that is transparent, light, strong, resistant to deformation, and has a high thickening effect.

*4) Carbon neutral means that the total CO₂ emissions minus CO₂ absorption/removal is zero (neutral).

*5) D&I stands for Diversity & Inclusion, which means respecting and acknowledging each individual and making the most of their good points, regardless of external attributes such as gender, age, disability, and nationality, as well as internal attributes such as lifestyle, work history, and sense of values.

Japan Paper Association Basic Principles for Sustainability

Through efforts to resolve environmental, social, and governance issues, the Japan Paper Association and its member companies will help to achieve a sustainable society where the environment and business can co-exist in harmony and the industry will achieve self-driven sustainable growth.

Principle 1

Responsible supply of safe and secure products

Strive for continuous innovations and stably supply safe, secure, and superior products that support daily life.



Principle 2

Preservation and regeneration of the global environment

Identify the impacts of business activities on climate change, biodiversity, etc. and reduce the burden of such impacts. Actively promote environmental initiatives by developing technologies and appropriately managing natural capital, promoting resource recycling, and forging proactive partnerships among industries.



Principle 3

Respect for human rights

Comply with international standards, laws, and regulations relating to human rights and respect the human rights of all people.



Principle 4

Enhancement of working environments and promotion of diversity and inclusion

To preserve employee health and safety, promote further enhancement of work environments aimed at eliminating serious accidents and engage in efforts contributing to improvement of employees' living standards. Respond flexibly to changing social circumstances and contribute to the achievement of a diverse and inclusive society.



Principle 5

Governance

Strengthen governance by establishing and reinforcing internal controls and ensuring rigorous compliance, and engage in fair and highly transparent corporate management.



Principle 6

Partnership and cooperation

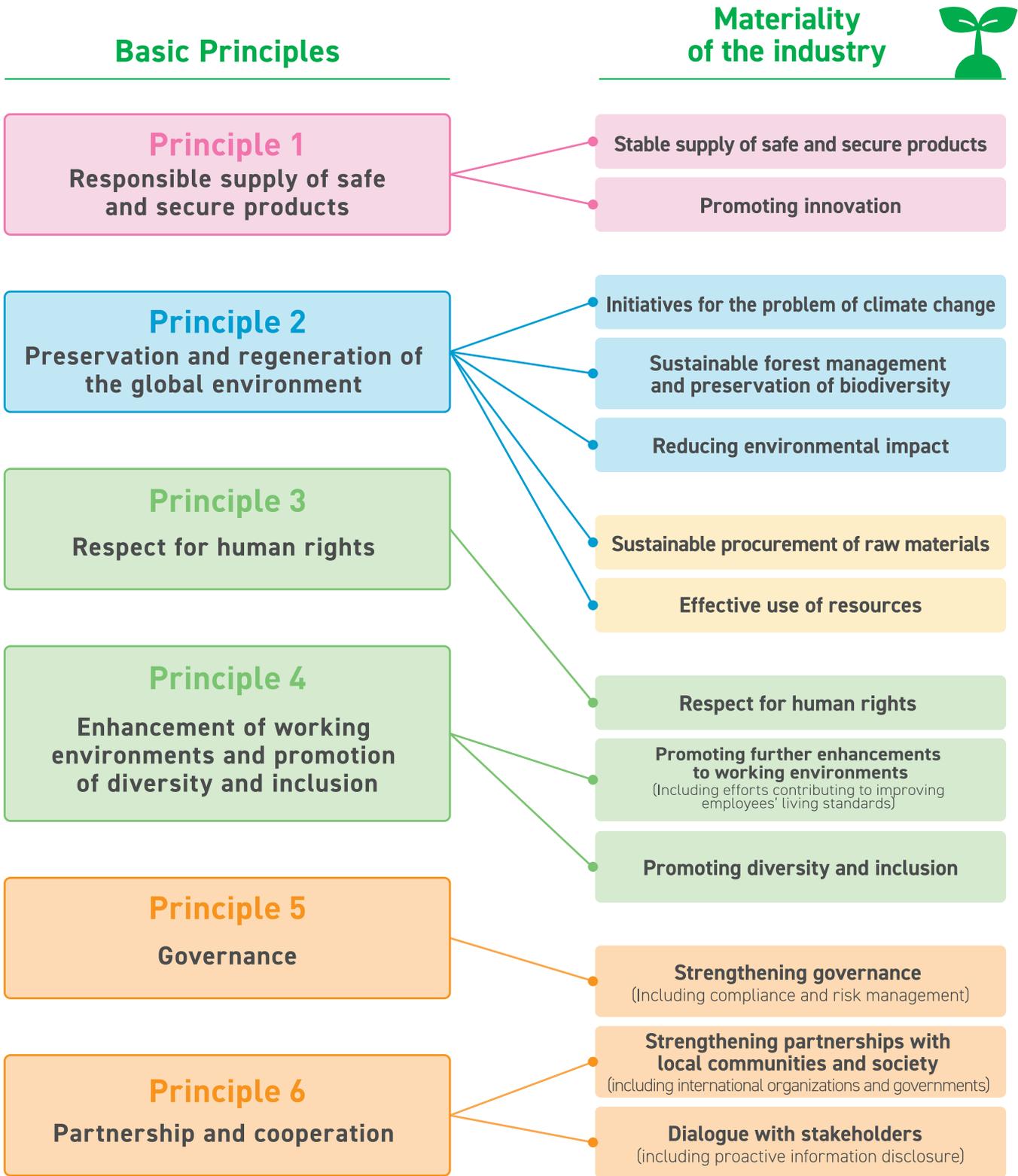
Strengthen partnerships with international organizations, governments, local communities, etc. and strive to overcome challenges through proactive information disclosure and dialogue with stakeholders.



We will fulfill our social responsibilities through our business activities by putting these principles into practice and continually improve our efforts by regularly and objectively assessing and verifying them. We will also strive to communicate top management's commitment and proactive messages to shaping a sustainable society.

5 The Challenge to Sustainability

Japan Paper Association Basic Principles for Sustainability and materiality*1 in the pulp and paper industry



*1) Materiality refers to events that have a significant impact on the value creation of a company, industry, etc., and are matters that the concerned parties (companies, industries, etc.) place importance on and respond to in order to solve social issues.
 Materiality of the industry refers to the 13 materialities analyzed and organized in the "Towards 2030" report by the Japan Paper Association (<https://www.jpa.gr.jp/sustainability/report/towards2030.html>).
 (Updated August 2, 2024)



Goals and progress toward improving sustainability

Materiality	Principle No.	Goals	FY2023	Remarks
Stable supply of safe and secure products	Principle 1	Conform to voluntarily established standard values from a hygienic standpoint with regard to paper and paperboard intended to come in contact with foodstuffs (permissible elution limit of heavy metals: 1µg/ml or less)	100%*2	From the voluntary standards of "Voluntary Standards on Paper and Paperboard Intended to Come into Contact with Food"
Initiatives for the problem of climate change		Reduce energy-derived CO ₂ emissions by 38% by FY2030 compared to FY2013	Reduction of 5.43 million tons (progress rate 75.8%)	From the target of the "Carbon Neutrality Action Plan"
		Aim for virtually zero CO ₂ emissions from production activities by 2050	13.40 million tons	From the target of the "Long-Term Vision 2050"
		Increase the afforested area to 650,000 ha by FY2030	519,000 ha	From the target of the "Carbon Neutrality Action Plan"
Sustainable forest management and preservation of biodiversity	Principle 2	For domestic and overseas forests owned or managed by the company, clearly position the preservation of biodiversity in the management and operation plan.	84.6% (11 out of 13 companies)	From the follow-up survey in the "JPA's Action Guidelines on the Preservation of Biodiversity"
		Use only legally harvested wood.  Also falls under Materiality "Sustainable procurement of raw materials"	100%	From the monitoring project in the "Code of Conduct of the Japan Paper Association for Issues on Illegal Logging"
Reducing environmental impact		Work to ensure that the VOC reduction rate does not worsen compared to FY2010 results	Reduction of 92.5%	From a follow-up survey on volatile organic compounds (VOCs)
Sustainable procurement of raw materials		Strive to achieve the goal of 65% recovered paper utilization rate by FY2025	67.1%	From the target in the "Environmental Action Plan"
Effective use of resources	Principle 2	Reduce the volume of final disposal of industrial waste to 60,000 tons by FY2025	72,000 tons	From the target in the "Environmental Action Plan"
		Strive to maintain the current effective utilization rate of waste (FY2019 result: 98.4%)	98.2%	From the target in the "Environmental Action Plan"
Promoting further enhancements to working environments <small>(Including efforts contributing to improving employees' living standards)</small>	Principle 4	Zero fatalities at workplaces of member companies and their group companies	1 case: cooperating companies	From the goals of the "Action Plan for Prevention of Industrial Accidents"

*2) The target group consisted of 4 companies and 5 establishments that were sampled and surveyed by the Japan Paper Association.

Principle 1 Responsible Supply of Safe and Secure Products

Stable supply of safe and secure products



*1

Goal

Conformity to voluntarily established standard values for paper and paperboard intended to come in contact with foodstuffs from a hygienic standpoint.

(maximum allowable elution limit of heavy metals present in paper and paperboard: 1µg/ml or less (as lead))



Pursuant to the Ministry of Health, Labour and Welfare's directive to establish voluntary standards to ensure the safety of paper containers and packaging for food products, the Japan Paper Association established the "Voluntary Standards on Paper and Paperboard Intended to Come into Contact with Food" in May 2007 and implemented it in October of the same year.



In addition, the Japan Paper Association prepared a Negative List (NL)*2 based on domestic and international regulations and hazard information, and has been updating the list annually to keep it in line with subsequent changes in regulations and hazard information. Furthermore, the chemical substance information retrieval system "JPA Chemi-net" has been established and operated, and member companies register chemical substances used in the manufacture of papermaking chemicals for use in confirming safety information.



As of December 2024, approximately 3,500 substances are registered in NL and JPA Chemi-net, respectively.



Paper food container as an alternative to plastic



Recyclable paper cup

Initiatives of the Japan Paper Association

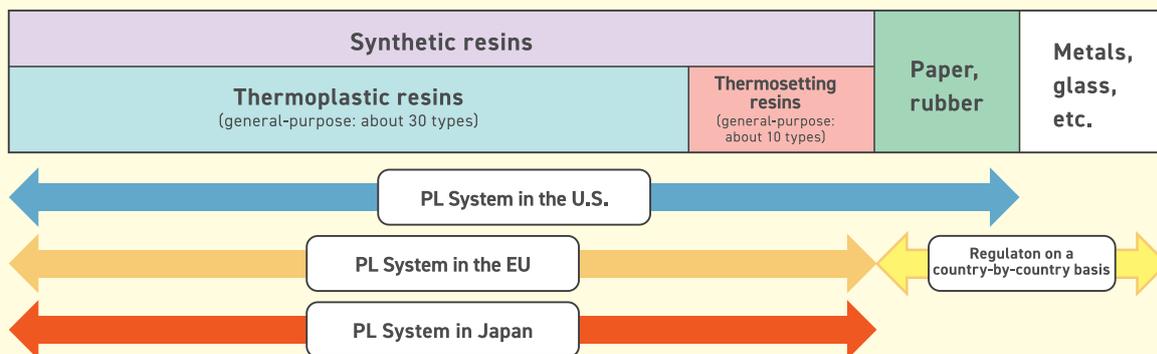
Creation of a voluntary Positive List

The Positive List (PL) is a list of chemical substances that have been confirmed as safe. By limiting the substances used in paper and paperboard that come into contact with food to those listed in the PL, it is possible to ensure the safety of products derived from raw materials.

In Europe and the U.S., legislation for PL management has been progressing, and also in Japan, a PL system targeting synthetic resins came into effect in June 2020.

The Japan Paper Association is currently studying the feasibility of a voluntary PL.

Comparison of the Regulations in Japan, Europe, and the United States *3



*1) The SDG icons in the margins at the top of p.8 to 19 show the SDG targets for each materiality, as organized in Japan Paper Association's "Towards 2030" report (<https://www.jpaa.gr.jp/sustainability/report/towards2030.html>).

*2) Negative list is a list of substances whose use is prohibited or restricted. In the NL system, any chemicals not listed in the NL are permitted for use.

*3) Source: Ministry of Health, Labour and Welfare, "Overview of amendments to the Food Sanitation Act"

Principle 2 Preservation and Regeneration of the Global Environment

Initiatives for the problem of climate change



Goal

Reduce energy-derived CO₂ emissions by 38% by FY2030 compared to FY2013



The Japan Paper Association has been working voluntarily to reduce greenhouse gas (GHG) emissions since early on, and has completed its "JPA's Committed Action Plan on the Environment" from FY2008 to FY2012 with results exceeding targets.



Under the "Carbon Neutrality Action Plan," we have set a reduction target of "reducing energy-derived CO₂ emissions in FY2030 by 38% from the FY2013 level," and we have been working steadily to achieve this goal. Also, in 2021, we declared to aim to establish a carbon neutral industry by 2050 as the "Countermeasures against Global Warming aiming at Net Zero GHG emission from Paper Industry - Long-Term Vision 2050."



We have been able to reduce CO₂ emissions steadily because of the switch to biomass fuels and fuels with lower carbon intensities, the adoption of more energy-efficient equipment, and a review of our production processes as the major factors. We will continue to switch to carbon-neutral biomass fuels in the future.

Strategic Pillars of Reduction

01

Proactive introduction of the latest energy-saving equipment and technologies

02

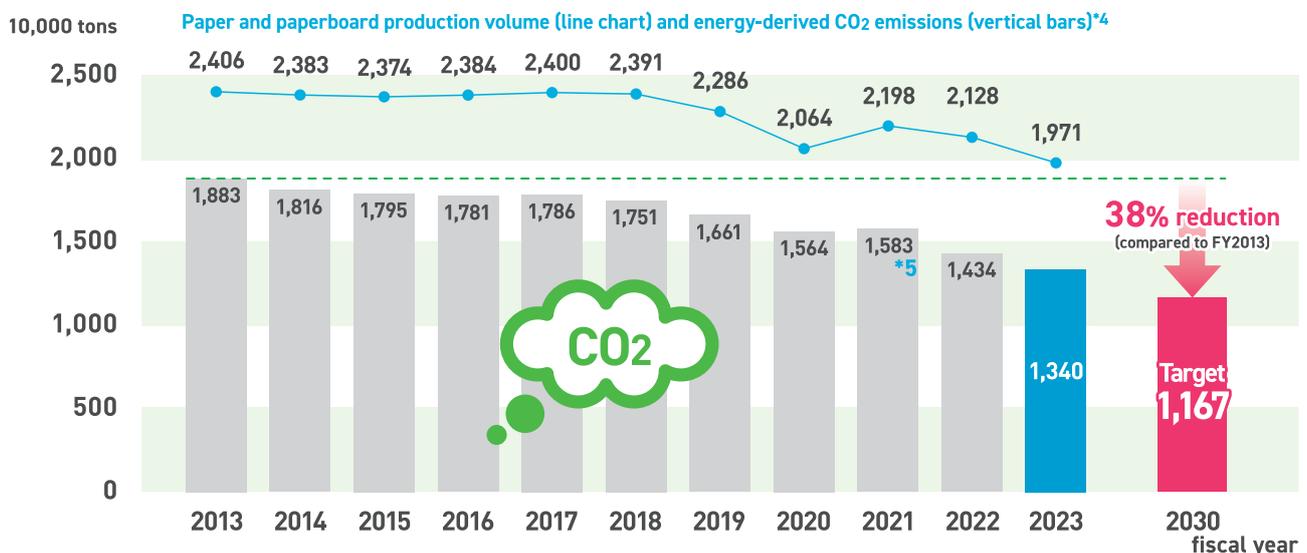
Fuel conversion from fossil energy to renewable energy at on-site power generation facilities

03

Proactive adoption of innovative energy-related technologies



Trends and reduction targets for energy-derived CO₂ emissions



*4) Source: "Carbon Neutrality Action Plan," Japan Paper Association

*5) Recovery from the COVID-19 pandemic led to an increase in paper and paperboard production (+6.5% YoY), which also led to an increase in CO₂ emissions (+1.2% YoY).

Principle 2 Preservation and Regeneration of the Global Environment

Initiatives for the problem of climate change

Goal

Virtually zero CO₂ emissions in production activities by 2050
(guideline: reduce 21 million tons of CO₂ emissions from FY2013 levels)



As mentioned earlier, the Japan Paper Association declared its goal of establishing a carbon neutral industry by 2050 through its "Long-Term Vision 2050."



In our "Long-Term Vision 2050," we set a target (guideline) of reducing CO₂ emissions by 21 million tons, including CO₂ from waste as well as fossil energy, to virtually zero in our production activities, and we will further contribute to the realization of a carbon neutral society through additional efforts to reduce CO₂ emissions outside of our production activities.

Initiatives of the Japan Paper Association

Overview of the "Countermeasures against Global Warming aiming at Net Zero GHG emission from Paper Industry - Long-Term Vision 2050"

In support of the "Carbon Neutrality by 2050" declaration announced by the government in October 2020, we formulated our "Long-Term Vision 2050" in January 2021, aiming to preserve a sustainable global environment and realize a decarbonized society as a pulp and paper industry, and to realize a carbon neutral industry with virtually zero greenhouse gas emissions expressed as CO₂ equivalent.

The "Long-Term Vision 2050" sets forth the following three areas in which the pulp and paper industry can make further contributions in the future, based on a vision of an uncertain future in the year 2050 and the shape and direction in which the industry should be heading.

Efforts toward a carbon neutral industry

1 Zero CO₂ emissions in production activities through promotion of energy conservation and fuel conversion

1. Proactive introduction of the latest energy-saving equipment and technologies
2. Expanding the ratio of renewable energy used in on-site power generation facilities
3. Promotion of innovative technology development related to papermaking
4. Proactive adoption of innovative energy-related technologies*1

Efforts to contribute to a carbon-neutral society

2 Reduction of CO₂ emissions over the life cycle through development of environmentally friendly materials

1. Social implementation of cellulose nanofibers
2. Use of paper material products as an alternative to fossil-based plastic packaging materials
3. Conversion from fossil-based products to bioplastic materials and biochemicals

3 Expanding contribution as a CO₂ sink through afforestation

1. Promotion of sustainable forest management
2. Promotion of forest tree breeding with high environmental adaptability and fast growth

Virtually zero CO₂ emissions in production activities

Reduction of 21 million tons of greenhouse gas emissions, including not only fossil energy but also waste-derived CO₂ (base year: FY2013)

Additional CO₂ reduction outside of production activities

*1) If CO₂ emitted from biomass boilers is recovered by CCS/CCUS (technology for capture, storage, and effective utilization of carbon dioxide), it becomes a "negative emission" (absorption of CO₂ from the atmosphere).



Column

Japan's GX Policy - Aiming to provide value for reforming Japan's social structure toward carbon neutrality

GX stands for "Green Transformation." GX refers to the transformation of the entire economic and social system toward achieving emission reductions and enhancing industrial competitiveness by viewing efforts to achieve carbon neutrality by 2050 and Japan's greenhouse gas emission reduction targets by 2030 as opportunities to drive economic growth.

In Japan, the GX Promotion Act was enacted in May 2023, which aims to realize GX through the "Pro-Growth Carbon Pricing Concept" that effectively combines carbon pricing and "investment promotion measures" through GX Economy Transition Bonds. "GX League" was established and started its activities in FY2023, as a forum for companies engaged in GX to practice GX together with government agencies and universities that also work on such initiatives, in order to reform economic and social systems and create new markets. The GX League is a network of Japanese companies accounting for more than 50% of Japan's CO₂ emissions (about 40% for the EU), and six member companies of the Japan Paper Association are participating in the League.

Under the GX League, the Phase 1 of the emissions trading system (GX-ETS) to achieve reduction targets set by companies was started in FY2023 as a trial and voluntary framework. Under the emissions trading system, emission reduction targets and achievement status are disclosed and companies can trade (buy and sell) the amount of emissions they have reduced beyond their targets through emissions trading.

In the Phase 2, which will begin around FY2026, there will be consideration for legislation such as making the participation of large companies mandatory and establishing a certification system for individual companies' reduction targets. Furthermore, a gradual introduction of a paid approach (auction mechanism) is planned to be implemented for the power generation sector starting around FY2033, to expedite decarbonization of the power sector.

Overview of the emissions trading system (Phase 1) - procedure of emissions trading -

1. Pledge (establishment of emission targets)

Each participating company will set its own (1) FY2030 emission reduction targets, (2) FY2025 emission reduction targets, and (3) total emission reduction targets in the Phase 1 (FY2023 to FY2025) for its domestic direct and indirect emissions (equivalent to Scope 2).

2. Performance report

The participating companies are required to calculate and report actual domestic direct and indirect CO₂ emissions. (Calculation results must be verified by a third party.)

3. Emission trading

Emissions trading covers domestic direct emissions (equivalent to Scope 1). If actual CO₂ emissions exceed the (3) total emission reduction targets in the Phase 1 (FY2023 to FY2025), the company is required to procure "excess reduction quotas" or eligible carbon credits, or explain the reason for failure to meet the targets.

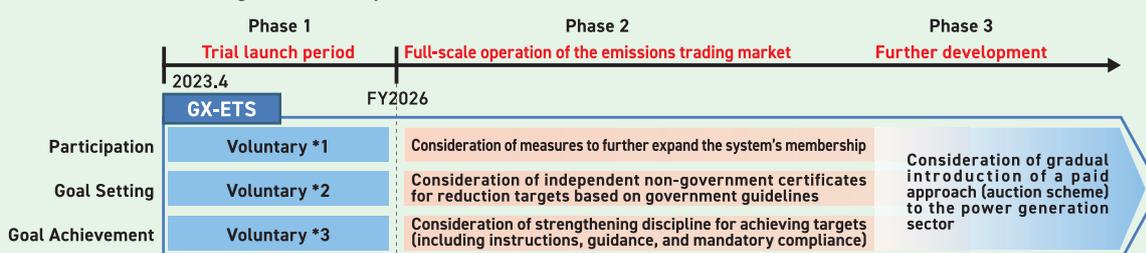
The "excess reduction quotas" beyond the NDC level* can be subject to sales to other companies.

*GHG emissions reduction targets from 2013 (base year) in Japan's NDC: 27% for FY2023, 29.7% for FY2024 and 32.4% for FY2025.

4. Review (information disclosure)

The target achievement status and transaction status will be disclosed on the information disclosure platform (GX Dashboard). In addition, the GX League will also consider linkage with various supporting measures to encourage big GHG emitters who are making bold efforts to reduce emissions.

< Outline of the gradual development of the GX-ETS >



*1 Companies accounting for more than 50% of Japan's greenhouse gas emissions (747 companies, as of May 17, 2024).

*2 Targets consistent with carbon neutrality by 2050 (the emission target in FY2030 and the interim target in FY2025) are disclosed.

*3 If emissions trading is not used to achieve the target, this intension should be disclosed (Comply or Explain).

Source: "Direction of Consideration for the Full-Scale Launch of an Emissions Trading Scheme," Carbon Pricing Expert Working Group, Cabinet Secretariat

Principle 2 Preservation and Regeneration of the Global Environment

Initiatives for the problem of climate change

7 AFFORDABLE AND CLEAN ENERGY



13 CLIMATE ACTION



Goal

Increase the afforested area in Japan and abroad by 375,000 hectares to 650,000 hectares by FY2030 compared to FY1990



In addition to reducing fossil energy-derived CO₂ emissions, as a pulp and paper industry that uses wood, a renewable resource, as raw material, we are also working to expand CO₂ sinks.



In 2020, our "Carbon Neutrality Action Plan" revised the target for the increase in the size of carbon sinks to 650,000 ha, an increase of 375,000 ha from the FY1990 level, by FY2030.

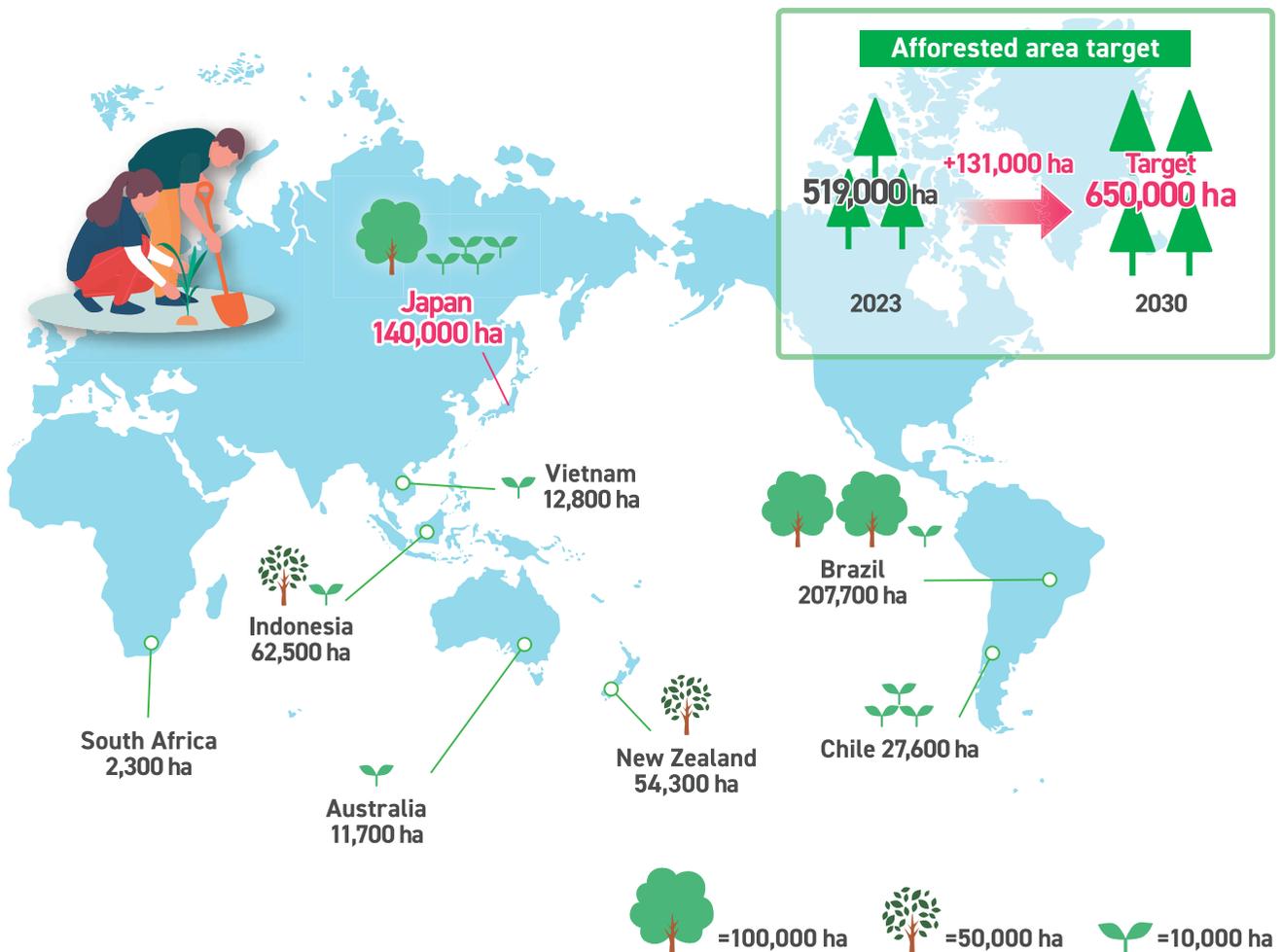


For its implementation, in addition to actively promoting sustainable forest management in order to increase the amount of CO₂ absorbed in the afforested areas, efforts will be made to select the most suitable tree species for planting, develop breeding of seedlings with high growth potential, and implement effective fertilizer application.



In FY2023, the total increase in afforested area was 244,000 ha, which is equivalent to about 340,000 soccer courts, or about the same area as Saga Prefecture.

Domestic and international afforested area of the JPA's member companies



Sustainable forest management and preservation of biodiversity



Goal

For domestic and overseas forests owned or managed by the company, clearly position the preservation of biodiversity in the management and operation plan.

Home to many plants and animals, forests are the core of biodiversity, and the pulp and paper industry, which uses these forests as a source of raw materials, is closely related to biodiversity. For this reason, we believe that it is certainly a social obligation for the pulp and paper industry to be proactive in the preservation of biodiversity.

Thus, given the extreme importance of biodiversity preservation to the pulp and paper industry, the Japan Paper Association formulated the "JPA's Action Guidelines on the Preservation of Biodiversity" in 2014, and has been implementing these guidelines.

The Action Guidelines set forth guidelines for a total of 21 items in five areas, such as "sustainable forest management" and "responsible raw material procurement," and we have been promoting member companies' initiatives through follow-up surveys since FY2014.

Percentage of companies that position biodiversity preservation in their management and operation plans.

85%
(FY2023)



Column

EU Deforestation Regulation (EUDR): Regulation (EU) 2023/1115 on deforestation-free products

The main cause of the global forest loss is considered to be the structural changes in forests, such as the conversion of forests to agricultural use.

Concerning such a circumstance, the EU Deforestation Regulation (EUDR) was enacted to tackle climate change and preserve biodiversity, by imposing due diligence obligations on companies to ensure that relevant products placed on the EU market or exported from the EU were **not produced on agricultural land that has been subject to deforestation (deforestation-free*)** (Effective June 29, 2023).

The EUDR will apply to relevant products that contain, have been fed with or have been made using relevant commodities, namely **oil palm, cattle, wood, coffee, cocoa, rubber, and soya, including leather, chocolate, furniture, paper and paperboard**. Relevant commodities and relevant products may be placed or made available on the EU market or exported from the EU, only if all the following conditions are fulfilled: (a) they are deforestation-free; (b) they have been produced in accordance with the relevant legislation of the country of production; and (c) they are covered by a due diligence statement.

The due diligence needs to include information, documents and data such as **'the geolocation of all plots of land where the relevant commodities that the relevant product contains, or has been made using, were produced, as well as the date or time range of production,'** and **'adequately conclusive and verifiable information that the relevant products are deforestation-free.'**

This Regulation was originally scheduled to apply to non-SMEs (SMEs: micro, small and medium-sized enterprises) from 30 December 2024 and SMEs from 30 June 2025, but due to enormous concerns expressed from all over the world, including the strict requirements of due diligence and the delay in the development of information systems and guidelines, the application date of the EUDR has been postponed by 12 months. The postponement was published in the EU official journal on 23 December 2024.

*What is deforestation-free?

'Deforestation-free' is defined as follows:
After December 31, 2020,

1. the relevant products were produced on land that has not been subject to **deforestation**; and
2. in the case of relevant products made using wood, the wood has been harvested from the forest without inducing **forest degradation**.

Deforestation	The conversion of forest to agricultural use, whether human-induced or not
Forest degradation	The conversion of 'primary forests' or 'naturally regenerating forests' into 'plantation forests' or 'into other wooded land,' or 'primary forests' into 'planted forests'

Principle 2 Preservation and Regeneration of the Global Environment

Sustainable forest management and preservation of biodiversity



Goal

Use only legally harvested wood.

Also falls under Materiality "Sustainable procurement of raw materials"



Forests play an important role in supplying wood, maintaining ecosystems, and preventing global warming, among others.



In 2006, the Japan Paper Association formulated the "Code of Conduct of the Japan Paper Association for Issues on Illegal Logging" as a measure to combat illegal logging and illegal wood trade, which undermine the sustainable fulfillment of forest functions, and has since been taking action to address these issues.



In addition, the Japan Paper Association confirms the certification method used by its member companies to verify the legality of wood, in accordance with the Forestry Agency's guidelines. As a result, the amount of legal wood used reached 100% of the total amount of wood raw material collected in FY2023, and no illegally logged wood is used.



Column

Amendments of the Clean Wood Act (The Act on Promotion of Use and Distribution of Legally-harvested Wood and Wood Products)

The amended Clean Wood Act was promulgated in May 2023 and enters into application on April 1, 2025. This amendment includes four major points and encourages businesses to strengthen their efforts by providing them with enforceable provisions.

1. Obligation to verify legality, etc. by 'upstream' and 'waterfront'* timber-related businesses

Since it is important to prevent illegal logging at an early stage of the supply chain, it has become mandatory for sawmills and importers to collect the information and verify legality of raw material, and to prepare and keep its records.

* 'Upstream' timber-related businesses: log traders, sawmills, etc.

'Waterfront' timber-related businesses: importers

2. Obligation to provide information by material producers and sellers

In order to facilitate legality verification, material producers and sellers are now required to provide information such as logging reports.

3. Classifying retailers into timber-related businesses

Retailers are additionally classified into timber businesses, in order to promote understanding of the importance of using legal timber down to the consumer level.

4. Other measures:

penalties related to 1 and 2 above, measures to prevent the use of illegally harvested timber, and mandatory periodic reporting

The amended Act has stipulated guidance, advice, recommendations, making the information public, orders, and penalties for violation of orders by the cabinet minister in charge have been stipulated regarding 1 and 2 above.

The monitoring project that the Japan Paper Association has long been engaged in is currently in discussions with the Forestry Agency to have its efforts recognized as compliant with the timber legality verification method.

Reducing environmental impact



Goal

Work to ensure that the VOC*1 reduction rate does not worsen compared to FY2010 results



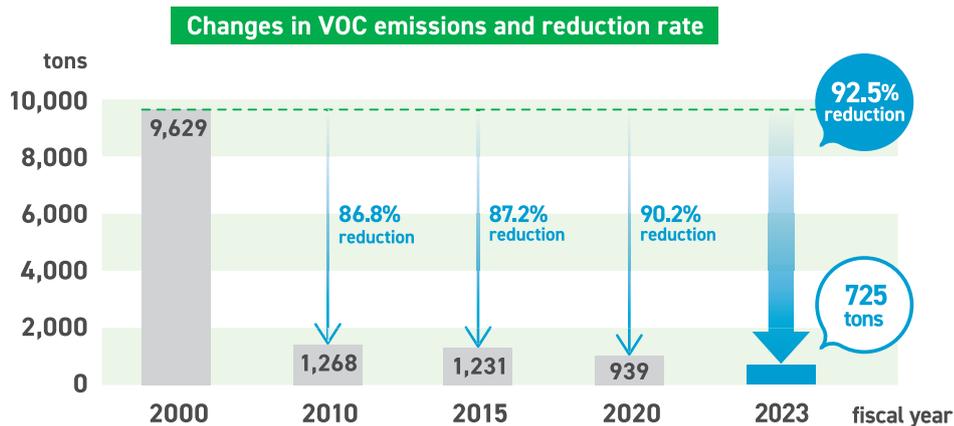
Following the enactment of the Air Pollution Control Law in April 2006, the Japan Paper Association has specified "risk management of chemical substances" in its Environmental Action Plan as a response to environmental risk issues, and has been working to reduce emissions of volatile organic compounds (VOCs).



In FY2010, we achieved a reduction of more than 80%, far exceeding the government target of a reduction of about 30% compared to FY2000, and the annual follow-up survey shows that we have maintained this level for 13 years until FY2023.



We will continue our efforts to reduce all VOC emissions and to maintain and improve the reduction rate by substituting chemicals with fewer VOC components and strengthening management of manufacturing processes.



Initiatives of the Japan Paper Association

Environmental measures

Measures for Hazardous Air Pollutants

The Japan Paper Association has established a "Plan for Voluntary Control of Hazardous Air Pollutants" covering three substances of formaldehyde, chloroform, and benzene, and has achieved strict voluntary control targets for each of these substances by introducing alternative chemicals and promoting process improvements.

Flue gas treatment

We are working on measures to control sulfur oxides (SOx) and nitrogen oxides (NOx) generated from heavy oil and coal used as fuel, which are considered to be one of the causes of acid rain.

Soot and dust control

Soot and dust generated from recovery boilers was a problem for a while, but it has now been solved by enhancement of wet scrubbers (a device that removes soot and dust from flue gas by spraying it with water) and electrostatic precipitators.

Odor control

Odors have been a common occurrence at chemical pulp (especially kraft pulp) mills. Since there are individual differences in perception, we believe that simply complying with laws and agreements is not enough. Therefore, we thoroughly investigate the sources of odor emissions, and at the same time, implement the most appropriate odor countermeasures for each source, such as collecting and burning the odor.

*1) VOC stands for Volatile Organic Compounds, a generic term for organic compounds that are volatile and become gaseous in the atmosphere. It includes a wide variety of substances such as toluene, xylene, and ethyl acetate.

Principle 2 Preservation and Regeneration of the Global Environment

Sustainable procurement of raw materials



Goal

Strive to achieve the goal of **65% recovered paper utilization rate by FY2025**



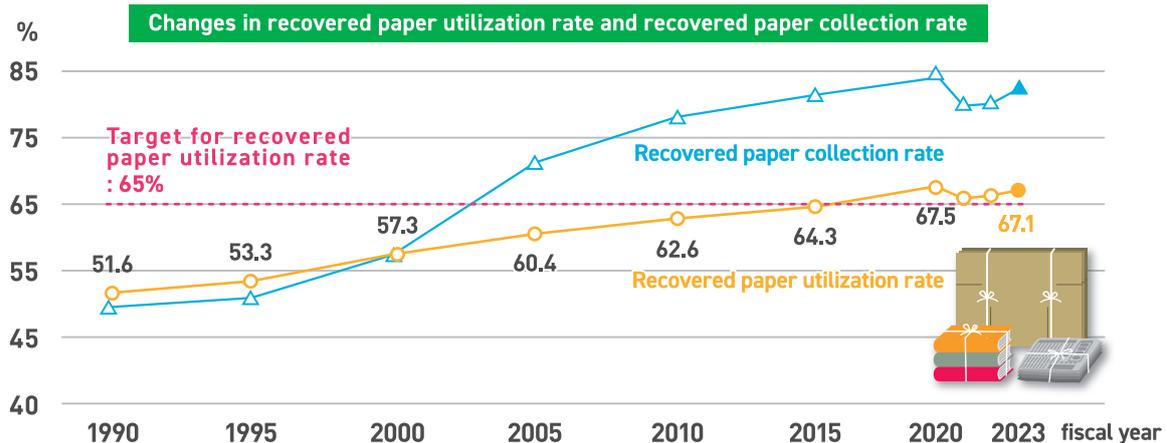
Paper is an indispensable commodity in modern society, and at the same time, it supports industry and culture from the side. With the development of society and the economy as well as the improvement of lifestyle and culture, the uses of paper are diversifying, and it is being used more and more in various fields. In addition, the value of recovered paper is becoming increasingly important from the perspective of securing raw materials.



Japan's recovered paper utilization rate is among the highest in the world. In order to further improve this world-class utilization rate, it is essential that the pulp and paper industry, the recovered paper industry, as well as consumers, the consumer industries, and local government work together to make strong efforts.



Specifically, we will continue to focus on expanding the use of recovered paper as a raw material for printing and information paper, improving the collection rate of recovered office paper, and implementing energy-saving and fuel conversion measures to reduce CO₂ emissions from the recycling process of recovered paper.



* The difference between the recovered paper collection rate and the recovered paper utilization rate indicates the collected recovered paper not utilized domestically is exported mainly to the Asian region and effectively recycled as high-quality recovered paper in the international market.

Initiatives of the Japan Paper Association

"Handmade Postcard Contest"

Experiencing recycling using daily use paper such as milk cartons

The Japan Paper Association holds the "Handmade Postcard Contest," inviting entries of postcards made from recycling used paper such as milk cartons into one-of-a-kind picture postcards. Schools participate in this contest as part of a class to learn about recycling, and students also work on the contest as part of extracurricular activities such as their summer holiday independent study at home.

This contest started in 2004, and we celebrated the 20th anniversary in 2023. The growing importance of recycling education due to the growing interest in the SDGs has significantly increased the entries and led the contest to grow into a major competition with the participation of many elementary school students from all over Japan.

By having participants actually experience the recycling process of recycling "paper" from "paper" through making postcards, this event provides a good opportunity for children and the adults around them to learn how paper is made and to think about the recycling of resources.



The 20th Grand Prize for Individuals
"Delicious Mikan (mandarin orange)
from Ehime Prefecture"
Hinata Yanagawa (6th grade)

Effective use of resources

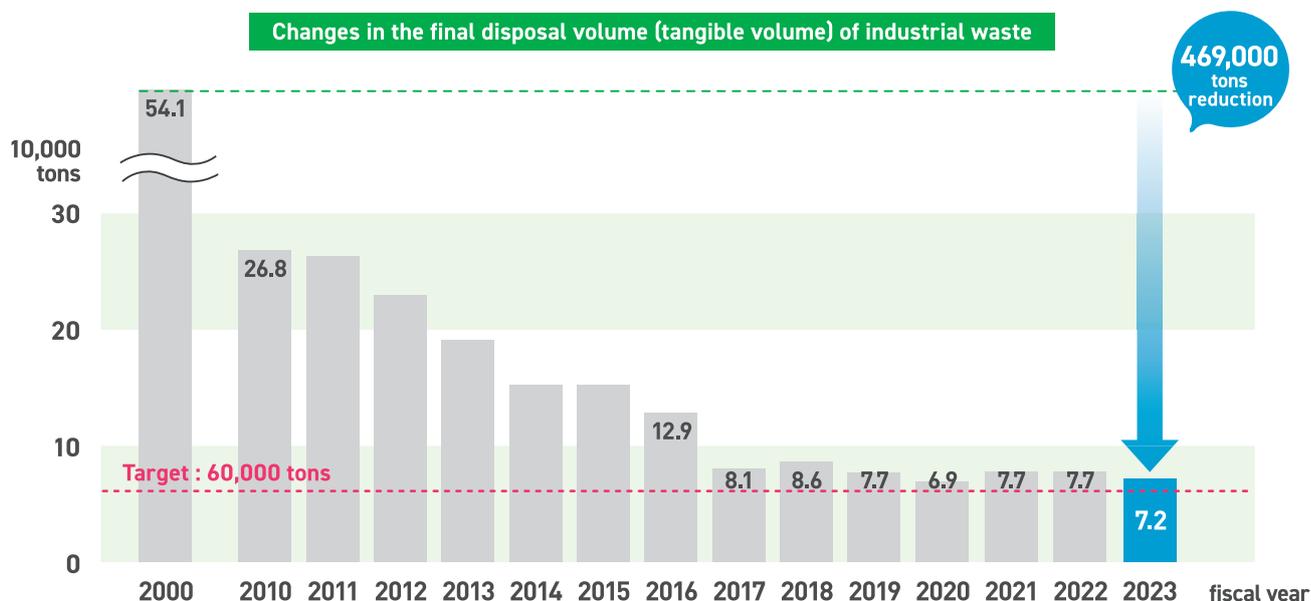


Goal

Reduce the volume of final disposal of industrial waste to 60,000 tons in tangible form by FY2025

- The majority of waste generated by paper mills is sludge, in addition to wood waste, paper waste, and waste plastic. Most of this waste is incinerated, and much of it is used as energy for the mills. The remaining ash is also effectively used as a raw material for cement and other purposes.
- The pulp and paper industry set a numerical target to reduce final waste disposal to 130,000 tons by FY2020, and achieved the goal by reducing the volume to 69,000 tons in FY2020.
- Since FY2021, we have set a new numerical target of reducing final waste disposal to 60,000 tons by FY2025, and we are continuing to make efforts to reduce waste.

Changes in the final disposal volume (tangible volume) of industrial waste



Column

Act Concerning Sophistication of Recycling Business, etc. to Promote Resource Circulation

To promote integrated resource circulating efforts, including decarbonization and ensuring the quality and quantity of recycled resources, the Act Concerning Sophistication of Recycling Business, etc. to Promote Resource Circulation (hereinafter referred to as the Act Concerning Sophistication of Recycling Business) came into effect on May 29, 2024, as a law concerning reporting and publication of the status of implementation of recycling, establishment of an authorization system for sophistication of recycling businesses, and other matters.

Under the Act Concerning Sophistication of Recycling Business, business entities are obligated to strive to 1) design products that are easy to separate and dispose of separately so that recycling is not difficult, and 2) use recycled resources in products and engage in resource recycling that meets demand.

The pulp and paper industry has set the recovered paper utilization rate target at 65% and aims to achieve efficient resource recycling and waste reduction through such initiatives as expanding recycling of by-products through industry collaboration, promoting volume reduction of organic waste and its conversion into fuel, and promoting research and surveys for the development of new applications.

Principle 2 Preservation and Regeneration of the Global Environment

Effective use of resources

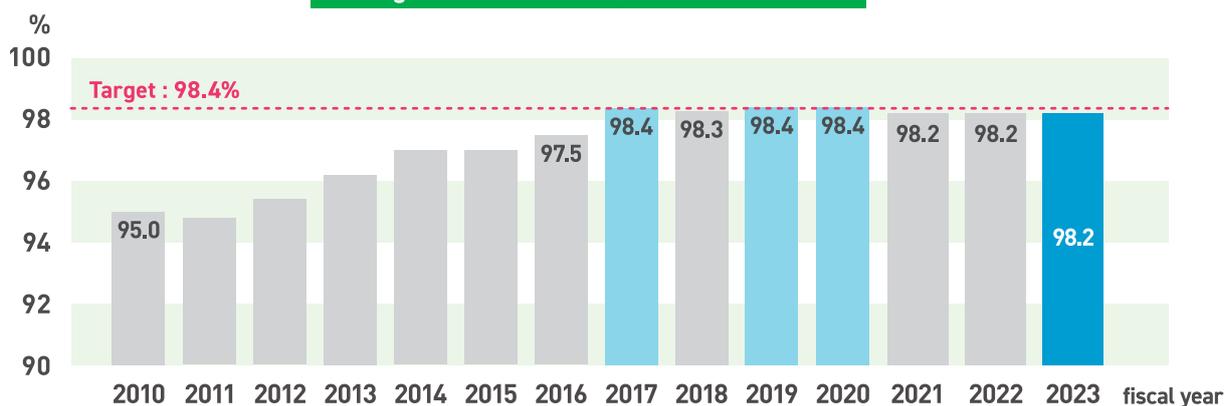


Goal

Strive to maintain the current effective utilization rate of waste (FY2019 result: 98.4%)

- In addition to reducing the final disposal volume of industrial waste as mentioned above, the Japan Paper Association has set the industry's own target of maintaining the current rate of effective utilization (FY2014 results: 97.0%), and has been working toward the realization of a recycling-oriented society.
- In the "Environmental Action Plan" revised in October 2020, we set the target year to FY2025 in line with the government's 4th Fundamental Plan for Establishing a Sound Material-Cycle Society, and raised the new target value to 98.4%.
- In order to achieve the new goals, we will continue our efforts under the three policies of "expanding recycling of by-products through industry-wide collaboration," "promoting volume reduction of organic waste and its conversion to fuel," and "promoting research and surveys for the development of new applications."

Changes in effective utilization rate of waste



Initiatives of the Japan Paper Association

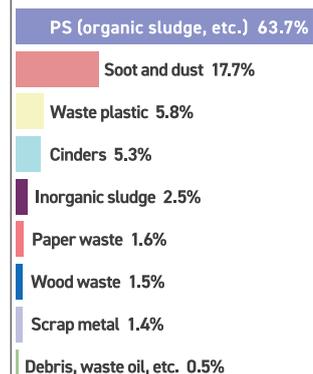
Efforts for effective utilization of waste

The pulp and paper industry has been promoting initiatives to reuse incinerator ash, paper sludge ash, and other waste materials as soil conditioners and roadbed materials. The Japan Paper Association has also conducted annual follow-up surveys on the waste management measures stipulated in its "Environmental Action Plan," and has compiled and published responses from its member companies on the volume of industrial waste generated, volume reduced, volume recycled, final disposal volume, effective utilization rate, and other data.

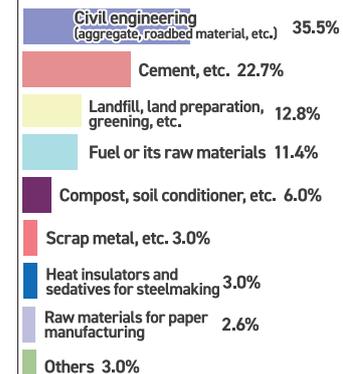
The results of the FY2023 survey are shown in the figure on the right.

We will continue to work with member companies to reduce and reuse waste.

Industrial waste generated : 4,030,000 tons



Amount recycled : 1,843,000 tons



Principle 4

Enhancement of working environments and promotion of diversity and inclusion

Promoting further enhancements to working environments

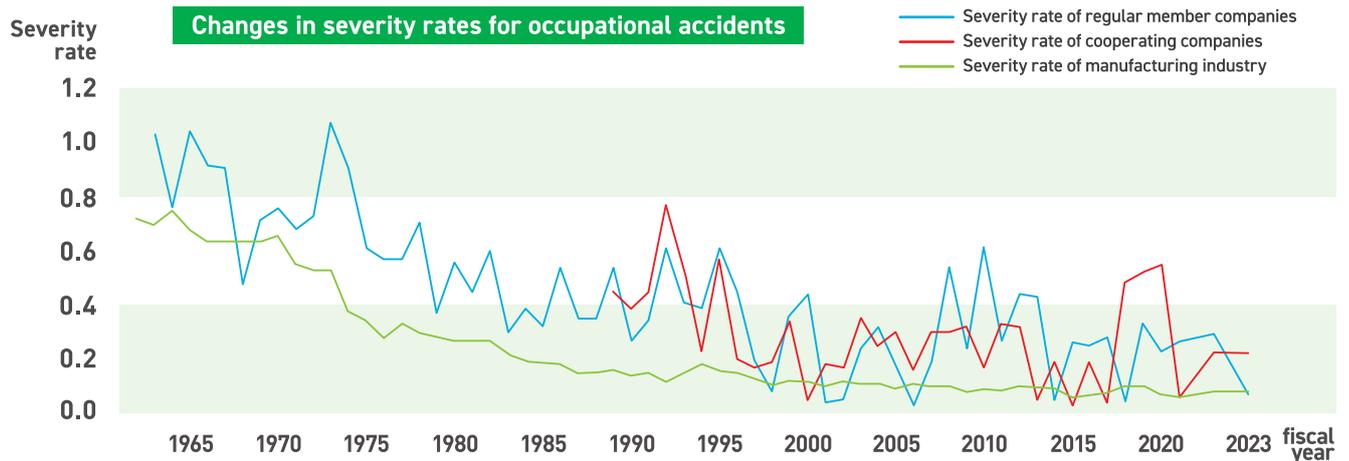
(Including efforts contributing to improving employees' living standards)



Goal

Achieve zero fatalities at member companies and group company workplaces

- To protect the safety and health of all colleagues in the pulp and paper industry and to create a better working environment, the Japan Paper Association is engaged in a variety of cross-industry and cross-sector initiatives, including the sharing of information on best practices and accident case studies from member companies and various educational activities.
- The JPA's Action Plan for Prevention of Industrial Accidents formulated in February 2018 with the goal of eliminating fatalities was amended in October 2024 to further improve occupational health and safety in our industry.
- On the other hand, there has never been a year in which no fatal accident occurred at either member companies or cooperating companies, and the severity rate, which expresses the degree of severity of accidents, tends to be higher than the average in the manufacturing industry.



Initiatives of the Japan Paper Association

Occupational Safety & Health

National Pulp and Paper Safety and Health Convention

This event has been held continuously every year since 1961, and 2024 marked its 64th anniversary. It consists of safety and health awards, lectures, and section meetings. The 2024 Convention was held in Otsu City, Shiga Prefecture, for two days on September 5 to 6, with approximately 300 participants from all over Japan.

Safety and health award

The purpose of this award is to contribute to the improvement of safety and health standards and the eradication of accidents in the pulp and paper industry by recognizing workplaces and contractors that have excellent safety and health performance and serve as models for others. In addition to the awards presented by Japan Paper Association, we also recommend the "Green Cross Award" given by the Japan Industrial Safety and Health Association, and the "Outstanding Safety Supervisor Commendation" given by the Minister of Health, Labor and Welfare.

Educational activities

We provide safety lectures, plant tours of different industries, and educational materials for managers and staff in charge of safety and health at member companies.



64th National Pulp and Paper Safety and Health Convention

6

Overview of Activities of the Japan Paper Association

Japan Paper Association Website (<https://www.jpa.gr.jp>)



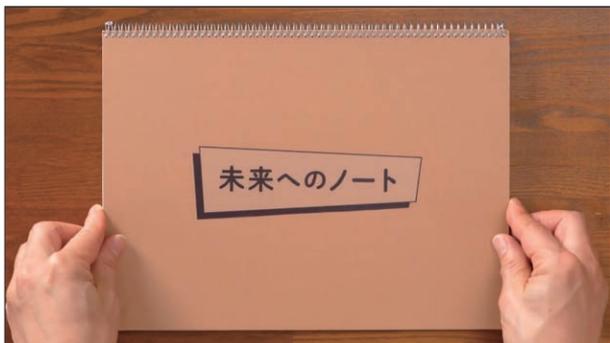
YouTube Channel



Children's Discovery

Children discover the advantage of paper through their own perspectives, focusing not only on paper products around them, but also on other paper-related products usually unnoticed and other materials of the future.

<https://www.youtube.com/watch?v=WAFGbcW-oXQ>



Notebook for the Future

The Notebook for the Future introduces the pulp and paper industry's efforts toward a sustainable society such as reducing CO₂ emissions, recycling recovered paper and afforestation, in simple and easy-to-understand formats with detailed data.

https://www.youtube.com/watch?v=44w_q10iD0g

Public Relations



Dispatch Lessons

We visit elementary schools around the country to teach basic knowledge about paper and the recycling process. Students can enjoy learning through observation, experiments, and quizzes.

https://www.jpa.gr.jp/about/pr/school_visit/



Love Letter Contest

We have been holding contests and events to rediscover the value of paper through the experience of letter writing, while people are now used to communicating via digital tools such as smartphones and social media.

<https://kamitsubu.com/campaign/loveletter/2024/>

Holding Study Sessions and Lectures by the SDGs Committee

The SDGs Committee of the Japan Paper Association holds study sessions and lectures by guest lecturers and other outside experts as a means of providing supplementary support to member companies by sharing information on sustainable management, thereby raising the level of sustainability awareness and initiatives in the industry.

Study sessions and lectures

1)FY2021

- Lecturer: Minoru Matsubara (Executive Officer, Head of Responsible Investment Department, Resona Asset Management Co., Ltd.), Subject: "Trends in ESG Investment: Expectations and Challenges from the Perspective of Long-term Investors"
- Lecturer: Makoto Haraguchi, (Fellow, MS&AD InterRisk Research & Consulting, Inc.), Subject: "The Taskforce on Nature-related Financial Disclosures (TNFD)"

2)FY2022

- Lecturer: Yasushi Hibi, (President, Conservation International Japan), Subject: "Supply Chain and Human Rights: From the Perspective of Natural Capital"
- Lecturer: Hiroko Aotake (Director, Office of International Negotiations on Climate Change, International Cooperation Division, Global Environment Bureau, Ministry of the Environment, Japan), Subject: "Summary of the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27)"
- Lecturer: Miwa Yamada, (Director, Center for New Economic Horizons, Institute of Developing Economies, Japan External Trade Organization (JETRO), Subject: "Business and Human Rights: What is Responsible Corporate Behavior and Human Rights Due Diligence?"

3)FY2023

- Lecturer: Yasufumi Nishikawa (Assistant Director, Ministry of Economy, Trade and Industry (METI) Material Industry Section), Subject: "Promotion of GX"
- Lecturer: Hirotaka Hideshima (Executive Advisor, The Norinchukin Bank), Subject: "Overview of The Taskforce on Nature-related Financial Disclosures (TNFD (v1.0)): Key Points in the Forest Sector"
- Information sharing by the SDG Committee Secretariat: "Report on Participation in International Conference (May 25 to 26, Amsterdam)," "Domestic and International Trends in Human Rights Due Diligence," and "Summary of Results of Keidanren's Third Questionnaire on the Charter of Corporate Behavior."

International Activities

With the advance of globalization of the forest industry (pulp and paper, timber, etc.), it has become critically important that the forest industry of countries and regions around the world work together under shared common understanding on issues such as illegal logging and paper recycling. As a pulp and paper industry association of Japan, the third largest paper producing country, the Japan Paper Association is actively engaged in exchanges of information and views with overseas counterpart associations so as to address global issues.

Activities in FY2023

1) Participation in the ICFPA (International Council of Forest and Paper Associations) Annual Meeting, 11th CEO Roundtable, and FAO-ACSFI (Food and Agriculture Organization of the United Nations Advisory Committee on Sustainable Forest-based Industries)

- Date: May 25 and 26, 2023
- Place: Amsterdam, The Netherlands
- Participants:
 1. ICFPA Annual Meeting: 19 participants from 13 countries/regions
 2. 11th ICFPA CEO Roundtable: CEOs of 28 corporate enterprises, chairpersons of industry associations and others from 18 countries
 3. FAO-ACSFI: 41 participants from 24 countries



2) Participation in the 7th Asian Pulp and Paper Industry Conference for Sustainable Development

- Date: November 29 to December 1, 2023
- Place: Taipei, Chinese Taipei
- Participants: 9 pulp and paper industry organizations from the following countries/regions (approx. 160 people): Japan, Chinese Taipei, Korea, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vietnam



3) Information and opinion exchange meeting with the China Paper Association (CPA)

- Date: June 8, 2023
- Meeting format: Online
- Participants: President Zhao and 3 others from CPA, President Ogawa and 4 others from Japan Paper Association

Production

Japan Paper Association

Location	3-9-11 Ginza, Chuo-ku, Tokyo 104-8139 Kami-Parupu Kaikan
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