



Production

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Japan Paper Association Sustainability Report 2023



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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 2023 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.

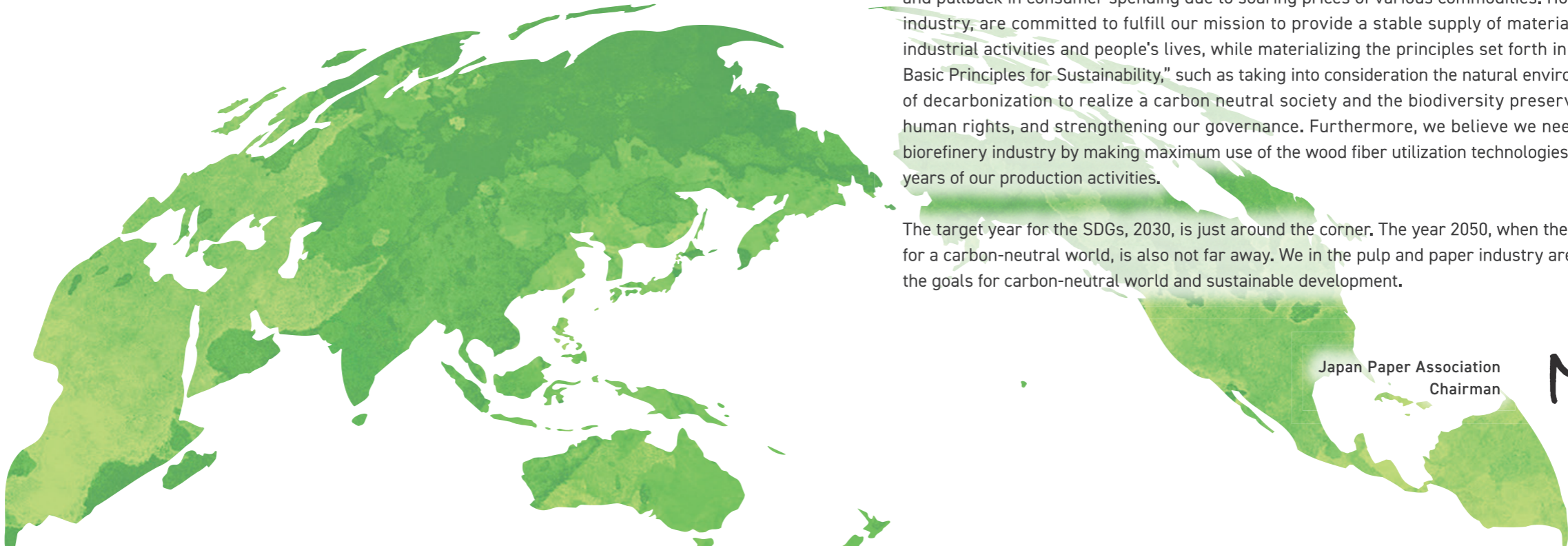
The pulp and paper industry is currently facing major changes in the demand environment, as symbolized by a significant decline in demand for newspapers, printing and information paper, and other graphic paper, due to structural factors such as the shift in information tools from paper to electronic 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, we believe we need to take a step forward as a biorefinery industry by making maximum use of the wood fiber utilization technologies we have cultivated over many years of our production activities.

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. We in the pulp and paper industry are committed to moving toward the goals for carbon-neutral world and sustainable development.



Japan Paper Association
Chairman

M. Kaku



Background and Purpose of Development

Many countries and regions are making progress on initiatives to achieve the Sustainable Development Goals (SDGs) adopted at the United Nations Sustainable Development Summit held in September 2015. The target for delivering on the SDGs is 2030, and companies in Japan and abroad are actively working to incorporate the SDGs into their management strategies.

To achieve the SDGs, corporate and industrial activities will need to attain ongoing growth while maintaining sound business activity over the long term. In other words, business activities need to be sustainable from environmental, social, and economic perspectives.

By using wood, a renewable resource, as our raw material and building advanced systems for recycling recovered paper, the paper industry has advantages not shared by other industries in conducting production activities compatible with a circular economy. Moreover, the various products we supply foster cultural endeavors, support industrial activity, and contribute to public hygiene. Thus, fulfillment of our responsibility to supply such essential everyday products contributes to social and economic development.

As society transforms, the business environment also faces an era of reform. By seizing such change as a new business opportunity and making products aligned to the times, the paper industry can remain relevant and help to build a sustainable society beyond the 2030 target for the SDGs.

In 2020, the Japan Paper Association launched activities with its member companies that would contribute to achieving the SDGs. That year, we compiled industry policies and initiatives in a document titled "Towards 2030," and in 2021 we published our first industry-wide sustainability report, outlining our efforts to domestic and international readers. Meanwhile, moves to deliver on the SDGs are accelerating in Japan and overseas. International goals on climate change and biodiversity are moving into a new stage, in 2022 the Japanese government firmed up policies for green transformation (GX) and released Guidelines on Respecting Human Rights in Responsible Supply Chains, and Keidanren (Japan Business Federation) revised its Implementation Guidance on Charter of Corporate Behavior for the business community.

We have developed new Japan Paper Association Basic Principles for Sustainability, which will enhance the paper industry's status and business value by clarifying the stance of our industry and communicating it both domestically and internationally.

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.

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

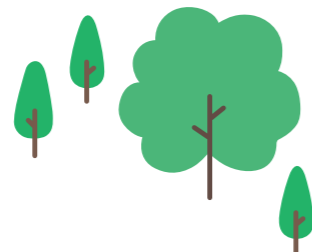
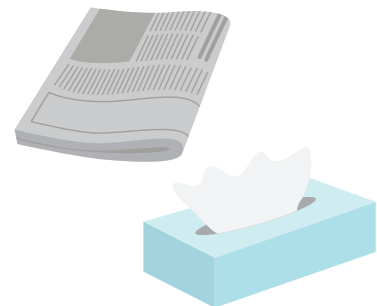
The raw material for paper is wood, a renewable resource. For this reason, the pulp and paper industry has focused on sustainable forest management. Through these efforts, we are contributing to environmental conservation such as preserving the biodiversity that forests nurture and adapting to climate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

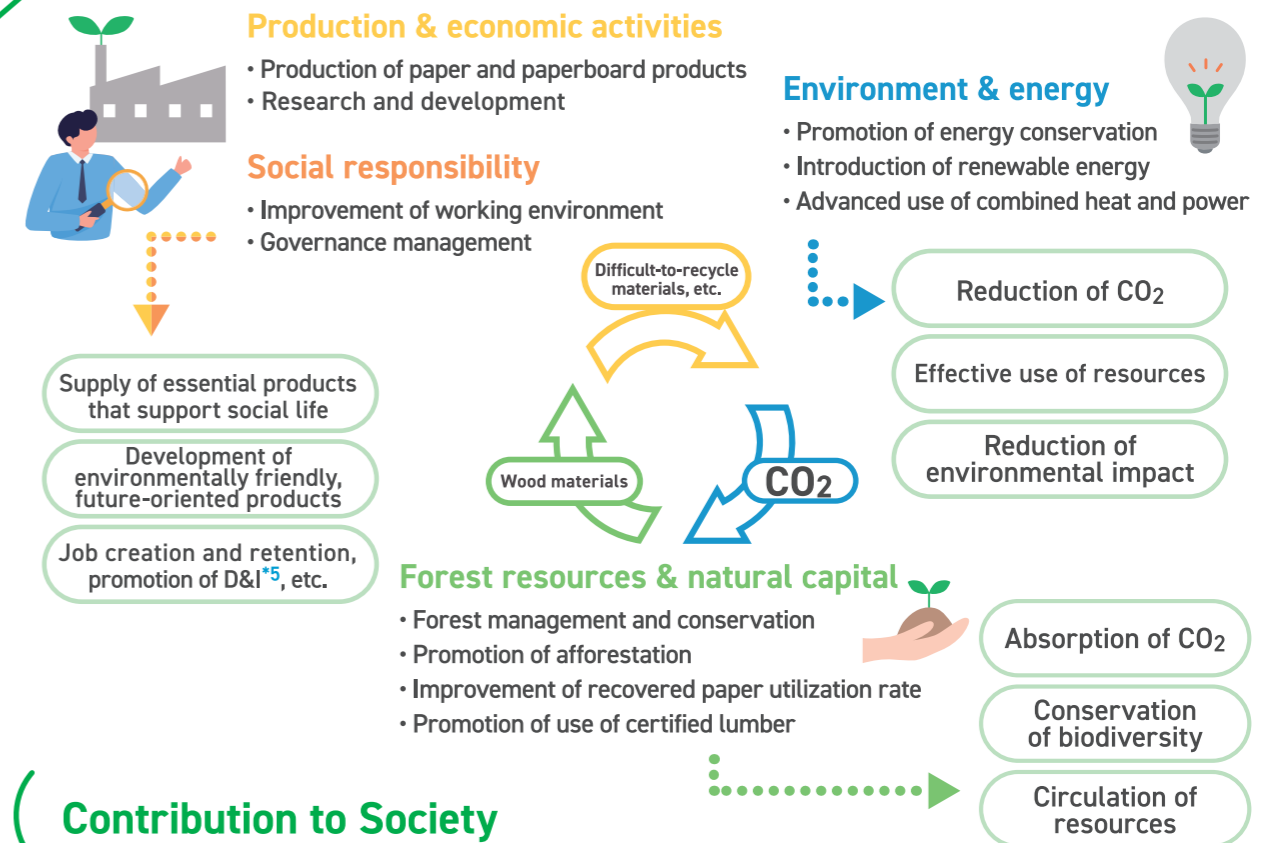


Pulp and paper industry resources

- Financial capital
- Manufacturing capital
- Intellectual capital
- Human capital
- Social relations capital
- Natural capital
- Environmental countermeasure technology
 - ✓ Energy conservation & low carbon development
 - ✓ Wastewater and flue gas treatment
 - ✓ Waste treatment
 - ✓ Chemical substance measures



Value creation process in the pulp and paper industry



Contribution to Society

Major SDGs*⁶ to which we will contribute



Strategic initiatives ▶ p.22

- ✓ Realization of the establishment of a carbon neutral industry
- ✓ Contribution to the circular economy of advanced recovered paper recycling systems
- ✓ Contribution to green recovery
- ✓ Transmission of the importance of paper in a digital society

*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.

*6) SDGs stands for Sustainable Development Goals, an action plan consisting of 17 goals and 169 targets unanimously adopted by the United Nations.

Also, "Major SDGs to which we will contribute" refers to the eight SDGs targets analyzed and organized in the "Towards 2030" report by the Japan Paper Association (<https://www.jpaa.gr.jp/about/sustainability/report/>).

Overview of the pulp and paper industry in Japan

Production & economic activities

Supply of essential products

Annual production of paper and paperboard (2021)*1

23.94 million tons

Percentage to the world's production volume*1

5.7%

Paper and paperboard consumption per capita (2021)*1

185.7 kg per capita

Value of manufactured goods shipped (2020)*2

7.1 trillion yen



Development of future-oriented products

Research and development expenses*3

23.2 billion yen

Estimated domestic production capacity of cellulose nanofibers (2023)*4

1,200 tons/year



Environment & energy

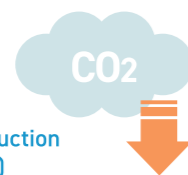
Reduction of CO₂ emissions

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

4.49 million tons

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

62.7%



Effective use of resources

Composition ratio of renewable energy

43.4%

Reduction rate of final waste disposal (compared to FY2000)

85.8%



Reduction of environmental impact

Emissions reduction rate of volatile organic compounds (VOC)*5 (compared to FY2000)

91.5%



Forest resources & natural capital

Absorption of CO₂

Increase in area of afforestation in Japan and abroad over 32 years (compared to FY1990)

249,000 ha

≈ 350,000 soccer court surfaces
≈ Area of Saga Prefecture



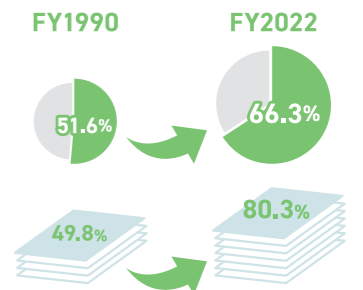
Resource circulation*6

Recovered paper utilization rate

66.3%

Recovered paper recovery rate

80.3%



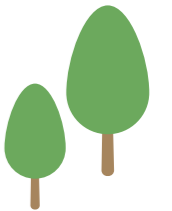
Conservation of biodiversity

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*7

68,827

Intensity rate for occupational accidents*8

0.26

Percentage of female employees*7

15.8%

Number of paper, paperboard, and pulp manufacturing establishments in Japan (2022)*9

363 locations



*1) Source: RISI Annual Review

*2) Source: Ministry of Internal Affairs and Communications and Ministry of Economy, Trade and Industry "2021 Economic Census for Business Activity" (Statistical table for business establishments with 4 or more employees)

*3) Source: Annual Securities Reports of the companies listed on TSE Prime Market (Pulp and Paper) for FY2022 (Coverage includes 8 out of 31 JPA's regular member companies)

*4) Surveyed by Yano Research Institute Ltd. (coverage is nationwide)

*5) 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.

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

*7) 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).

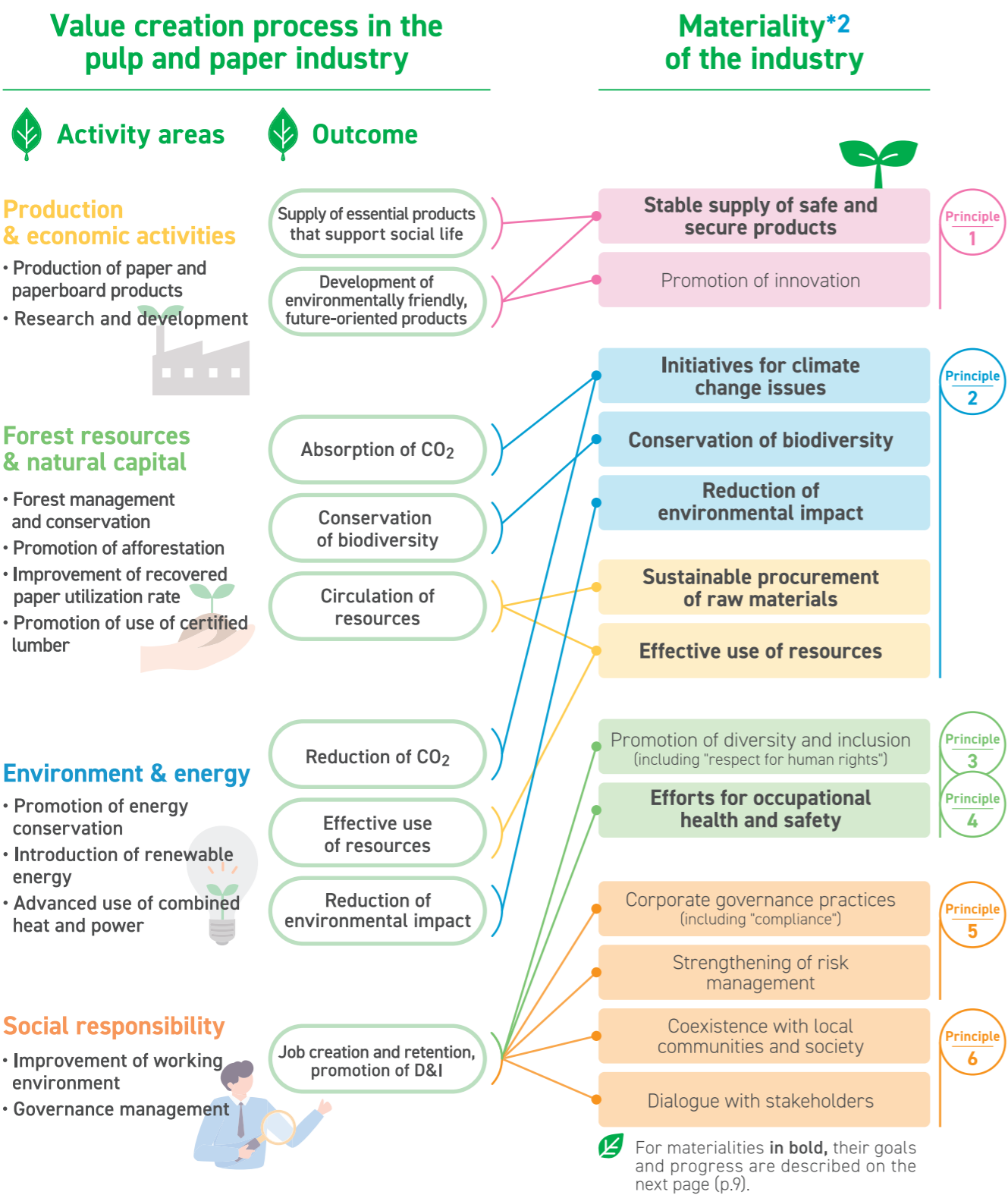
*8) Intensity rate is an index that represents the severity of occupational accidents.

*9) Source: 2022 Annual Business Survey - Tabulation Across Industries, Statistics Bureau of Japan (<https://www.stat.go.jp/english/data/kki/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, 2022).

5 The Challenge to Sustainability



Initiatives to improve sustainability and materiality*1 in the 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.

*2) Materiality of the industry refers to the 13 materialities analyzed and organized in the "Towards 2030" report by the Japan Paper Association (<https://www.jpaa.gr.jp/about/sustainability/report/>).

Goals and progress toward improving sustainability

Materiality	Principle No.	Goals	FY2022	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%*3	From the voluntary standards of "Voluntary Standards on Paper and Paperboard Intended to Come into Contact with Food"
Initiatives for climate change issues	Principle 2	Reduce energy-derived CO ₂ emissions by 38% by FY2030 compared to FY2013	Reduction of 4.49 million tons (progress rate 62.7%)	From the target of the "Carbon Neutrality Action Plan"
		Aim for virtually zero CO ₂ emissions from production activities by 2050	14.34 million tons	From the target of the "Long-Term Vision 2050"
		Increase the afforested area to 650,000 ha by FY2030	524,000 ha	From the target of the "Carbon Neutrality Action Plan"
Conservation of biodiversity	Principle 2	For domestic and overseas forests owned or managed by the company, clearly position the conservation 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 for Biodiversity Conservation"
		Use only legally harvested wood. Also falls under Materiality "Sustainable Raw Materials Procurement"	100%	From the monitoring project in the "Code of Conduct of the Japan Paper Association for Issues on Illegal Logging"
Reduction of environmental impact		Work to ensure that the VOC reduction rate does not worsen compared to FY2010 results	Reduction of 91.5%	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	66.3%	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	77,000 tons	From the target in the "Environmental Action Plan"
		Strive to maintain the current effective utilization ratio (FY2019 result: 98.4%)	98.2%	From the target in the "Environmental Action Plan"
Efforts for occupational health and safety	Principle 3&4	Zero fatalities at workplaces of member companies and their group companies	1 case: regular members 1 case: cooperating companies	From the goals of the "Action Plan for Prevention of Industrial Accidents"

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

Addressing Production and Sales of Products

Stable supply of safe and secure products

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 October 2023, approximately 3,000 and 2,000 substances are registered in NL and JPA Chemi-net, respectively.



Initiatives of the Japan Paper Association

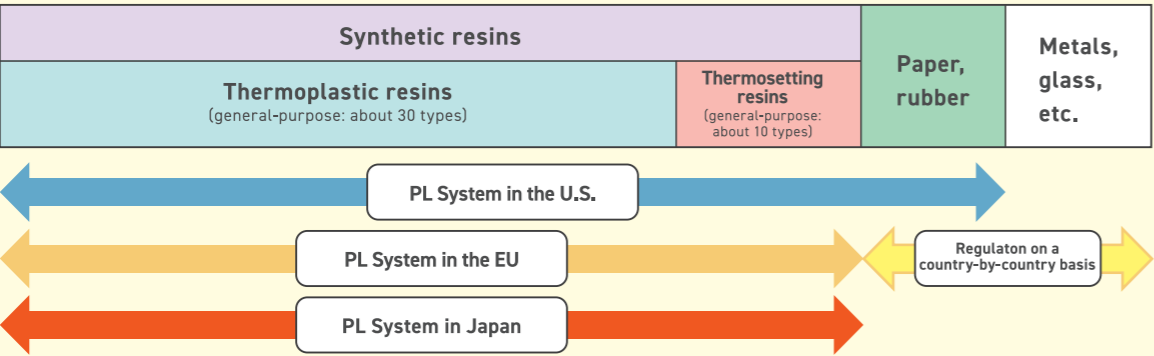
Creation of a voluntary Positive List

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.10 to 21 show the SDG targets for each materiality, as organized in Japan Paper Association's "Towards 2030" report (<https://www.jpaa.gr.jp/about/sustainability/report/>).

*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"

Addressing Global Environmental Preservation

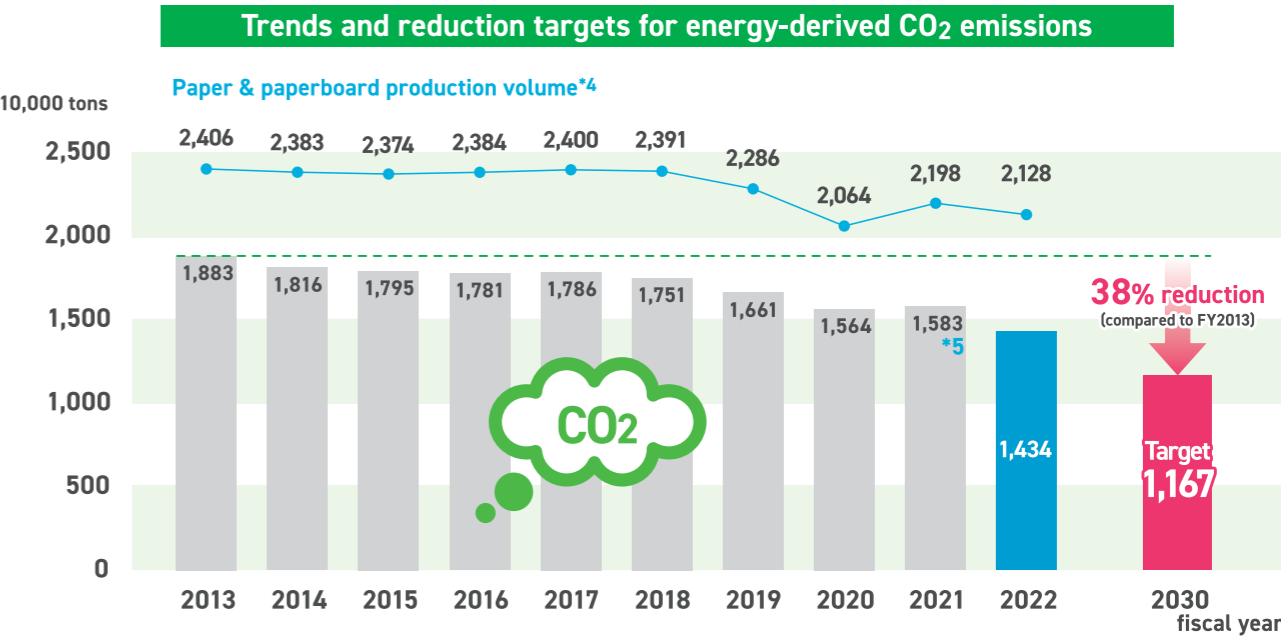
Initiatives for climate change issues

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



*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 (+1.2% YoY).

Initiatives for climate change issues

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}

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)

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

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.

Carbon Pricing

- Launch of Emissions Trading Scheme (ETS) on a trial basis with the same level of coverage as the EU, and statement of introducing fossil fuel levy
- In the emissions trading system of the GX League, companies set their own emissions reduction targets, which will encourage corporate ingenuity and innovation.

Government-supported Actions for Promoting Investment

- Multi-year support for advance investment through the GX Economy Transition Bonds, in addition to existing measures such as Feed in Tariff (FIT) for renewable energy
- GX investment of over 150 trillion yen in the public and private sectors realized through the government's 20 trillion yen investment promotion program



New Policies to Compete Globally

1. World's first "transition bond" issued by a national government, which will strengthen transitional finance with high reduction effects in industries of high emissions, both domestically and internationally
2. Development of the emissions trading system based on experiences of other countries
3. Concretization of actions for promoting investment amounting to 20 trillion yen, including measures such as production tax credit

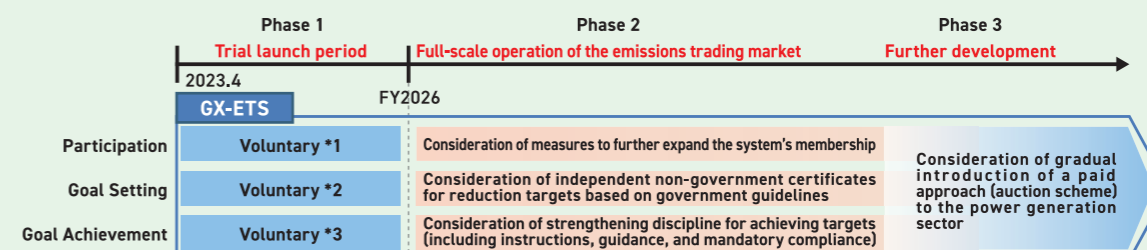
Considering the national policies above, the "GX League" was established and started its activities in FY2023, as a forum for companies engaged in GX to practice GX together with government agencies and universities that also work on such initiatives, in order to reform economic and social systems and create new markets.

The GX League is a network of Japanese companies accounting for more than 40% of Japan's CO₂ emissions (the same level as the EU), and six member companies of the Japan Paper Association are participating in the League.

Under the GX League, the emissions trading system (GX-ETS) to achieve reduction targets set voluntarily by companies is being considered, and the first phase is positioned as a trial period, with the carbon credit market to be opened and trading to begin (initially for J-Credit Scheme) by October 2023, and the market is expected to be fully operational by FY2026. Furthermore, a paid approach (auction scheme) is planned to be gradually introduced to electric power companies starting around FY2033, to expedite decarbonization of the power sector.

In addition, the GX League also plans to consider linkage with investment promotion measures in order to encourage bold efforts to reduce emissions by the GX League member companies of high emissions.

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



^{*1} Companies accounting for more than 40% of Japan's CO₂ emissions (566 companies, as of August 23, 2023) participate in the GX League.

^{*2} Disclosure of targets (the emission target in FY2030 and the interim target in FY2025) consistent with the net-zero GHG emissions by 2050

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

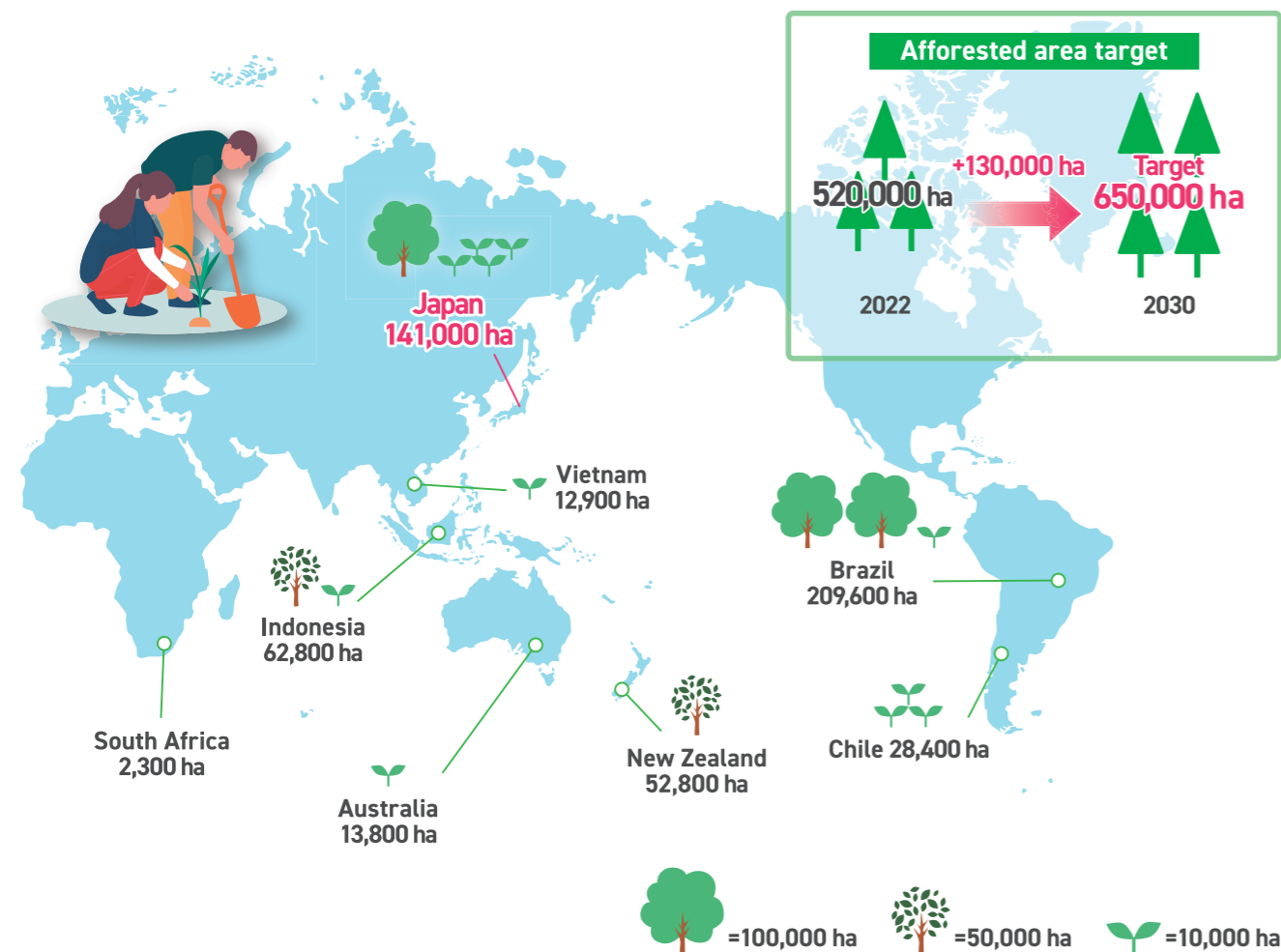
Source: 7th GX Implementation Council, Document 1, "Japan's energy policy toward achieving GX" (available only in Japanese) (Minister in charge of the promotion of GX implementation)

Initiatives for climate change issues

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 FY2022, the total increase in afforested area was 249,000 ha, which is equivalent to about 350,000 soccer courts, or about the same area as Saga Prefecture.

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



Conservation of biodiversity

Goal For domestic and overseas forests owned or managed by the company, clearly position the conservation 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 conservation of biodiversity.
- Thus, given the extreme importance of biodiversity conservation to the pulp and paper industry, the Japan Paper Association formulated the "JPA's Action Guidelines for Biodiversity Conservation" 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 conservation in their management and operation plans.

85%
(FY2022)



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*)**.

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 entered into force on June 29, 2023, and will apply to non-SMEs (SMEs: micro, small and medium-sized enterprises) and SMEs from 30 December 2024 and from 30 June 2025, respectively.

*What is deforestation-free?

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

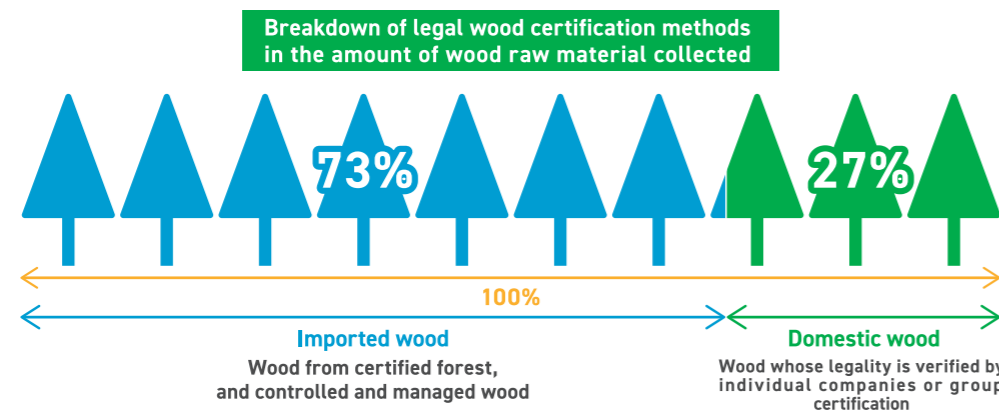
- the relevant products were produced on land that has not been subject to **deforestation**; and
- in the case of relevant products made using wood, the wood has been harvested from the forest without inducing **forest degradation**.

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'

Conservation 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 FY2022, 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)

In May 2023, the amended Clean Wood Act was promulgated. 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:

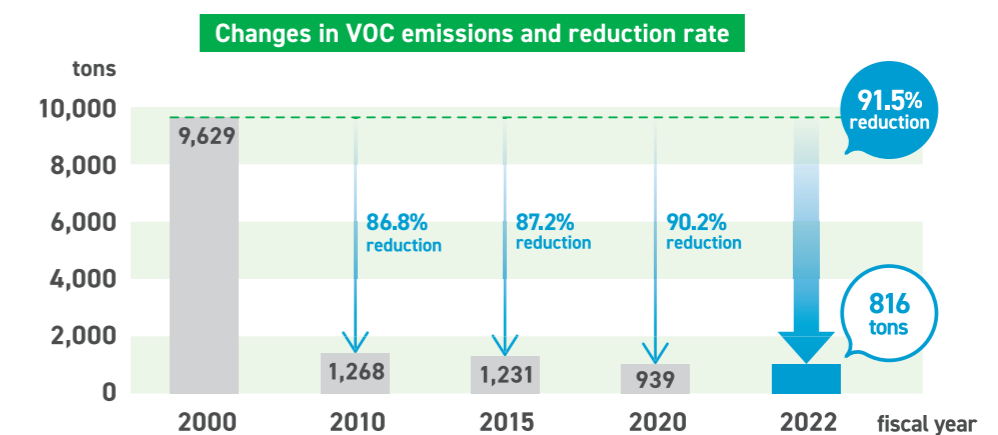
penalties related to 1 and 2 above, measures to prevent the use of illegally harvested timber, and mandatory periodic reporting
The amended Act has stipulated guidance, advice, recommendations, making the information public, orders, and penalties for violation of orders by the cabinet minister in charge 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.

Reduction of 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 12 years until FY2022.
- 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

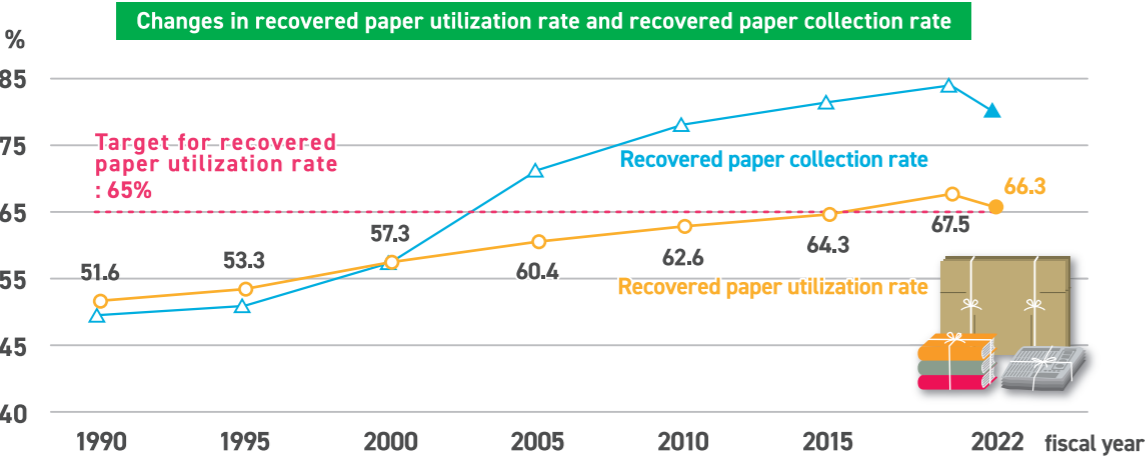
Odors have been a common occurrence at chemical pulp (especially kraft pulp) mills. Since there are individual differences in perception, we believe that simply complying with laws and agreements is not enough. Therefore, we thoroughly investigate the sources of odor emissions, and at the same time,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

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.

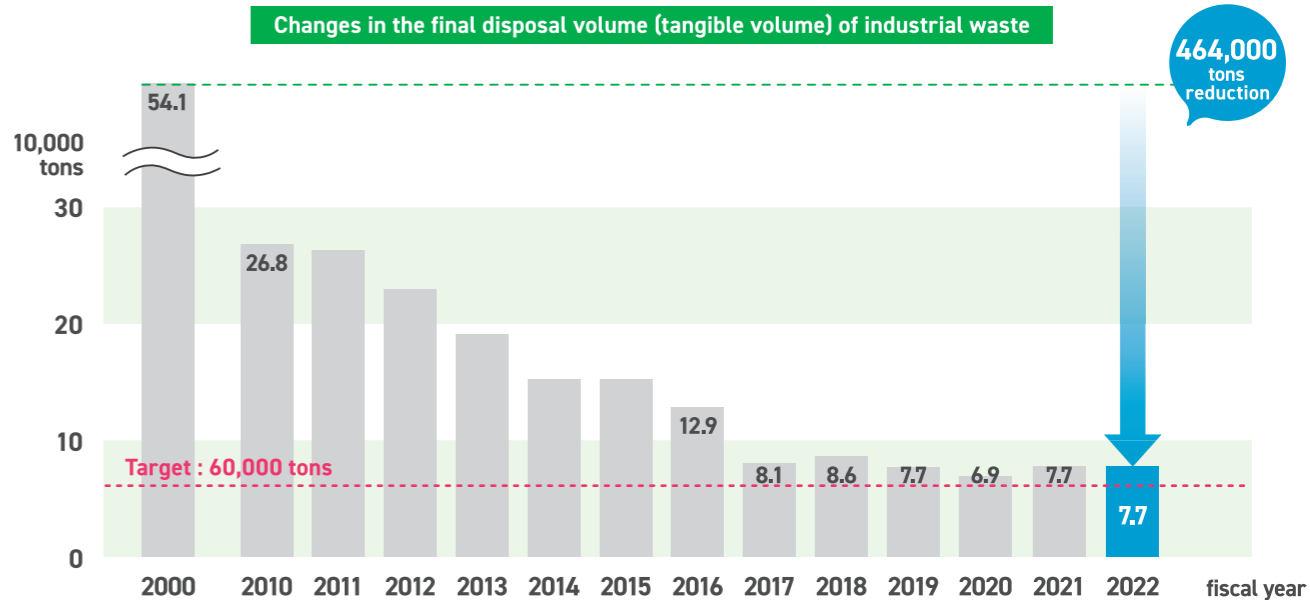


The 19th Grand Prize for Individuals
"The corn I ate with my dad"
Airi Yasuda (6th grade)

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.



Column

Act on Promotion of Resource Circulation for Plastics

The "Act on Promotion of Resource Circulation for Plastics" (hereinafter referred to as the "New Plastics Law"), which went into effect on April 1, 2022, requires businesses, local governments, and consumers involved in the entire lifecycle of plastics to work together for the circulation of resources.

Although the pulp and paper industry rarely manufactures or sells plastic products themselves, it discharges waste plastic and other materials mixed into recovered paper. In such cases, business operators who generate 250 tons or more of industrial plastic waste are required to set targets for the reduction and recycling of industrial plastic waste and to systematically implement measures to achieve these targets.

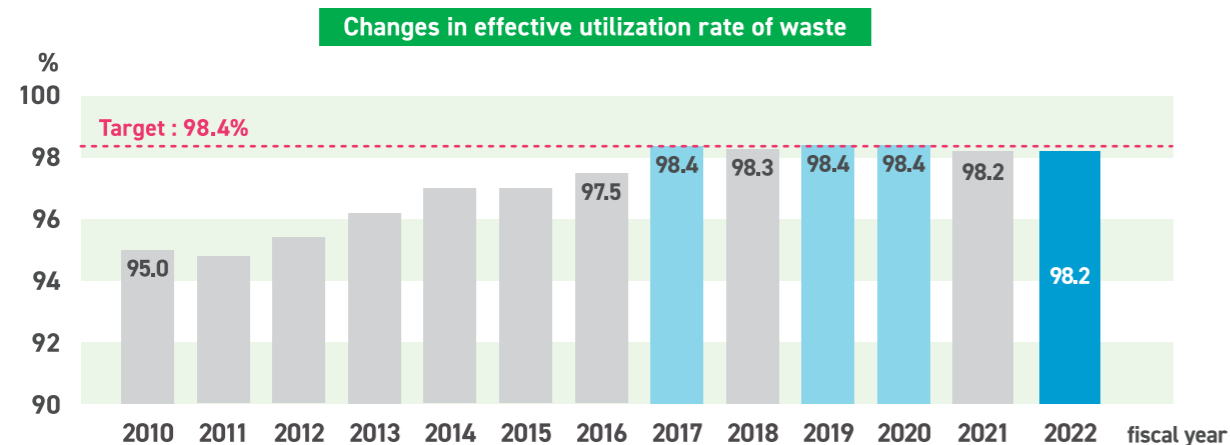
The pulp and paper industry has long been working to recover heat from solid fuels (RPF: Refuse derived paper and plastics densified fuel) made from waste plastics, etc., which are difficult to recycle as materials, and the industry as a whole has reached a level where about 7.3% (in FY2022) of the energy required for product manufacturing, etc., is provided by recycled fuels (waste plastics and RPF).

The Japan Paper Association will continue to contribute to the promotion of plastic resource circulation and reduce fossil fuel consumption by promoting this initiative.

Effective use of resources

Goal Strive to maintain the current rate of effective utilization 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."



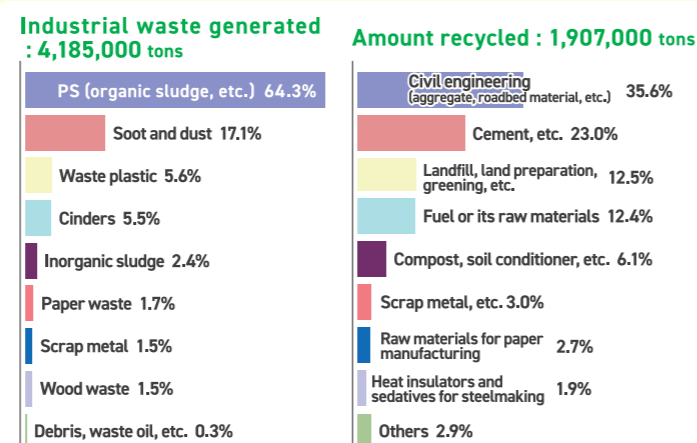
Initiatives of the Japan Paper Association

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 FY2022 survey are shown in the figure on the right.

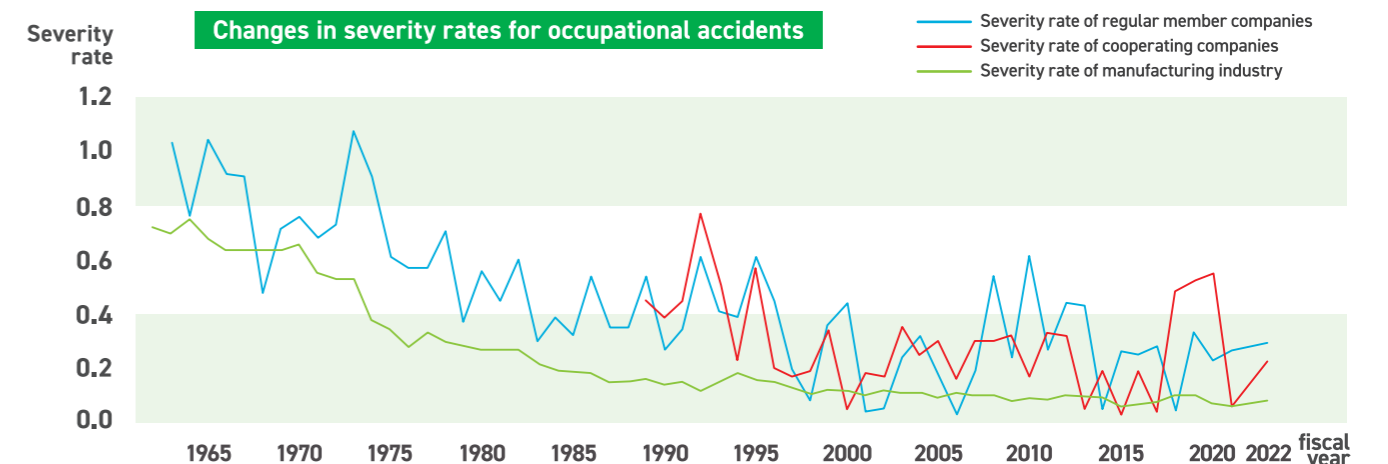
We will continue to work with member companies to reduce and reuse waste.



Efforts for occupational health and safety

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.
- Adhering to the belief that "it is the responsibility of the head of the workplace and of the top management to ensure that anyone who is received into the company's workplace fulfills the purpose of entering and leaves uneventfully," we set out the "Action Plan for Prevention of Industrial Accidents" in February 2018 aiming to achieve the ultimate goal of "eliminating fatal accidents." This is consistent with the activities of the "Public-Private Council for Safety Measures in the Manufacturing Industry."
- However, fatal accidents are still occurring every year throughout member companies and cooperating companies. Therefore, the severity rate, which expresses the severity of accidents, tends to be above the manufacturing industry average.



Initiatives of the Japan Paper Association

Occupational Safety & Health

National Pulp and Paper Safety and Health Convention

The event has been held continuously every year since 1961, and celebrated its 62th anniversary in 2022. It consists of safety and health awards, lectures, and breakout sessions.

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.

Response to the Public-Private Council for Safety Measures in the Manufacturing Industry

The Ministry of Health, Labor and Welfare, the Ministry of Economy, Trade and Industry, and the Japan Industrial Safety and Health Association established the Public-Private Council for Safety Measures in the Manufacturing Industry on March 6, 2017 to further strengthen safety measures in the manufacturing industry and to disseminate relevant information. The Japan Paper Association actively participated in various activities of the Council, including serving as the first Acting Chair of the Council in 2017, but this activity ended in March 2023.

Educational activities

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

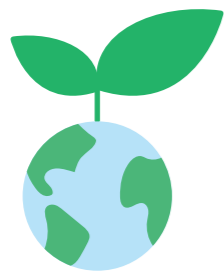
6 Four Strategic Initiatives for the Future*1

Realization of the establishment of a carbon neutral industry

~Contribution to climate change issues through forest CO₂ absorption and reduction of CO₂ emissions in the production process~

The pulp and paper industry has been working to maintain a sustainable global environment and to realize a low-carbon society by expanding CO₂ absorption volume through sustainable forest management and reducing fossil energy consumption through the proactive use of biomass energy and waste.

On this basis, the pulp and paper industry aims to establish a carbon neutral industry by 2050 by endorsing the government's "2050 Carbon Neutrality Declaration" and proactively working on various measures to reduce CO₂ emissions.



Contribution to green recovery

"Green Recovery" is a recovery policy that aims for a more sustainable future while preventing global warming and preserving biodiversity in the recovery from the COVID-19 pandemic.

As the pulp and paper industry has a wide range of interfaces with forests through its business activities, it can directly contribute to climate change countermeasures and biodiversity conservation, which are the two cornerstones of green recovery, and through them it will support economic recovery from the COVID-19 pandemic and prosperous social life.



Contribution to the circular economy of advanced recovered paper recycling systems

The "circular economy" refers to an economic system that preserves and maintains the value of products, materials, and resources for as long as possible while minimizing the generation of waste, and it is a concept that aims to break away from the one-way "linear economy" of the past.

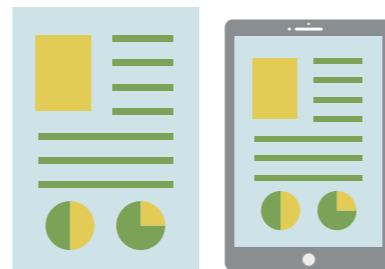
The advanced recycling system for recovered paper established in the pulp and paper industry is the very essence of the circular economy, and we will continue to contribute to the virtuous cycle of resources and the economy by further improving our recycling technology in addition to the use of recovered paper.



Transmission of the importance of paper in a digital society

Recent developments in ICT*2 technology have led to the digitization of paper media. However, research has shown that there are differences in brain activity and learning effects between paper and digital media. For example, in the field of education, the combination of using different media depending on the situation and using both concomitantly is considered to be the key to improving learning efficiency.

Thus, paper plays an important role even in the digital society, and the pulp and paper industry is committed to communicating the role and importance of paper in the digital society.



*1) The four strategic initiatives are four themes that the industry should focus on in the future, as analyzed and organized in the "Towards 2030" report (<https://www.jpap.gr.jp/about/sustainability/report/>) by the Japan Paper Association.

*2) ICT is an abbreviation for "Information and Communication Technology." It refers to technology that connects people to the Internet and people to each other using communication technology.

7 Examples of Initiatives by Member Companies

The examples in this report are part of those submitted by SDGs Committee member companies. All cases are updated as needed and posted on the website of the Japan Paper Association (<https://www.jpap.gr.jp/about/sustainability/example/>).

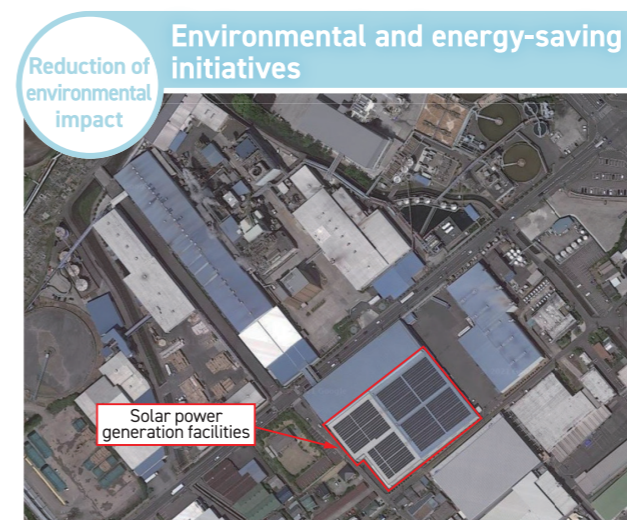


Sustainable forest management
~Evaluation in the CDP forests category (timber products)

Green Corridor Program
(protecting vegetation around water sources with fencing)

The Oji Group owns and manages approximately 600,000 hectares of forests in Japan and overseas, and practices sustainable forest management. In addition to acquiring forest certification, Oji is implementing various initiatives with consideration for ecosystems in Japan and overseas, such as the Green Corridor Program* of CENIBRA in Brazil. In recognition of these efforts, Oji was selected as an "A list company" in the CDP forests category (timber products) by CDP, an international non-profit organization, in 2022.

*Activities to preserve biodiversity by connecting separated forests through vegetation restoration and making them function as corridors where wildlife can pass through.



Ehime Paper Mfg. Co., Ltd. introduced solar power generation systems, and switched to LED lighting in its offices and mills from 2012 to 2022. In January 2021, Ehime Paper introduced a biomass co-firing power plant of construction waste, RPF (Refuse Paper & Plastic Fuel), and waste tire chips, and launched its commercial operation in February 2021. In addition, since being selected by the Small and Medium Enterprise Agency for its "Strategic Core Technology Advancement Program (Supporting Industry Program)," Ehime Paper has been recycling citrus peels generated in large quantities during the processing of citrus juice that has become an Ehime Prefecture's brand, and effectively using them as raw materials for cosmetics and food products.

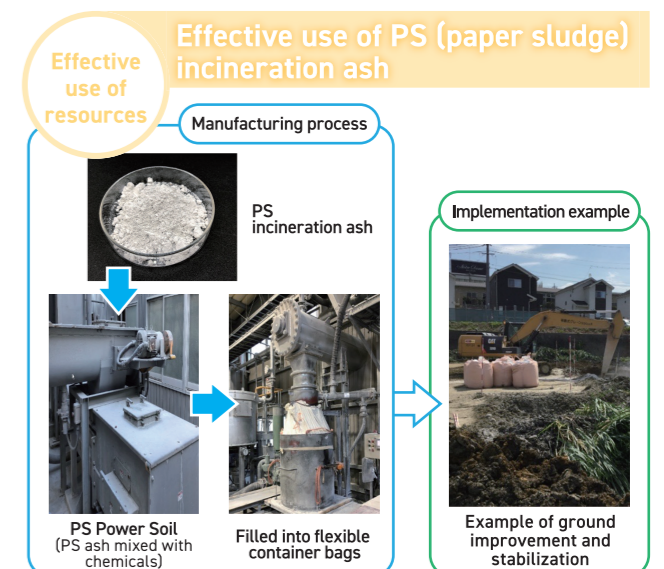


Ecosystem survey of company-owned forests
Conservation of biodiversity

Measuring diameter at breast height with a caliper
Wildlife inhabiting the company-owned forest

The Mitsubishi Paper Mills Group is committed to protecting and nurturing forest resources in consideration of biodiversity conservation. In its company-owned forests in Nishi-Shirakawa-gun, Fukushima Prefecture, Mitsubishi Paper provides stakeholders with opportunities for experiential learning of forest environment and conduct the ecosystem surveys as follows:

- **Trees and plants:** Measurements of tree diameter, and surveys on plant species and distribution, etc.
- **Soil animals and insects:** Recording the species and numbers of animals captured using the pitfall trap method (a method in which pitfall traps are placed on the forest floor and animals that fall into the traps are collected).
- **Animals:** Recording the species and number of animals and their activities by using motion activated cameras as well as fixed-point photography.



Marusumi Paper Co., Ltd. has been focusing on the excellent absorbency and self-hardening properties of paper sludge incineration ash (PS incineration ash) generated at its own mills, and has developed and manufactured "PS Power Soil," a water-absorbent soil improvement material using the PS incineration ash as a raw material. PS Power Soil has been used in swamp and river construction, sludge treatment, etc., contributing to the effective utilization of PS incinerated ash, most of which is disposed of as industrial waste, and has been certified as an excellent recycling product under the Ehime Prefecture's Superior Model for Resource Recycling Certification System.

Examples of Initiatives by Member Companies

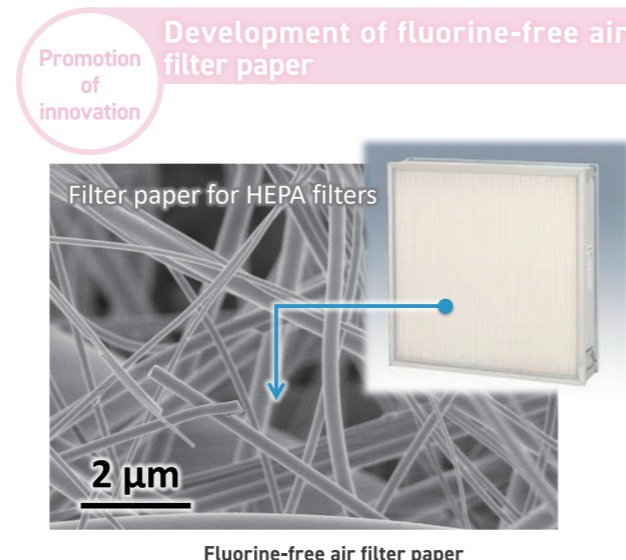


Nippon Paper Industries, Co., Ltd. has developed a high-performance feed that combines the features of high energy and easy digestion through technology that removes lignin from wood to leave highly digestible fiber (cellulose), and has begun full-scale production and sales in FY2022. By using domestically procured wood and manufacturing at a domestic mill, the feed can be stably supplied with consistent quality throughout the year. Switching from imported feed to domestic feed will also contribute to improving food self-sufficiency rate of livestock products.



Scene from “Safety Wednesday”

Daio Paper Corporation has been continuing to identify and counteract risks that could lead to serious accidents, aiming for zero serious accidents for all workers in the company’s business sites, based on its three pillars of safety: “safety awareness,” “safe environment,” and “safe working practices.” As one of its efforts, Daio Paper holds “Safety Wednesday” web conference every Wednesday. All Daio Paper Group manufacturing companies in Japan participate in the conference, with over 200 attendees each time, to share corrective actions to prevent similar accidents and preventive actions for potential accidents based on accident case studies.



Hokuetsu Corporation manufactures high-performance air filter paper (product name: microfine®) used in clean rooms at semiconductor plants and hospitals. In the past, chemicals containing organic fluorine compounds (hereafter referred to as PFAS) were used water and oil repellents. However, since some PFAS do not decompose in the environment, and have raised concerns regarding the adverse effects on the human health and the environment, Hokuetsu has developed air filter paper that does not use any PFAS and has the same quality as conventional products.



Dispatch lesson

Since 2010, **Rengo Co., Ltd.** has been offering the dispatch lesson, “Corrugated Board Fun Classroom,” in which Rengo’s employees serve as instructors, for the children who will lead the future about the importance of the environment teaching “corrugated board is recyclable, not garbage” as its main theme. The class consists of two parts: in a lecture part, students learn the characteristics of corrugated board and its recycling, including quizzes and the experience of riding on corrugated board to test its strength, and in a practical part, students experience assembling corrugated board to learn how corrugated board can take on various forms. The dispatch lessons were held 8 times in FY2021 and 22 times in FY2022.

8 Editorial Note

In addition to the international goals on climate change and biodiversity moving into a new stage, in 2022 the Japanese government firmed up policies for green transformation (GX), and Keidanren (Japan Business Federation) revised its Implementation Guidance on Charter of Corporate Behavior for the business community. Such moves are accelerating in Japan and overseas toward achieving the SDGs adopted at the United Nations Sustainable Development Summit.

To achieve the SDGs, companies in Japan and abroad are actively working to incorporate the SDGs into their management strategies, and corporate and industrial activities are required to be sustainable from environmental, social, and economic perspectives.

We, the pulp and paper industry, have advantages not shared by other industries in using wood, a renewable resource, as our raw material and conducting production activities compatible with a circular economy. Moreover, the various products we supply are essential everyday products, so that fulfillment of our responsibility to supply such products contributes to social and economic development.

On the other hand, in order to achieve medium- to long-term goals such as carbon neutrality (net-zero greenhouse gas (GHG) emissions) and the SDGs, it is essential for each company not only to make its own efforts but also to have its customers and business partners understand its efforts, so that it is important to communicate its activities and the direction of its initiatives widely to the public.

For this reason, in May 2021, the Japan Paper Association launched the SDG Committee consisting of 22 member companies and started activities to shed light on the efforts of the pulp and paper industry from a sustainability perspective. As part of these activities, we published the first industry-wide sustainability report, Sustainability Report 2021, in FY2021, with the aim of confirming progress within the industry, and enhancing the presence of the pulp and paper industry by announcing the progress to the public.

In April 2023, we developed the “Japan Paper Association Basic Principles for Sustainability” to enhance the pulp and paper industry’s status and business value by clarifying the stance of the pulp and paper industry and communicating it both domestically and internationally. The “Japan Paper Association Basic Principles for Sustainability” stipulates six principles that the pulp and paper industry should pursue, such as “responsible supply of safe and secure products” and “preservation and regeneration of the global environment.” The “Japan Paper Association Basic Principles for Sustainability” states that the Japan Paper Association and its member companies will fulfill their social responsibilities by putting these principles into practice and continually improve their efforts by objectively assessing and verifying them, and also emphasizes the importance of top management’s commitment to these activities.

In publishing this Sustainability Report 2023, we have added the “Japan Paper Association Basic Principles for Sustainability” along with the “Background and Purpose of Development,” and clearly addressed the guidelines for the pulp and paper industry to achieve harmony between the environment and the economy. In addition, as in the Sustainability Report 2021 and 2022, the “Value Creation Model,” which is the engine of the industry’s activities, is placed at the center of the report as a compass for the pulp and paper industry as it moves into the future. Based on this Value Creation Model, a cross-sectional diagram of the pulp and paper industry with 20 current figures is included as a “Snapshot.” At the same time, a list of “Goals and Progress” for each materiality is included to provide a comprehensive picture of the industry’s activities. At the end of the report, a section of “Examples of Initiatives” is provided, which introduces some of the specific initiatives taken by each member company.

As the editorial team, it would be our great pleasure if this report, which provides a one-stop shop for understanding the sustainable activities of the pulp and paper industry, can further deepen dialogue with our stakeholders and contribute to the building of a sustainable society, even if only in a small way.



Scope of reporting on numerical values

In principle, the report covers the 31 regular members of the Japan Paper Association (as of March 31, 2023). In cases where the scope of coverage differs, a statement to that effect is provided.

Period of reporting on numerical values

The period from April 1, 2022 to March 31, 2023 is covered. If the period covered is different, it is indicated accordingly.