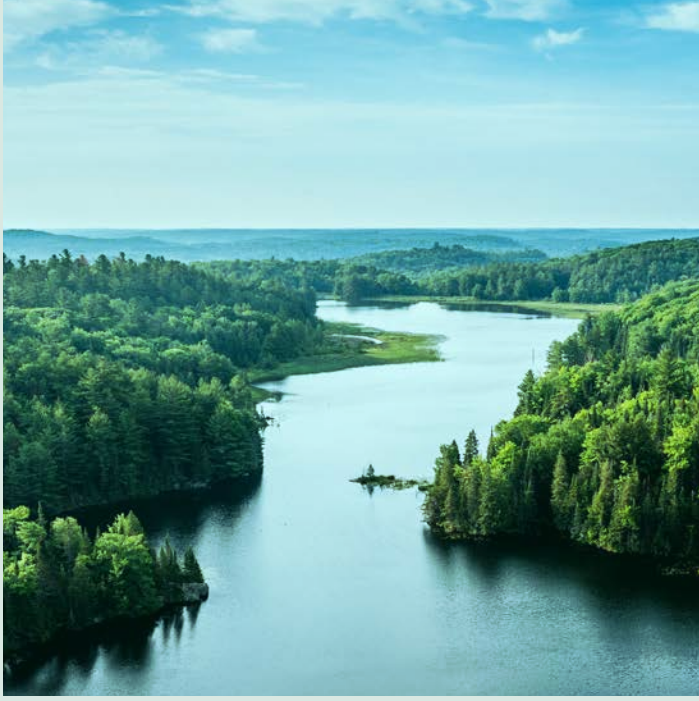


Environmental

Environmental Management

Policy

Oji Group Environmental Charter

Basic Policy

The Oji Group Environmental Charter requires the Oji Group to help create a truly enriched and sustainable society by developing business activities that harmonize with the environment from a global perspective. The Charter calls for the Oji Group to make autonomous efforts to achieve further environmental improvement, and aggressively drive its forest recycling, paper recycling, and global warming countermeasures forward.

Action Guidelines

- Promotion of Forest Recycling
- Promotion of Paper Recycling
- Promotion of Global Warming Countermeasures
- Reinforcement of Environmental Improvement Measures and Environmental Management Systems
- Development of Production Technologies and Products that Minimize Environmental Impact
- Reduction and Effective Utilization of Waste
- Transfer of Environmental Protection Technology to Other Countries
- Building Relationships of Trust with Stakeholders

Representative Director of the Board
President and CEO
Oji Holdings Corporation
Hiroyuki Isono

Environmental Vision 2050

In September 2020, we established our long-term vision, “Environmental Vision 2050,” with a view toward the next 30 years. To achieve the goals outlined in Environmental Vision 2050, we are implementing a range of environmental initiatives.

Net-zero carbon

Reduce greenhouse gas (GHG) emissions to virtually zero

- Implement "Sustainable Forest Management" through the promotion of forest plantation overseas and forest conservation and achieve CO_2 absorption and fixation that outweighs GHG emissions from our production activities
- Reduce GHG emissions from our production activities by improving the efficiency of energy consumption and increasing the use of renewable energy
- Reduce GHG emissions from the value chain by collaborating with our stakeholders

Aim for a recycling-oriented society

- Promote "Paper Recycling" through increasing recovered paper usage
- Promote "Water Recycling" in manufacturing processes

Harmony with nature and society

Aim for a society in harmony with nature by seeking to conserve biodiversity and reduce our impact on the environment

- Guarantee ecosystem functioning for the future by creating abundant forests and ensuring that rare plants and animals are protected and nurtured
- Promote the development and production of biodegradable and biomass materials to help maintain ecosystems
- Promote the purification of wastewater and exhaust gas and the effective use of waste

Targets and Achievements

As milestones toward achieving our long-term environmental vision, “Environmental Vision 2050,” we have established the “Environmental Action Targets 2030” and “Environmental Action Targets 2040.”
We have set specific targets for our initiatives toward carbon neutrality, nature positivity, and a circular economy, as well as for stakeholder engagement, which forms the foundation of these initiatives. We are actively working to achieve these targets.

Environmental Action Program 2040

As a new milestone of the “Environmental Vision 2050” established in 2020, we established the “Environmental Action Program 2040” in May 2025, setting FY2040 as the target year for achieving our goals.
Through the Environmental Action Program 2040, we will further advance our initiatives toward carbon neutrality, nature positivity, and a circular economy, which have been implemented under the Environmental Action Program 2030. We will also enhance our contribution to the international community while promoting stakeholder engagement as the foundation of these initiatives.

1. Action on climate change

We are committed to reducing greenhouse gas emissions by expanding the use of non-fossil energy sources. In combination with the carbon absorption effect of our company-owned forests through conservation and afforestation, we aim to achieve net-zero carbon emissions for Scope 1 and 2 by 2040*.
*We will not set an upper limit on the amount of emissions offset by forest absorption.

Targets

1) Scope 1 and 2 Greenhouse Gas (GHG) Emissions Reduction

Reducing Scope 1 and 2 GHG emissions by 50% by FY2040 compared to FY2018 levels.
Absorbing and sequestering the equivalent of 50% of FY2018 GHG emissions through our forests annually by FY2040.

1. Reduction in Energy Consumption

- Reducing energy consumption intensity by at least 1% annually

2. 100% Non-Fossil Electricity Procurement

- Achieving a 100% non-fossil electricity procurement ratio by FY2040*

* Including the use of certificates

3. Elimination of Coal Usage

- Eliminating coal usage by FY2040

4. Introduction of Low-Carbon Hydrogen and Other Alternatives

- Introducing hydrogen, ammonia, e-methane, and other alternatives

2) Scope 3 GHG emissions reduction

- Reducing Category 4 emissions from chip transport vessels by 40% compared to FY2018

See performance results

Scope 1 and 2 GHG emissions Scope 3 GHG emissions Energy Consumption Carbon absorption of our company-owned forests Net GHG emissions

2. Contribution to a Nature-Positive World

We will contribute to a nature-positive world by promoting sustainable forest management to enhance the multi-faceted functions of forests, and by continuing and expanding efforts to conserve and restore ecosystems.

Targets

1) Abundant Forests Creation

1. Sustainable Forest Management

- Maintaining no deforestation
- Conducting supplier due diligence at least once per year
- 100% forest certification acquisition rate and expansion of certified products

2) Biodiversity Conservation

- Identifying material dependencies and impacts on nature in our operations and value chain, and avoiding biodiversity loss through our business activities with consideration for ecosystems
  -Restoring at least 5,000 ha of natural forests between FY2018 and FY2040
  -Planting at least 900,000 seedlings of native tree species between FY2018 and FY2040
  -Formulating at least 6,000 ha of ecological corridors outside own land between FY2018 and FY2040
- Collaborating with local communities, including Indigenous Peoples, and environmental NGOs to protect and nurture rare plants and animals, and to conserve and restore ecosystems
- Advancing research and development of renewable eco-friendly paper packaging and biodegradable or biomass-based materials to prevent plastic pollution

See performance results

Forest certification acquisition rate Nature-related metrics and targets

3. Promotion of Circular Economy and Reducing Pollutants

We are committed to promoting the circular use of resources to contribute to the transition toward a circular economy and to continuously reducing environmental impact.

Targets

1) Promoting a Circular Economy

1. Maintaining and improving an effective waste utilization rate
   -Maintaining and improving an effective waste utilization rate 99% or higher in Japan and 95% or higher overseas
2. Promoting the use of recovered paper
   -Achieving a recovered paper usage rate of 90% or higher for containerboard in Japan
3. Reducing total water withdrawal
   -Reducing total water withdrawal by more than 10% compared to FY2018
4. Engaging with stakeholders in high water-risk areas
   -Conducting stakeholder engagement at least once per year in high water-risk areas
5. Establishing and commercializing technologies for producing fossil resource alternatives such as wood-derived sugar solution from renewable forest resources

2) Reducing Pollutants

1. Reducing water pollutant impact (per company subject to measurement)
   - Reducing BOD, COD, and SS emissions by 20% compared to FY2018 levels
2. Reducing air pollutant impact (per company subject to measurement)
   -Reducing SOx emissions by 50% compared to FY2018 levels
   -Reducing NOx emissions by 10% compared to FY2018 levels
   -Maintaining VOC emissions intensity at FY2018 levels

See performance results

Effective waste utilization rate Recovered paper usage rate for containerboard Total water withdrawal BOD, COD, SS emissions SOx, NOx emissions and VOC emissions intensity

4. Stakeholder Engagement

We will expand procurement that considers the environment and society, manufacture products that contribute to a decarbonized society, and conduct business activities in compliance with environmental laws and regulations.

Targets

1) Promoting Supplier Management

- Strengthening supplier management systems, including third-party audits, to ensure procurement practices that respect human rights and the environment
  Conducting supplier human rights and environmental due diligence at least once per year

2) Zero environment accidents and zero product liability accidents

- Achieving zero violations of environmental laws and regulations
- Achieving zero product liability accidents

Environmental Action Program 2030

In September 2020, we established a long-term vision called "Environmental Vision 2050" with the goal of achieving "net-zero carbon" and "harmony with nature and society", and a medium-term target for FY2030 called "Environmental Action Program 2030" as a milestone.
In February 2024, with the approval of the Board of Directors, we revised the "Environmental Action Program 2030" to clearly define our contribution to a nature-positive world through continued and expanded efforts to avoid biodiversity loss and to conserve and restore ecosystems.

1. Action on climate change

We aim for net-zero carbon emissions by FY2050, approaching the CO_2 absorption and fixation by forests through forest conservation and plantation, a business transformation, thoroughgoing energy savings on manufacturing and transportation operations, and increasing usage of renewable energy.

Targets

1) Greenhouse gas (GHG) emissions

At least 70% reduction by FY2030 compared to FY2018* (At least 75% reduction by FY2030 compared to FY1990*)
*Including CO_2 absorption and fixation by forests
-Result for FY2024 34.2%

1. Increasing the CO_2 absorption and fixation by forests through investment in forest conservation and plantation

- Expansion overseas forest plantation area of 400,000 ha (Achieved 250,000 ha in FY2019).
  -Result as of the end of FY2024 295,000 ha
- CO_2 absorption and fixation of at least 170 million tons (Achieved 121 million tons in FY2019).
  -Result as of the end of FY2024 142.02 million tons

2. Improving in energy efficiency

- Energy consumption intensity at least 1% per year for the 5-year average.
  -Result for FY2020-FY2024 Improved 7.1% per year on average

3. Increasing in the usage of renewable energy

- Renewable energy usage rate of at least 60% through reduction of coal consumption.
  -Result for FY2024 56.4%

2) Reduction of GHG emissions by collaboration with suppliers and other business partners

- Promotion of reduction of GHG emissions through introducing vessel transportation with energy-saving function

2. Abundant forests creation and biodiversity conservation

We will contribute to a nature-positive world by promoting sustainable forest management to enhance the multi-faceted functions of forests, and by continuing and expanding efforts to conserve and restore ecosystems.

Targets

1) Abundant forests creation

1. Sustainable Forest Management

- 100% forest certification acquisition rate and expansion of certified products
  -Result for FY2024 Japan: 100%, Overseas: 96%

2) Biodiversity conservation

- Identification of material dependencies and impacts on nature in our operations and value chain, and avoidance of biodiversity loss through our business activities with consideration for ecosystems.
- Protection and nurture of rare plants and animals, and conservation and restoration of ecosystems, in cooperation with local communities, including indigenous peoples, and environmental NPOs.
- Promotion of the research and development of environmentally friendly paper packaging products and biodegradable/biomass materials to prevent plastic pollution.

3. Resource recycling and reduction of environmental impact

We will reduce our use of resources by promoting conservation and recycling, and endlessly challenge ourselves to achieve zero environmental impact.

Targets

1) Resource recycling

1. Improving an effective waste utilization rate
   Japan: At least 99%, Overseas: At least 95%
   -Result for FY2024 Japan: 99.4%, Overseas: 90.2%
2. Increasing a recovered paper utilization ratio
   Japan: At least 70%
   -Result for FY2024 67.4%
3. Reduction of water intake intensity
   Reduction of at least 6% compared to FY2018
   -Result for FY2024 Reduced 22.2%
4. Expansion of water treatment infrastructure and technology services

2) Challenge for zero environmental impact

1. Purification of wastewater and exhaust gas

- Wastewater: BOD, COD, SS intensities

  15% reduction compared to FY2018

  -Result for FY2024 BOD: Reduced 39.7%, COD: Reduced 23.4%, SS: Reduced 32.8%

- Exhaust gas: SO_x emission intensity

  15% reduction compared to FY2018

  -Result for FY2024 Reduced 29.7%

- Reduction of volatile organic compounds (VOCs)
  Maintenance of VOC emission intensity at half FY2010 level or lower

  *FY2010 result 0.61kg/million yen

  -Result for FY2024 0.08 kg/million yen

4. Development of trusting relationships with our stakeholders

We will expand procurement that considers the environment and society, manufacture products that contribute to decarbonized society, and conduct business activities in compliance with environmental laws and regulations.

Targets

1) Responsible raw material procurement and manufacturing

- Procurement and manufacturing that consider an environment and society under compliance with laws and regulations through independent audits and supplier risk assessments.

2) Expansion of products that contribute to a decarbonized society

- Development and expansion of lightweight packaging materials and plastic alternatives

3) Zero environment accidents and zero product liability accidents

Initiative

The Environmental Management Department is part of the Corporate Safety and Environmental Management Division of Oji Holdings (OHD Environmental Management Department) oversees the environmental audits specified in the Group Environmental Management Regulations. We identify and reduce environmental group-wide risks to prevent environmental accidents from occurring and recurring by environmental audits.
Each site, under the leadership of an Environmental Management Officer, implements a continuous PDCA (Plan-Do-Check-Act) cycle to manage environmental initiatives. These include establishing environmental policies and objectives, implementing activities, educating employees, verifying regulatory compliance, managing chemical substances and waste appropriately, providing training on waste segregation and management systems, and monitoring water conservation efforts. Through the PDCA cycle, each site continuously identifies and mitigates environmental risks.

Environmental Management System (EMS)

In a drive to encourage each worksite and company to reduce environmental risks on their own, we introduced the Environmental Management System. And we utilized a unique EMS “O-EMS” as same as third-party certifications such as ISO14001, KES and Eco Action.

Reduction of Environmental Risk

Each worksite prepares an environmental hazard map to identify potential environmental risks. By rolling out outlines, causes, and measures of environmental accidents and other incidents that occurred within one worksite to other worksites, similar environmental risks are sure to be extracted and reduced.

Environmental Audits

We conduct annual environmental audits of all production sites in Japan and overseas to evaluate environmental risks from various perspectives and to confirm compliance with environmental laws and regulations and efforts to reduce environmental risks.
Environmental audit consists of the following:

1. Primary audit in which each worksite investigates and corrects problems in environmental management on its own using a check sheet.
2. Secondary audit in which a company that supervises worksites (or a third-party*1) verifies the result of the primary audit. There are two types of audits: on-site audit which the auditor visits the worksite and mainly checks the site, and document audit which the auditor checks only documents. The audit type for each worksite depends on the environmental risk level and management status.
3. Tertiary audit in which each group company verifies the result of the primary and secondary audits. The OHD Environmental Management Department validates the results of the tertiary audit.

*1 We must understand and comply with different laws and regulations in each country or region. Therefore, we utilize a local staff of global third-party organizations which become well-informed on various laws and regulations.
The worksites promptly take corrective actions for any problems identified by the environmental audits, and the supervisory companies, companies and the OHD Environmental Management Department confirm the details of the corrective actions.

Number of worksites audited		FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Primary audits (internal audits of worksites)	Japan	214	213	210	215	217	218	215
	Overseas	58	58	60	61	65	65	75
Secondary (on-site) audits*2	Japan	132	146	78	151	129	136	134
	Overseas	47	47	5	26	46	41	59
Environmental accidents*3	Japan	3	2	0	2	2	5	0
	Overseas	1	0	0	1	3	3	2

*2 Worksites not subject to on-site audits are subject to document audits.
*3 Exceedance of regulated limits

On-site verification during environmental audits

Oji Materia Co., Ltd. Gifu Mill

Ojitex (Vietnam) Co.,Ltd.

Education and Enlightenment

Internal Environmental Newsletter

To provide environmental education and awareness to our employees, we publish a monthly environmental newsletter for all employees. We strive to raise employee awareness through such activities as our efforts to achieve zero environmental accidents and explanations of the Oji Group's environmental policy. Examples of initiatives include: explanations of environmental management systems such as ISO 14001; efforts to reduce greenhouse gas emissions; initiatives to reduce air and water pollutants; water conservation measures; proper management and effective utilization of waste including segregation; and actions to prevent environmental incidents.

Data

ESG Data →

Climate Change

Policy

In 2020, the Oji Group formulated its Environmental Vision 2050 centered around the goal of net-zero carbon emissions, while also positioning the Environmental Action Program 2030 as a milestone toward achieving its medium-term targets. In 2025, we established the "Environmental Action Program 2040" as new targets to further advance our initiatives. To achieve the target of reducing net greenhouse gas (GHG) emissions by 70% compared with FY2018 levels by FY2030, and reaching net zero by FY2040, we are working to reduce actual emissions by reducing coal consumption and other emission sources and increasing the net increment in carbon stocks in forests we own and manage.

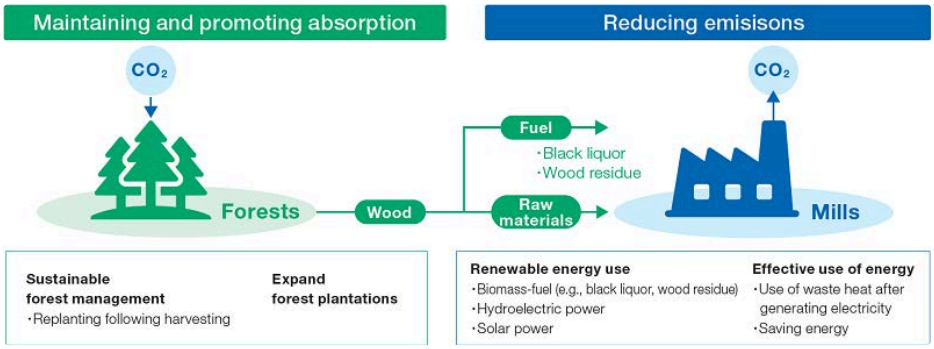
Environmental Vision 2050

Environmental Action Program 2040

Environmental Action Program 2030

Business Model Targeting Decarbonization

The Oji Group engages in a wide array of business activities, including the manufacture of pulp and paper. In light of the substantial amounts of heat (steam) and electricity consumed, these activities accordingly lead to the emission of GHGs commensurate with this energy use. By working to reduce GHG emissions from energy use and facilitating the absorption of CO_2 by forests that we own and manage, we are contributing to climate change mitigation.
Pulp and paper mills generate steam and electricity from black liquor produced in the wood pulp manufacturing process and waste wood unsuitable for use in pulp raw materials. The CO_2 emitted during combustion is offset by the CO_2 absorbed by trees during growth. In addition, the waste heat (steam) after generating electricity is reused in the manufacturing process to more effectively use energy. Moreover, steps are taken to utilize the electricity generated by Chitose No. 1 Hydroelectric Power Plant in Hokkaido, a facility that began operating in 1910, as well as the solar power systems on factory roofs.
In addition to practicing sustainable forest management through replanting following harvesting, as well as the planting of elite trees with high growth rates, every effort is made to maintain and facilitate forests' ability to absorb CO_2.
In addition to on-site consumption at our mills and factories, renewable energy derived from biomass, hydropower, and solar power is also supplied externally through our energy business. We also plan a wind power generation project on company-owned land. Through these renewable energy initiatives, we contribute to climate change mitigation by helping reduce the indirect GHG emissions of electricity consumers.



TCFD

The Oji Group announced its support for the Task Force on Climate-related Financial Disclosures (TCFD[*1]) in December 2020 and has since been working to disclose climate-related information as recommended by the TCFD.

*1 The TCFD is a task force established by the Financial Stability Board (FSB) as requested during a G20 Finance Ministers and Central Bank Governors Meeting. In June 2017, the TCFD released its recommendations that encourage companies to disclose the financial implications of climate-related risks and opportunities to help investors make appropriate investment decisions.

Governance

Climate-related risks, opportunities, and responses of the Oji Group are discussed by the Sustainability Committee under the supervision of the Board of Directors of Oji Holdings. For further details, please refer to the Sustainability Management Structure page.

Sustainability Management Structure

Strategy

The climate-related risks and opportunities that the Oji Group faces have been analyzed. We recognize the importance of transition risks due to policies and regulations such as carbon taxes in the medium term as we move toward 2030, physical risks such as changes in precipitation and weather patterns in the long term as we move toward 2050, and the opportunities regarding the increased demand for low-carbon products in the medium to long term. Regarding the cost increase attributable to carbon pricing mechanisms such as carbon taxes, we estimate the impact to be approximately 68 billion yen for FY2030. This calculation is based on the projected CO_2 emissions from fossil fuels in that year, multiplied by the carbon price of 140 USD/t-CO_2, as set out in the Net Zero Emissions (NZE) scenario for 2030 in advanced economies by the International Energy Agency (IEA). For details on risks and opportunities, please refer to the table presented later on this page. To address these risks and opportunities, the Oji Group is working to transition its business structure, improve energy efficiency in manufacturing and transportation, expand the use of non-fossil energy sources, and enhance CO_2 absorption and sequestration through forest conservation and afforestation. These efforts support the transition to a decarbonized society, with the aim of reducing net GHG emissions by 70% by FY2030 and achieving net zero carbon emissions by FY2040. In preparation for potential deterioration in tree growth due to changes in precipitation and weather patterns, we are strengthening stable procurement through diversified sourcing and engaging in the development and selection of tree species suited to specific climates and regions. Furthermore, we are advancing the development of new wood-based materials that contribute to decarbonization. We plan to invest 100 billion yen in reducing coal consumption and another 100 billion yen in acquiring overseas forest plantations by FY2030. While continuing our present efforts to limit the negative impact of the transition to a decarbonized society on our business, we will continue to analyze risks and strengthen our climate resilience.[*2]

*2 The climate resilience concept involves organizations developing their ability to adapt to climate change to better manage the associated risks and seize opportunities, including the ability to respond to transition risks and physical risks. (Source: TCFD recommendations)

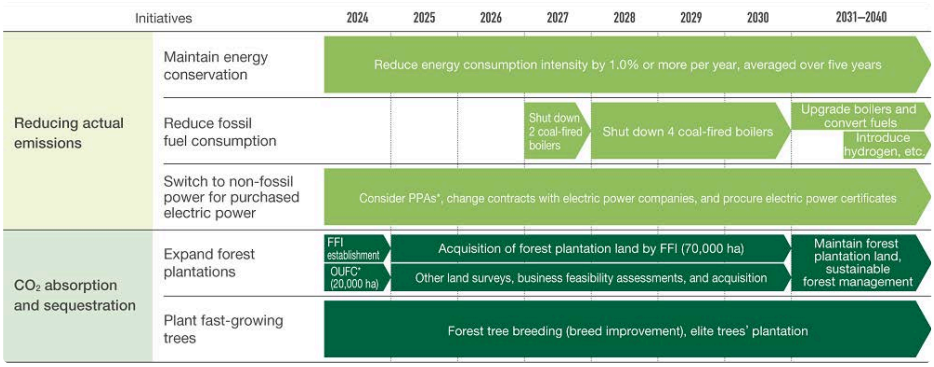
Table of risks and opportunities

GHG Emissions Reduction Roadmap

To achieve our FY2030 and FY2040 targets, we are focused on reducing actual emissions and increasing the net increment in carbon stocks in forests.
Of the 16 boilers in Japan that were burning coal as of FY2018, we will terminate the operation of all eight boilers that are fired only by coal by FY2030, excluding backup boilers, and we will switch to gas fuels during the transition phase as we move toward decarbonization. The operation of two boilers was discontinued by FY2024. Plans are in place to discontinue the use of two Oji Materia Co., Ltd. boilers by FY2027, one at its Sobue Mill and one at its Saga Mill. We are also considering reducing coal consumption by changing the composition of the fuels used in coal co-fired boilers.
The plan at the Sobue and Saga Mills is to replace the boilers that only burn coal by installing gas cogeneration systems whose GHG emissions per unit of output energy will be lower than the technical screening criterion of 270 g-CO_2/kWh set by the EU Taxonomy.*3

*3 The EU Taxonomy is a classification system established by the European Union to identify environmentally sustainable economic activities. Gas cogeneration systems that meet the criteria are defined as a transitional activity moving towards a climate-neutral economy that contributes to the mitigation of climate change.

Further reducing the use of fossil fuels, including gas, is essential for achieving net-zero carbon emissions in FY2040. To this end, we are considering the use of alternative fuels, including hydrogen, ammonia and e-methane (synthetic methane). We are also decarbonizing purchased electricity by changing contract terms and utilizing non-fossil certificates, with the goal of achieving a 100% non-fossil electricity ratio.
Moreover, to increase the net increment in carbon stocks, we are advancing efforts to acquire overseas forest plantations. Making the most of the tree breeding and forest plantation technologies nurtured over the many years that we have been operating, we are engaging in the cultivation of elite fast-growing trees best suited to each region. Moving forward, we are facilitating the absorption of CO_2 while expanding forests with a high net increment in carbon stocks.



Risk Management

The Corporate Sustainability Division examines risks on a Group-wide basis with assistance from external experts, and the Sustainability Committee analyzes them while discussing their importance and prioritizing them. The impact of these risks on our businesses, strategies and finances are assessed quantitatively and qualitatively, using 1.5 °C (2 °C) and 4 °C scenarios for the medium term (2030) and the long term (2050).*4 The Corporate Sustainability Division is in charge of the overall management of the responses to climate-related risks built upon the Group-wide strategy, and the Sustainability Committee manages the progress of these initiatives. Specifically, to reduce GHG emissions, we have organized a project team and are working to reduce coal consumption and expand the net increment in carbon stocks in forests. Furthermore, climate-related risks are reported to the Group Management Meeting and referred to the meeting for discussion depending on their importance, and they are integrated into company-wide risk management activities.

*4 Transition risks were analyzed using two scenarios: The IEA's 2 °C Scenario (IEA 2DS) that shows a pathway to possibly limiting global warming to 2 °C, and the Net Zero Emissions by 2050 Scenario (NZE 2050) that looks at the achievement of net zero CO_2 emissions by 2050. Physical risks were analyzed using the RCP 1.9, RCP 2.6, and RCP 8.5 scenarios. In RCP 8.5, the average global temperature is projected to rise by more than 4 °C and natural disasters are expected to become more frequent.

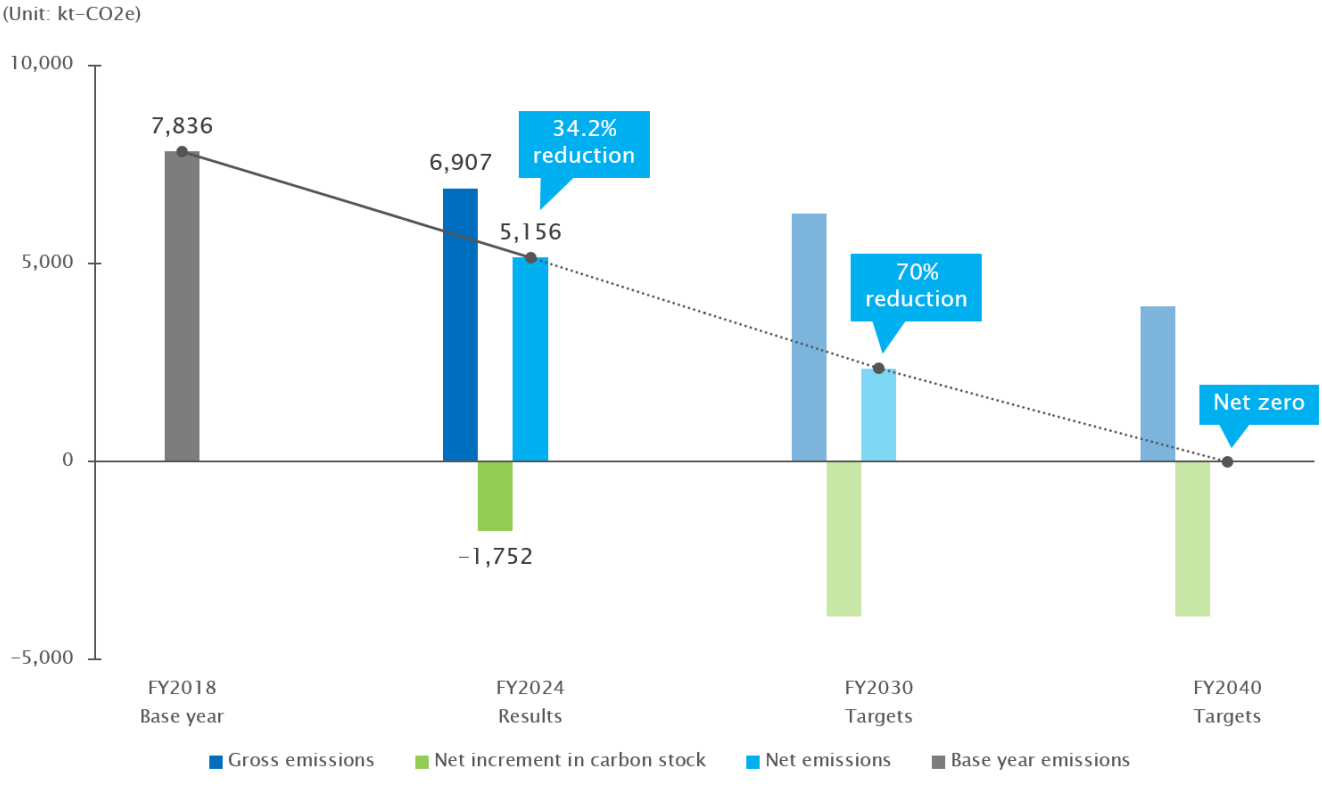
Metrics and Targets

We have set the following targets in accordance with the 1.5 °C target of the Paris Agreement. The carbon price of 140 USD/t-CO_2 (2030 level in developed countries) in the International Energy Agency (IEA)'s Net Zero Emissions (NZE) scenario is used as the internal carbon price (ICP) for risk analyses and the evaluation of investment decisions.

*The base year for reduction targets and results is FY2018.

Metrics	Targets	FY2024 Results
Scope 1 + 2 Emissions	・Reduce net emissions by 70% by FY2030 ・Achieve net-zero emissions by FY2040 (including net increment in carbon stock through forests)	・Net emissions: 34.2% reduction ・Gross emissions: 11.9% reduction ・Net increment in carbon stock: Equivalent to 22.4% reduction
Scope 3 Emissions	・Reduce emissions from chip transport vessels by 40% by FY2040 (part of Category 4)	・Emissions from chip transport vessels: 33.6% reduction
Coal Consumption	・Eliminate coal consumption by FY2040	・Coal consumption: 18.9% reduction

Our target is to reduce net emissions (actual emissions minus the net increment of carbon stocks) by at least 70% compared to the FY2018 level by FY2030. We will achieve 20% of this by reducing actual emissions (total Scope 1 and 2 emissions), and the remaining 50% by increasing the net increment in carbon stocks of forests. Regarding the target of achieving net zero emissions by FY2040, we will reduce actual emissions by 50% and sustain the net increment in carbon stocks at a level equivalent to 50% of FY2018 emissions.
In FY2024, we reduced net GHG emissions to 5,156 kt-CO_2, a 34.2% reduction compared to FY2018.
We have set a target to reduce emissions from wood chip carriers, which fall under Category 4 (Upstream Transportation) of Scope 3, by 40% compared with the FY2018 level by FY2040. In FY2024, emissions were reduced by 33.6%.



Risks and Opportunities

* This table can be viewed by scrolling horizontally.

Type		Driver (Factor causing an impact on our business)	Awareness of business environment	Impact on our business				Strategies and countermeasures
				1.5°C (2°C) scenario		4°C scenario		
				2030	2050	2030	2050	
Transition risks	Policies, laws and regulations	Fluctuation of fossil fuel-derived energy prices	Increase in costs related to procurement using fossil fuel-derived energy and electricity due to changing energy mix	Small	Small	Small	Small	• Promote thoroughgoing energy conservation and efficient operation of in-house power generation facilities to reduce fossil fuel consumption and electricity purchases to optimize overall energy costs • Enhance the operation of renewable energy sources such as hydro and biomass energy toward net-zero carbon emissions in FY2040
		Tightened CO_2 emissions regulations	Increase in energy consumption and credit operating costs due to the Enhance the operation of renewable energy sources such as hydro and biomass energy toward net zero carbon emissions in FY2050 introduction of carbon tax and tightening of regulations on emissions trading	Large*	Small*	Medium*	Small*	
	Markets	Increasing stakeholders' interest in low-carbon products and services	Increase in boycott activities toward products and services created using energy derived from fossil fuels due to increased awareness of decarbonization among consumers	Small	Small	Small	Small	• Convert to renewable energy and other fuels that emit less CO_2, and enhance energy conservation measures • Further promote resource-circulation, environmentally friendly business initiatives such as sustainable forest management and paper recycling
	Reputation	Negative feedback from stakeholders	• Decline in demand for paper products because of the impression that unnecessary tree felling facilitates global warming • Lower evaluation and difficulty in obtaining financing due to a failure to respond to investors' request	Medium	Medium	Small	Small	• Continuously disseminate information on the status of sustainable forest management initiatives to stakeholders • Promote the acquisition of forest certification, announcement of procurement policies, such as no illegal logging, and ensuring traceability of suppliers • Implement environmental education to communicate environmentally-friendly business activities in collaboration with environmental NGOs, etc. • Be registered as Type I or Type II Registered Wood-related Business Entity as defined in the Clean Wood Act

Type		Driver (Factor causing an impact on our business)	Awareness of business environment	Impact on our business				Strategies and countermeasures
				1.5°C (2°C) scenario		4°C scenario		
				2030	2050	2030	2050	
								• Conduct due diligence to prove the legality and verify the legality in connection with the procurement of wood raw materials and biomass fuels
Physical risks	Acute	Increasing severity of extreme weather events	Business stagnation such as facilities affected by and supply chain disruptions caused by a large scale natural disaster	Small	Small	Small	Small	• Formulate and regularly review a BCP, and enhance BCM • Keep abreast of and monitor the status of key raw materials • Enhance our relationship with suppliers, and stabilize procurement by diversifying suppliers
	Chronic	Changes in precipitation and weather patterns, and rising average temperatures	Increase in procurement costs primarily as a result of deterioration of growth conditions for trees, key raw materials for our products	Small	Small	Large	Large	• Enhance stable procurement through procurement from multiple sources in North America, South America, Oceania, etc. • Expand and promote effective utilization of company-owned forests • Conduct surveys and research on the impacts of temperature and precipitation on the growth of trees, and select tree species suitable to specific areas
Opportunities	Resource efficiency	Effective resource utilization Reduction in water use and consumption	Increase in demand for advanced water treatment technology and water management due to flooding, drought, precipitation fluctuations, and higher demand for clean water in water stress areas	Small	Small	Medium	Medium	• Further expand the water treatment business primarily by promoting the expanded service for the production of water for daily use • Propose innovative technology leading to the effective utilization of water resources
	Energy sources	Use of low emission sources of energy	Increase in demand for renewable energy toward realization of a decarbonized society	Small	Medium	Small	Small	• Promote the power generation business such as wind power generation and micro hydroelectric power generation
	Products and services	• Changes in consumer preferences • Development of new products and services through R&D and innovation	Increase in demand for low-carbon and environmentally-friendly products due to increased awareness of decarbonization and environment	Large*	Large*	Large*	Large*	• Enhance the alternate use of biomass plastics and the development of paper materials as an alternative to plastic packaging, and expand sales opportunities
	Markets	Use of incentives	• Expansion of support for forest preservation activities under the forest usage and	Small	Medium	Small	Small	• Plan and implement the management of company-owned forests in line with national and local governments policies

Type		Driver (Factor causing an impact on our business)	Awareness of business environment	Impact on our business				Strategies and countermeasures
				1.5°C (2°C) scenario		4°C scenario		
				2030	2050	2030	2050	
			forestry promotion policy • Possibility that carbon credit trading associated with forest absorption will increase the value of company-owned forests, and that requests for forest management/ assistance in management (providing know how) may increase					• Maintain and improve productivity of planted trees by conducting research and technology development tailored to the relevant areas

* Note: Impact amount Small: less than 10 billion yen; Medium: not less than 10 billion yen but less than 50 billion yen; Large: not less than 50 billion yen
Impact levels without an asterisk (*) represent qualitative assessment.

Initiatives

Reducing Actual Emissions

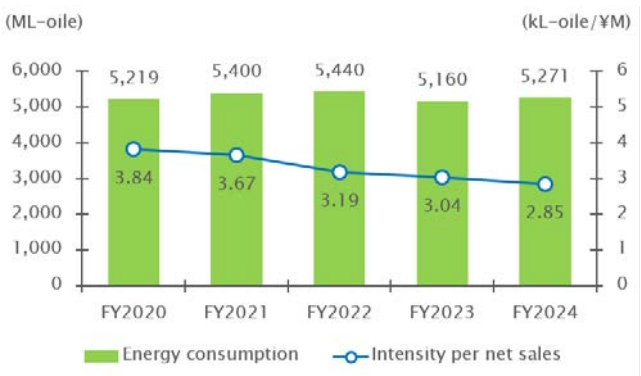
We are working to improve energy efficiency and increase the percentage of renewable energy used to reduce the GHG emissions of our business activities. In FY2024, we reduced actual GHG emissions (Scope 1+2) to 6,907 kt-CO_2e, which is a 11.9% reduction compared to FY2018.

Energy Management System

At our mills and plants, the energy management and production departments hold regular energy conservation meetings. At the energy conservation meetings, energy-saving targets are set and plans are made to update equipment and improve operations (Plan). These plans are then implemented to achieve the targets (Do). Furthermore, progress and effectiveness are reviewed (Check), and measures are revised as necessary (Act), thereby promoting continuous reduction in energy consumption.
KANZAN's Neumühl plant and Walki's Valkeakoski, Pietarsaari and Steinfurt plants have obtained third-party certification of their ISO 50001 energy management systems.

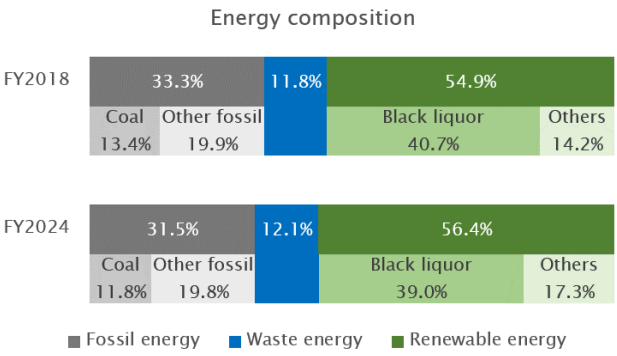
Improving Energy Efficiency

In FY2024, our major domestic companies invested ¥1.36 billion yen in energy conservation, thereby reducing energy consumption by 39.6 thousand kL (in crude oil equivalent). Across the entire group, energy consumption intensity was reduced by 7.1% per year on average between FY2020 and FY2024.



Increasing the Percentage of Renewable Energy Used

Utilizing black liquor, which is a byproduct of the pulp production process, and other biomass fuels, the Oji Group has increased the percentage of its energy consumption that comes from renewable sources. To further expand the use of renewable energy, we are using private hydroelectric power plants and moving forward with the installation of solar power generation systems.
In FY2024, 56.4% of the energy used was renewable energy.



Reducing Coal Consumption

We shut down a coal boiler at Oji Materia Nayoro Mill in FY2021 and another one at Oji F-Tex Ebetsu Mill in FY2023. This decreased coal consumption by 18.9% in FY2024 compared to FY2018. Looking ahead, we will continue to reduce coal consumption, and we project that capital investments of approximately ¥100 billion will reduce GHG emissionsby roughly 1,000 kt-CO_2e.

Topic: Indirect reduction of GHG emissions in the Renewable Energy Power Generation Business

In FY2024, we sold 1,504 GWh of electricity generated by biomass, hydropower and solar power through the feed-in tariff (FIT) system for renewable energy. Through this system, electric utilities purchase electricity generated from renewable energy sources at a fixed price. This is equivalent to a 636 kt-CO_2e reduction in electricity consumers' emissions.

Note: The reduction is estimated assuming that the electricity sold via the FIT system indirectly reduces the CO_2 emissions of the users of that electricity. Implied reduction = FIT electricity sales × national average emission factor
FIT electricity sales: The amount of biomass, hydroelectric, and solar electricity generated sold via the FIT system by the Group companies in Japan.
National average emission factor: An emission factor used in the calculation of the equivalent amount of CO_2 emissions reduced by using non-fossil electricity under the Greenhouse Gas Emissions Calculation, Reporting and Disclosure System.

Reducing Emissions from Wood Chip Carriers

Most of the wood chips used as raw materials for paper are transported by ship from overseas plantations. With international efforts underway to reduce GHG emissions from ships, the Oji Group's chip carriers now navigate at lower speeds to increase fuel efficiency and reduce GHG emissions. In addition, the GHG emissions from vessels built in recent years are lower than conventional vessels, contributing to the reduction of GHG emissions.

Woodchip carrier GT SELENE (built in 2022)

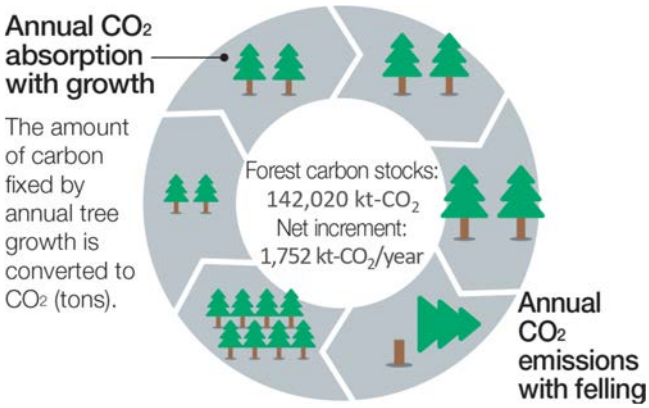
Installing Solar Power Systems

We have been installing solar power systems on factory roofs and idle land. A warehouse built in August 2022 at Oji Nepia Edogawa Factory uses electricity generated from solar power. In October 2023, the solar power generation system at Oji Container Tochigi Plant began operation, supplying all the electricity used at the plant during the daytime.

Solar power generation system at Tochigi Plant, Oji Container

Expansion of Net Increment in Carbon Stocks of Forests

We are expanding the net increment in carbon stocks of forests by expanding plantations and planting fast-growing trees. In the 636,000 ha of forests owned and managed by the Oji Group in Japan and overseas, actual carbon stocks reached 142,020 kt-CO_2 at the end of FY2024, and the annual average net increment in carbon stocks of forests between FY2020 and FY2024 was 1,752 kt-CO_2.*6 The amount of O_2 released during the same period averaged 1,274 kt per year.*7

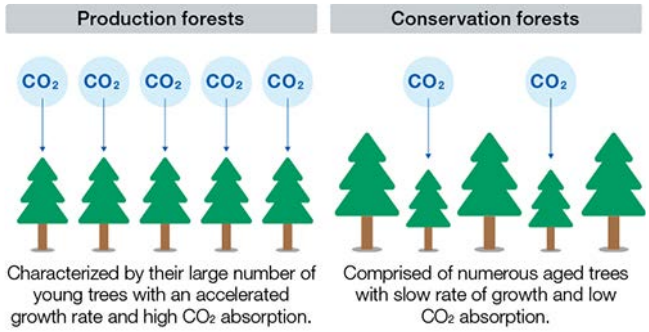


*6 The figures for carbon stocks and net increment in carbon stocks exclude those of CENIBRA's forests planted by third parties and forests where it has been less than two years since they were planted.

*7 Calculated assuming that the amount of O_2 released is the same as the CO_2 absorbed (in moles)
Forest carbon stocks: The CO_2 stocks of Oji Forests
Net increment in carbon stocks of forests: The amount of CO_2 absorbed by the trees in Oji Forests minus the amount of CO_2 stored in the trees felled, which is considered as emissions.

Expand Forest Plantations

Recognizing that the amount of CO_2 absorbed by trees is proportional to their growth, production forests with abundant trees in a growth phase absorb more CO_2 compared to conservation forests where trees have matured. The Oji Group is expanding its overseas production forests and increasing the number of trees in a growth phase in a bid to increase the net increment in carbon stocks. In July 2024, we acquired 20,000 ha of production forest in Uruguay, expanding the area of overseas production forests from 237,000 ha as of the end of FY2018 to 295,000 ha as of the end of FY2024. Moving forward, through initiatives such as Future Forest Innovations (FFI), a forest investment fund established in March 2025, we are considering acquiring more sites for forest plantations primarily in South America, Oceania, and Southeast Asia, where we have been operating our forest plantation business. Our target is to expand the area of our overseas production forests to 400,000 ha by FY2030, at an estimated acquisition cost of about ¥100 billion.



Plant fast-growing trees

Asia Agriculture and Forestry Technology Center and CENIBRA (Brazil) have long been breeding forest trees. In selecting and planting high-quality varieties, distinguished by their high growth rate and pulp productivity obtained through artificial pollination, efforts are being made to increase the amount of forest growth while facilitating carbon absorption and storage.

Data

ESG Data →

Sustainable Forest Management

Policy | Targets and Achievements | Overview of the Oji Group's Forests (Oji Forests) | Sustainable Forest Management Initiatives | Utilization of Forest Certification Systems | Related pages

Policy

The appropriate cultivation and management of forests not only generate renewable forest resources but also enhance the multiple functions of forests, including CO_2 absorption and sequestration, biodiversity conservation, watershed protection and soil conservation.
While the world is rapidly moving toward the realization of a carbon neutral society by 2050, our roles and responsibilities are broader than this. By sustainably managing forests directly connected to our business, we will continue to take steps toward realizing a decarbonized society, enhancing the value of forest resources, and expanding Oji forests further.

Oji Group Sustainable Forest Management Policy

Established: April 1, 2022

The Oji Group owns and manages vast forests and practices sustainable forest management in harmony with the environment and local communities based on our management philosophy, Harmony with Nature and Society.
Our business activities and local communities rely on ecosystem services such as water, climate control and forest products, while our forestry activities impact ecosystems, natural landscapes, and biodiversity. Therefore, we understand our responsibility of managing the forests we own and manage in an environmentally, socially, and economically sustainable way.

Complying with the relevant local, national and regional laws and all relevant international conventions and agreements regarding forest management and based on the applicable internationally recognized principles, we will:

1. ensure no deforestation and no illegal logging.
2. safeguard ecological health and functionality and promote sustainable forest and land management practices that aid the conservation of biodiversity, soil, and water resources.
3. respect the human rights of all people, not discriminate or act with prejudice, and never engage in the utilization of child labor or forced labor.
4. respect the unique economic and cultural rights and the legitimate rights of indigenous peoples, including traditional lands and land use.
5. contribute to maintaining or enhancing local communities' social and economic well-being.
6. monitor the condition of forests and the results of management activities, and verify sustainable forest management using tools such as forest certifications.

* We procure raw materials following the Oji Group Sustainability Action Guidelines for Supply Chains and the Wood Raw Materials Procurement Guidelines as established separately.

Oji Group Sustainability Action Guidelines for Supply Chains

Wood Raw Material Procurement Guidelines

No Deforestation and No Conversion Commitment

Targets and Achievements

Increasing greenhouse gas absorption by investing in forestry preservation and forest plantations

In Environmental Action Program 2040, we set a target of offsetting 50% of Scope 1 and 2 GHG emissions in fiscal 2018 through forest absorption and sequestration by fiscal 2040. As an initiative to achieve this goal, we are expanding our plantations in Japan and overseas. By sustainably managing the acquired forest plantations, we will accelerate the growth of forests and increase net CO_2 absorption, thus contributing to decarbonization.

Improving the forest certification acquisition rate

Across 635,000 hectares of Oji Forests, we actively utilize forest certification systems to ensure appropriate forest management, including conservation forests, while considering the environment, society and the economy. The Oji Group aims to achieve a 100% forest certification acquisition rate by 2030.

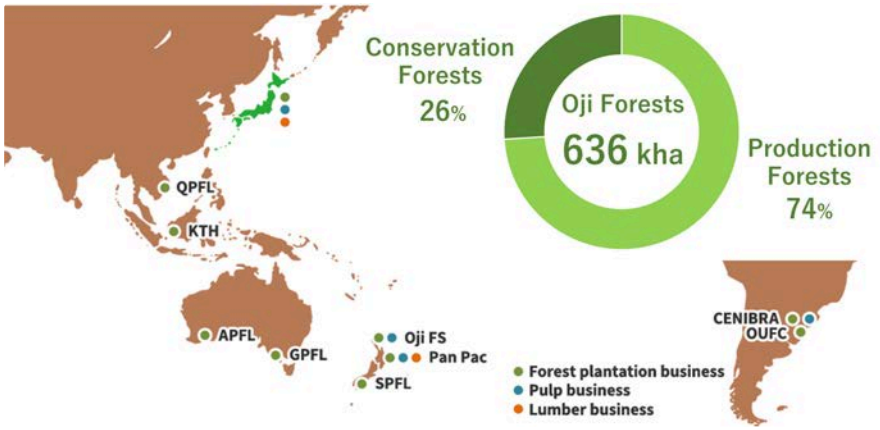
Environmental Action Program 2040

Data

ESG Data No.17 Forest certification acquisition rate →

ESG Data No.18 Oji Group forest area →

Overview of the Oji Group's Forests (Oji Forests)



The Oji Group owns and manages extensive forests in Japan and overseas that cover a total of 635,000 ha. Oji's forest portfolio includes 472,000 ha of production forests, primarily for producing forest products that consider the environment, and about 163,000 ha of conservation forests, which principally function as public utilities, including their value in the conservation of biodiversity and the protection of watersheds. Wood from production forests is used as raw material for paper manufacturing, lumber and plywood, and biomass power generation fuel. In addition, there are growing expectations for its use in the development of new materials derived from wood components. To ensure a stable supply of wood resources while preserving the public functions of forests, the Oji Group invests approximately ¥18.4 billion annually in sustainable forest management.

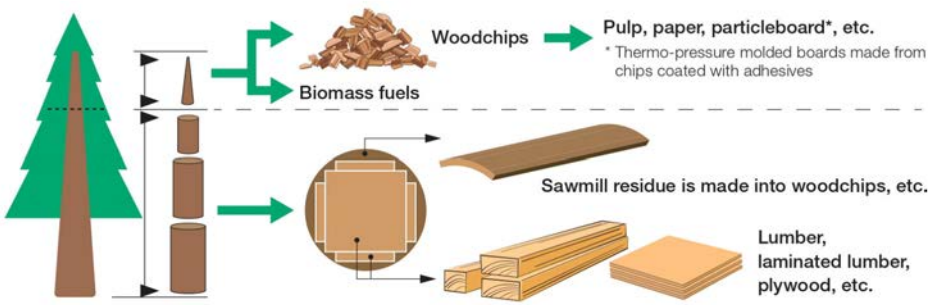
CENIBRA in Brazil: Production forest (left) and conservation forest (right)

Production Forests

The Oji Group is engaged in the forest plantation business around the world. We develop and select tree species that are suitable for the local climate and land conditions and improve cultivation methods by formulating optimal plans for each region. Through these measures, we enhance forest productivity, produce high-quality timber and improve profitability through the stable supply of forest products.

Through a cycle of planting, cultivating, harvesting and replanting, forests are constantly growing and can be used to create a variety of products, including lumber, on a continuous basis. Moreover, we maintain economic efficiency while facilitating the thorough and cascading use of harvested wood for a variety of applications, including lumber, plywood, woodchips for manufacturing paper and wood biomass fuel.

Maintaining forests as production forests serves multiple purposes beyond just timber use. It offers various ecosystem benefits (ecosystem services), such as providing opportunities for residents to harvest and use forest products, and serving as migration routes for wildlife. Through these efforts, the Oji Group, as a comprehensive forestry business group, promotes the sustainable use of lumber.



Cascading use of forest resources

Conservation Forests

The Oji Group emphasizes the environmental value of forests and is actively engaged in the development and management of environmental conservation forests. These forests play a vital role in protecting local ecosystems by contributing to biodiversity conservation, watershed protection, soil conservation, and carbon sequestration.
Under our long-term vision for 2050, Environmental Vision 2050, we aim to achieve both net-zero carbon and harmonious coexistence with nature. Environmental conservation forests are a key initiative toward realizing these goals.
Through appropriate management in collaboration with local communities, we enhance the value of these forests as natural capital, thereby contributing to the sustainable growth of our business.

List of forest plantation companies

Southland Plantation Forest Company of New Zealand Limited (SPFL)

Albany Plantation Forest Company of Australia Pty., Ltd. (APFL)

Quy Nhon Plantation Forest Company of Vietnam Limited (QPFL)

Green Triangle Plantation Forest Company of Australia Pty. Ltd. (GPFL)

P.T. Korintiga Hutani (KTH)

Oji Uruguay Forest Company S.A.S(OUFC)

Celulose Nipo-Brasileira S.A(CENIBRA)

Pan Pac Forest Products Ltd.(Pan Pac)

Oji Fibre Solutions Group(Oji FS)

Oji Forest & Products Co.,Ltd

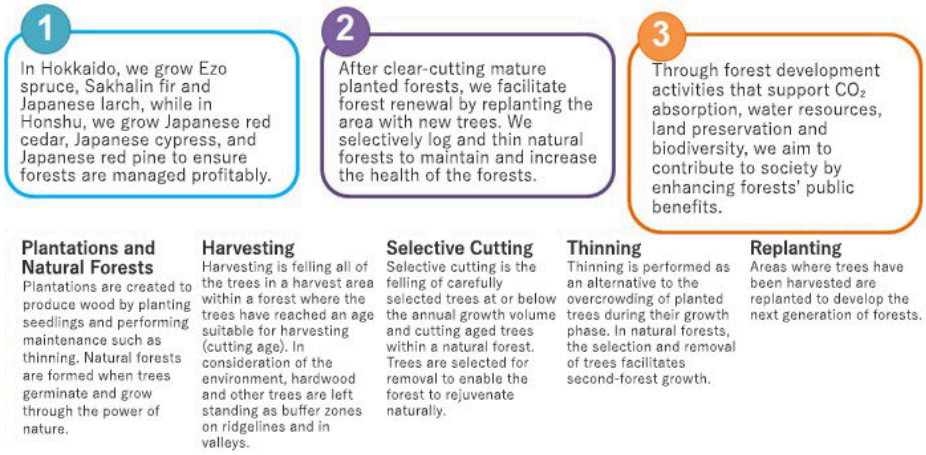
Sustainable Forest Management Initiatives

Oji Forests in Japan

In Japan, the Oji Group owns and manages approximately 650 company-owned and shared forests across the country, from Hokkaido to Kyushu, covering a total area of around 188,000 hectares. Of this, about 40% (76,000 hectares) consists of planted forests, including species such as Sakhalin fir and Japanese larch in Hokkaido, and Japanese cedar and cypress in regions across Japan south of Hokkaido.
With an average tree age of approximately 60 years, many of these forests are entering the harvesting phase. We are working to rejuvenate the forests through clear-cutting and replanting, while continuing thinning and other silvicultural practices to promote sustainable forest management. In addition, around 11,000 hectares have been designated as environmental conservation forests, which contribute to society by preserving the multifaceted value of forests.
In recent years, these forests have also been positioned as key fields where the Oji Group conserves natural capital and quantify its value. They are actively used as demonstration sites for visualizing the value of forests.

OJI FOREST

Basic Policies for Company-Owned Forest



In our company-owned forests in Japan, it takes around 60 years for trees to grow from seedlings to the point of final harvesting. During this time, we carry out various forest management tasks, such as planting seedlings, clearing undergrowth, thinning, and vine cutting.

Each year, we harvest and replant about 500 hectares, with most of the work done manually. Just the planting and undergrowth clearing alone requires a total of around 13,000 workers annually. To reduce the strain on our workforce, we're introducing drones to transport seedlings and testing new methods, like transitioning from bare-root to container-grown seedlings, and planting elite varieties of trees. These trees grow faster and are expected to reduce the frequency of undergrowth clearing that is needed.

A drone carrying seedlings

Planting Elite Trees

Elite trees are a special category of superior trees, bred by cross-pollinating the very best specimens from Japan's forests. These second-generation (or later) elite trees are carefully selected from saplings descended from first-generation superior trees. Elite trees have several remarkable characteristics:

1. Rapid early growth
2. Pollen production reduced to less than half of conventional levels
3. Straight, uniform trunks

Thanks to their fast growth, these trees offer significant advantages, such as lowering maintenance costs by reducing the need for undergrowth clearing and minimizing the risk of deer damage.

Elite cedar tree seedlings

Oji Forests outside Japan

In the overseas forest plantation business, the Oji Group plants fast-growing trees including eucalyptus and acacia, which are hardwood trees, and radiata pine, which is a softwood tree. Plantation trees which have become harvestable are converted into raw materials for paper (woodchip), sawtimber, or pulp on site and then sold externally or used as raw materials for paper from the Oji Group.
Our overseas forest plantation business not only secures wood raw materials but also absorbs and stores CO_2 and creates employment and industries, thus contributing to building truly prosperous and sustainable local communities.

CENIBRA's initiative for forest fires

Massive forest fires have become common occurrences in many parts of the world, a critical global issue that needs urgent global solutions. CENIBRA, which has forest plantations and a pulp mill in Brazil, has introduced an innovative forest fire prevention and fighting system using artificial intelligence (AI) for their 250,000 ha forests. The company has 39 watchtowers equipped with 360 degrees rotating cameras. When the AI detects smoke and fires, the monitoring room notifies fire crews nearest to the site of the incidents. They start firefighting immediately. The AI-equipped cameras are more efficient than human eyes and can locate the accurate fire site within 1-2 minutes. CENIBRA has reduced forest fire risks significantly.

Fire monitoring in the monitoring room

Firefighting training by firefighters

Fire watchtower

Accelerating CO_2 Absorption through Fast-Growing Tree Plantations

A feature of fast-growing trees such as eucalyptus and acacia, which are hardwood trees, or radiata pine, which is a softwood tree, is their fast initial growth. It is generally believed that plantations in their initial growth phase have a higher CO_2 absorption capacity than mature natural forests. In addition, the felling of trees at an optimal timing for the tree species or for the purpose of use enables efficient timber production and maintains plantations in a state where they have a high CO_2 absorption capacity. Further, by planting superior varieties of trees that have been developed in each business, the Oji Group aims to increase the forest growth rate and facilitate CO_2 absorption.

Plantation at CENIBRA

Nursery at CENIBRA

Enhancing the quality of trees and forest management for greater forest productivity

The Asia Agriculture and Forestry Technology Center (AFTEC) conducts research and technology development optimized for each area based on forest plantation projects in Southeast Asia to maintain and improve the productivity of plantation trees. The planting of fast-growing, high-quality tree varieties and the improvement of the quality of plantation trees and yields leads to not only the improvement of the profitability of the forest plantation business but also the protection of natural forests through a reduction of illegal logging in these forests. AFTEC focuses on improving its fast-growing tree varieties, including eucalyptus and acacia tree species, using breeding techniques developed in various countries. Fast-growing trees absorb significant nutrients. CENIBRA in Brazil has also dedicated many years to improving tree varieties through breeding. The CENIBRA team patiently cross-pollinated trees and selected about 15 superior varieties from over 20,000 candidates. These varieties were chosen for their exceptional growth rates and high pulp productivity.

In addition, there are concerns that using heavy machinery when harvesting can compact the soil, potentially affecting future growth. To ensure the sustainable operation of the forest plantation business, it is essential to maintain healthy soil conditions by replenishing the nutrients lost due to harvesting and improving the physical properties of the soil through tilling and other measures. For this purpose, the AFTEC conducts soil and tree nutrition analyses and tests fertilization and tilling methods, in its efforts to safeguard the soil environment.

Eucalyptus Artificial Pollination (Indonesia)

Survey in Acacia Plantation (Vietnam)

Satellite Data Analysis of CENIBRA's Forests

In recent years, datasets that show results of analysis of global forest changes using satellite data and platforms that display maps of these results have been developed. This has made it easy for anyone to conduct extensive and long-term forest monitoring. However, these data have the issue of misinterpreting logging operations in sustainable forestry management as deforestation. Therefore, these data should be used with caution.
Oji Holdings commissioned a third party proficient in satellite analysis to analyze forest changes by combining satellite data, local natural vegetation information, and operational history for CENIBRA's company-owned forests, the largest in the Oji Group. The results show that it is highly likely that 99.9% of the CENIBRA-owned forests labeled as 'Forest Cover Loss' in open dataset do not correspond to deforestation.
The Oji Group will continue to promote sustainable forest management and utilize various analytical technologies to engage in natural monitoring and information disclosure.

Report on Satellite Data Analysis of CENIBRA's Forests in Brazil

Utilization of Forest Certification Systems

Forest certification is a system in which an independent third-party organization audits and certifies that forests are appropriately managed in accordance with established standards, based on environmental, social, and economic perspectives. It is an important mechanism for balancing sustainable resource use with environmental conservation.

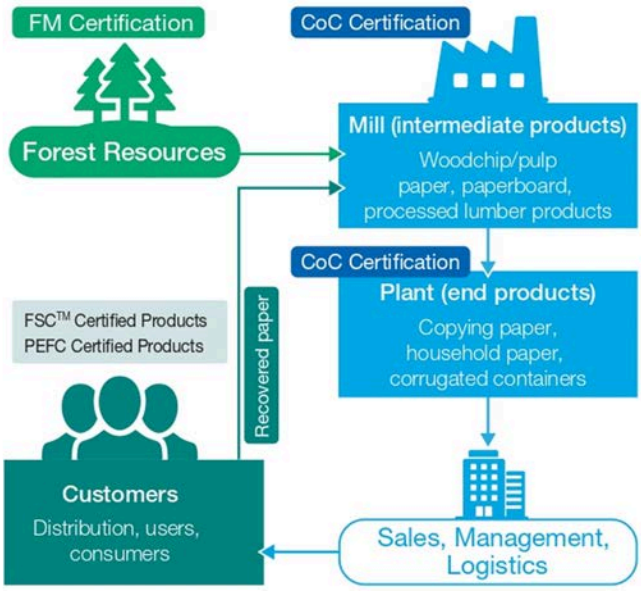
The Oji Group utilizes forest certification systems that support sustainable forest management and manufactures products certified by FSC (FSC™*1C014119, etc.) and PEFC*2 (JIA-PEFC-COC-0808, etc.).

These products use wood raw materials that comply with the requirements of each certification system. We have obtained FM certification*3 for our own forests and CoC certification*4 for our production, processing, and distribution operations within the Group. By acquiring certification throughout the entire supply chain—from forests to processing mills and distribution—we supply a wide range of forest-certified products, from intermediate to finished products such as copy paper and household paper.

In addition, the Oji Group has established the Forest Certification System Implementation Committee to ensure the proper operation and effective use of forest certification systems.

FSC
www.fsc.org
FSC™ C014119
The mark of responsible forestry

PEFC
PEFC/31-32-130



*1 FSC：Forest Stewardship Council™
*2 PEFC：Programme for the Endorsement of Forest Certification
*3 FM certification：Confirmation of forest management
*4 CoC（Chain of Custody）certification：Confirmation of management on processing and distribution of produced wood

Acquisition of Forest Management Certification

To enhance the credibility of sustainable forest management, the Oji Group actively pursues Forest Management (FM) certification both in Japan and overseas as a key mechanism for ensuring the legality and sustainability of its plantation operations.
In Japan, we have acquired SGEC forest certification, a Japan-specific forest certification program operated by the Sustainable Green Ecosystem Council. Certification began in 2003 with the Kami-Inako mountain forests in Shizuoka Prefecture. As of today, 100% of our company-owned forests in Japan are certified, representing the largest certified forest area held by a private company in the country. In FY2016, SGEC entered into a mutual recognition agreement with PEFC, an international forest certification system, making SGEC certification internationally recognized.
We are also progressing with certification acquisition overseas, achieving a certification rate of 96% as of the end of FY2024. Through these initiatives, the Oji Group continues to practice responsible forest management.

SGEC Certification Inspection of Mimasaka Mountain Forest (Okayama, Japan)

Kami-Inako mountain forest (Shizuoka, Japan)

Utilization of Certification in Wood Raw Material Procurement

In accordance with its Wood Raw Material Procurement Guidelines , the Oji Group requires all suppliers to produce sustainable wood raw materials and verifies their compliance.
To conduct this verification, we utilize the FSC forest certification system. All procured wood raw materials comply with FSC requirements, including FSC-certified wood and FSC-controlled wood*5.
Suppliers holding FSC-CoC certification undergo third-party audits, and by leveraging such certification systems, we ensure traceability and appropriate management of wood raw materials throughout all stages of the supply chain.

*5 FSC controlled wood mitigates the risk of forest products originating from unacceptable sources:
1. Illegally harvested wood
2. Wood harvested in violation of traditional and human rights
3. Wood from forests in which high conservation values are threatened by management activities
4. Wood from forests converted to plantations or non-forest use
5. Wood from forests in which genetically modified trees are planted
For more information about FSC controlled wood see the FSC website .

Related pages

TNFD Report

Biodiversity Conservation

Harmonious coexistence with local communities

Responsible Procurement based on Wood Raw Material Procurement Guidelines

Biodiversity Conservation

Policy Structure Action Plan Risk Assessment Initiatives Participation in the 30 by 30 Alliance for Biodiversity Data

Policy

The Oji Group implements biodiversity conservation initiatives under the Oji Group Biodiversity Commitment and No Deforestation and No Conversion Commitment.

The Oji Group Biodiversity Commitment

With a strong commitment to continuing nature-positive management and achieving the targets of the Kunming-Montreal Global Biodiversity Framework (GBF), the Oji Group pledges to avoid and reduce contributions to drivers of nature loss, reduce threats to biodiversity, and restore and regenerate ecosystems.

Commitment

While maintaining our sustainable forest management and wood material procurement practices, we commit to avoiding and reducing drivers of nature loss in our operations and value chain, and to restoring and regenerating ecosystems by 2030.

Actions we take to avoid and reduce contributions to drivers of nature loss:

- We are committed to "No Deforestation and No Conversion." (GBF Target 1)
- We maintain the water resource conservation function of forests and contribute to the creation of freshwater resources. (GBF Target 11)
- We prevent nature loss by reducing or eliminating air, water and waste pollution. (GBF Target 7)
- We mitigate pollution risks and the impact of pollution from plastics throughout our value chain by expanding sales of renewable eco-friendly paper products. (GBF Target 7)
- We mitigate climate change, which is closely related to biodiversity, by maintaining and promoting the absorption and sequestration of atmospheric carbon dioxide through our self-managed plantations and natural forests. (GBF Target 8)

Targets for reducing or eliminating air, water and waste pollution

Air Water Waste

Expansion of sales of renewable eco-friendly paper products

Actions we take to restore and regenerate ecosystems:

- We restore and regenerate the ecosystems of our company-owned forests through the regeneration of natural forests. (GBF Target 2)
- We restore and regenerate the ecosystems outside our company-owned land through the establishment of ecological corridors. (GBF Target 2)

Targets for restoring and regenerating ecosystems

Actions we take to engage stakeholders:

- We conduct our business activities while respecting the human rights of stakeholders, including indigenous peoples and local communities. (GBF Target 1, 22)
- We provide access to remedy for stakeholders in accordance with the Guiding Principles on Business and Human Rights endorsed by the UN Human Rights Council. (GBF Target 9)

Oji Group Human Rights Policy Remedy platform

March 28, 2025

Representative Director of the Board,
President and CEO
Oji Holdings Corporation
Hiroyuki Isono

No Deforestation and No Conversion Commitment

December 26, 2024

Forests possess a variety of public benefits in addition to their function of producing wood resources. These benefits include the absorption and sequestration of carbon dioxide, biodiversity conservation, soil conservation, watershed protection, and providing a place for nurturing culture and tradition. The Oji Group, through its history of over 150 years and its operations rooted in forests, understands these rich functions and values of forests and has grown and managed forests working together with local communities.
Large-scale deforestation is ongoing in many parts of the world, and the world's forest area is estimated to have decreased by 178 million hectares over the 30-year period from 1990 to 2020*[1]. We recognize that it is our important responsibility, as a company rooted in forest-based operations, to confront this significant threat to natural ecosystems anew and contribute to the realization of a sustainable society.

Commitment

The Oji Group Commits to No Deforestation and No Conversion*[2]

Scope and Targets

The Oji Group has been practicing sustainable forest management and wood material procurement without deforestation and conversion through various initiatives. We will continue these efforts, further improve them, and consistently achieve no deforestation and no conversion.
The scope of our commitment includes our own forest management as well as the supply chain for the wood raw materials we procure*[3]. By 2025, we will further improve and implement our wood raw material procurement guidelines and establish a grievance mechanism in accordance with the United Nations Human Rights Council's "Guiding Principles on Business and Human Rights".

Respect for Human Rights

Respect for human rights is a core element of a responsible supply chain. The Oji Group respects the human rights defined by international norms such as the "International Bill of Human Rights" and the "ILO Declaration on Fundamental Principles and Rights at Work". Additionally, we advance activities in accordance with principles such as the UN "Guiding Principles on Business and Human Rights" and "Free, Prior and Informed Consent (FPIC)". These principles are outlined in the Oji Group Human Rights Policy, and we conduct forest management and supply chain management with consideration for international human rights, including those of Indigenous Peoples, local communities, and workers.

Initiatives

1) Company-wide Structure

We have established the Sustainability Committee, chaired by the CEO and composed of directors, to deliberate on matters related to supply chain risks and their countermeasures, with oversight and supervision by the Board of Directors. Additionally, we have set up the Corporate Sustainability Division as a cross-functional management division to drive sustainability related initiatives group wide.

Sustainability Management Structure

2) Own Forest Management

The Oji Group owns and manages an extensive 635,000 hectares of forests worldwide. Under the Oji Group Sustainable Forest Management Policy, we practice sustainable forest management that considers the environment and local communities. We have set the target to achieve a 100% forest certification rate for our own forests by 2030 in the Environmental Action Program (2030).

3) New Business Planning

When planning new businesses, we conduct risk assessments not only from an economic perspective but also considering ESG factors. When acquiring new land for forest management, we respect human rights and FPIC, verify there are no environmental or social risks, or take necessary measures to avoid or mitigate such risks, and make it a prerequisite to obtain forest certification.

4) Supply Chain Management

The Oji Group has established the Oji Group Sustainability Action Guidelines for Supply Chains for the procurement of raw materials. These guidelines are in accordance with internationally important principles such as human rights, labor, environment, and anti-corruption as defined by the United Nations Global Compact. Since the fiscal year 2020, we have been conducting Supplier Sustainability Surveys for main suppliers, and we use the results for assessing the actual situation and risk management. Moreover, in accordance with the Wood Raw Material Procurement Guidelines established under the above Action Guidelines, we require all suppliers of wood chips and pulp to produce sustainable wood materials. We have established a due diligence system for ongoing monitoring. We verify specified items such as the origin of raw materials and the status of forest certification through various

methods, including traceability reports from suppliers, and conduct risk assessments. If a high risk is identified, we request additional documentation or conduct on site audits to monitor the situation. Additionally, we utilize forest certification systems*4 such as FSC™ and PEFC as tools to verify that there is no deforestation, land conversion, or human rights violations. If it is found that standards are not being met, we will engage in continuous dialogue and request improvements from the suppliers, and if improvements are not made, we will cease transactions with those suppliers.

5) Collaboration for Sustainability

We collaborate with stakeholders, including Indigenous Peoples, NGOs and suppliers such as smallholders, to support the implementation of sustainable forest management, protect and nurture rare flora and fauna, and conserve and restore ecosystems.

Targets for Natural Forest Restoration and Recovery Other Environmental Conservation Initiatives

Information Disclosure and Policy Review

These initiatives and results are reported annually in the integrated report and on our website.
The content of this commitment and related policies will be reviewed as necessary.

Philosophy on Forest Resources

Forest resources are an excellent resource that can be regenerated through sustainable forest management. Additionally, their appropriate management and utilization can maintain and restore the diverse public benefits of forests. Not only in plantation forests but also in natural forests (secondary forests), appropriate protection and utilization can promote harmony with nature and preserve the functions of forests.
The Oji Group has developed a business model that nurtures and cyclically utilizes renewable forest resources. The appropriate use of forest resources in the processes of forest management, harvesting, and planting (including natural regeneration) does not lead to deforestation*5.
The Oji Group, which owns and manages 635,000 hectares of forests worldwide, will continue to develop this business model, maintain the public benefits of forests, and expand efforts to conserve and restore natural ecosystems, thereby contributing to the achievement of a nature-positive world.

*1 Refer to Global Forest Resources Assessment 2020 Main report (FAO) .
*2 Deforestation or Conversion: Conversion is the permanent loss of surrounding ecosystem services due to the conversion of natural forests or HCV areas to other land uses. Minimal conversion for the sake of social and environmental benefits is generally excluded. Deforestation is one form of conversion and indicates the conversion of natural forests. The natural forests include primary forests, regenerated (second growth) forests, managed natural forests and forests that have been partially degraded (Refer to Accountability Framework initiative). HCV, High Conservation Value, indicates areas that are valuable and have high conservation importance from the perspectives of biodiversity, water resource conservation, culture, and landscape.
*3 The Oji Group will source wood raw materials that do not originate from deforestation or conversion at least since the end of 2020. This cutoff date aligns with the global commitment outlined in SDGs' Target 15.2: "By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally".
*4 When utilizing certification systems, we verify whether the standards required by each certification system are appropriate in light of the policies and guidelines set forth by the Oji Group, and we also confirm their reliability. FSC™ License code: FSC™ C014119 etc.
*5 Referring to Global Forest Resources Assessment - FRA 2025 - Terms and Definitions (FAO) , the term deforestation "specifically excludes areas where the trees have been removed as a result of harvesting or logging, and where the forest is expected to regenerate naturally or with the aid of silvicultural measures".

The Oji Group owns and manages vast forests and practices sustainable forest management in consideration of the environment and local communities under our management philosophy, Harmony with Nature and Society. While our business activities and local communities depend on ecosystem services such as water, climate control and forest products, our forestry activities also impact ecosystems, natural landscapes and biodiversity.

We recognize our responsibility to manage our forests in an environmentally, socially and economically sustainable manner.
Guided by its Sustainable Forest Management Policy, the Oji Group collaborates with governments, environmental NPOs, scientific researchers, local residents, and other parties to protect and nurture endangered species, maintain and restore ecosystems and implement other initiatives in Japan and overseas.

Sustainable Forest Management

Structure

Important matters related to biodiversity conservation are deliberated by the Sustainability Committee (Chair: CEO; Members: all COMPANY Presidents and others, held twice a year), which is monitored and supervised by our Board of Directors.

Sustainability Management Structure →

Action Plan

In its Environmental Vision 2050, the Oji Group states that it aims for a society in harmony with nature by seeking to conserve biodiversity and reduce its impact on the environment. Further, the Group has established Environmental Action Program 2030 and Environmental Action Program 2040 as milestones toward achieving this vision, and it is implementing sustainability forest management, ecosystem conservation and restoration, and collaboration with local communities and others to protect and nurture endangered species.

Environmental Vision 2050 › Environmental Action Program 2040 › Environmental Action Program 2030 ›

The Oji Group is implementing nature restoration projects to achieve the following biodiversity conservation targets, which it set in light of risk assessments.

Metrics	Annual data						Medium-term targets (From FY2024 through FY2033)		Long-term targets (From FY2019 through FY2040)	
	2019	2020	2021	2022	2023	2024	Targets	Progress*4	Targets	Progress*4
Area of restored natural forests*1(ha)	170	366	399	379	359	260	3,000	260	5,000	1,933
Number of planted native tree species*2(seedings)	34,827	60,624	76,433	61,599	27,480	60,271	500,000	60,271	900,000	321,234
Area of ecological corridors formed outside own land*3(ha)	186	318	313	411	532	500	3,500	500	6,000	2,260
Area of natural forests connected by ecological corridors(ha)	1,281	2,212	2,239	1,268	2,587	9,629	-	9,629	-	19,216

*1 The area where planting and other activities were carried out to restore natural forests lost due to windthrow, fire, etc.
*2 The number of trees planted within the natural forests owned.
*3 The area enclosed by fences to promote the revegetation of degraded lands between fragmented natural forests and to allow wildlife to move freely, in collaboration with landowners.
*4 Progress status is as of the end of FY2024.

The validity of the metrics and targets was reviewed by a third party, Kokusai Kogyo Co., Ltd.

The third-party review of the medium-term targets PDF

ESG Data: Environment 22. Nature-related metrics and targets ›

Alignment with Climate Change Mitigation Activities

The Oji Group's nature-related initiatives, such as restoring natural forests and planting native tree species on its land, have reforested degraded land and increased the amount of CO_2 absorbed and fixed by the land. These initiatives align with and support the Oji Group's efforts to mitigate climate change by enhancing CO_2 absorption and fixation through its investments in forest conservation and afforestation. Additionally, the Oji Group's initiatives to establish ecological corridors have restored vegetation and increased CO_2 absorption and fixation in areas outside its land, contributing to the mitigation of climate change.

Forest Certification

The Oji Group is working to acquire FSC™ and PEFC forest certification to ensure sustainable forest management. For example, Principle 6 of the FSC™ forest management stipulates "Environmental Values and Impacts", which requires the assessment and monitoring of the impact of activities inside and outside the forest management area, the avoidance and reduction of any anticipated adverse impact and the restoration of adversely impacted areas, as well as the maintenance, conservation and restoration of biodiversity.
To date, we have acquired FSC™ certification in Brazil*4 and other countries overseas and SGEC certification in Japan. As of the end of FY2024, 96% of our overseas plantations and 100% of our company-owned forests in Japan have received forest certifications.
The items included in forest certification audits include items related to biodiversity. For all of the Oji Group's forest certified sites, we have formulated Biodiversity Action Plans (BAPs) for reforestation, the protection and nurturing of endangered species, and ecosystem surveys (water quality surveys, soil surveys, etc.) and manage the progress of these initiatives. We regularly submit our results to third-party forest certification organizations for auditing.

*4 FSC™ certification license code for CENIBRA in Brazil: FSC™-C008495

For the nature transition plan, click here

Risk Assessment

Identification and Assessment of Nature-related Issues

Oji Holdings identifies and assesses the Oji Group's nature-related issues by reference to the LEAP approach developed by the Taskforce on Nature-related Financial Disclosures (TNFD). Using ENCORE and other tools, we assess our activities' dependencies and impact on nature throughout our value chain. We also identify priority locations by considering the regional characteristics of each site. In priority locations, we identify and assess short-, medium- and long-term risks and opportunities through scenario analyses.

See the TNFD Report for more information

For the integrated results of nature-related dependencies and impacts, click here

Proximity of Operating Locations to Areas Important for Biodiversity*5

Direct Operations	Map of Oji Group's operating locations and areas important for biodiversity
Suppliers	Map of overseas wood chip suppliers and areas important for biodiversity
Priority Locations*6 (CENIBRA)	Map of CENIBRA'S operating locations and areas important for biodiversity

*5 Areas important for biodiversity referenced from UNEP-WCMC (2023) Global Critical Habitat Screening Layer (Version 2.0)
6 Priority locations were considered and identified in accordance with the LEAP approach

* An intergrated approach developed by TNFD (Taskforce on Nature-related Financial Disclosures). It assesses and manages nature-related issues in fore phases: Locate, Evaluate, Assess, and Prepare.
Locate the interfaces with nature across geographies, sectors and value chains.
Evaluate dependencies and impacts on nature.
Assess nature-related risks and opportunities to the organization.
Prepare to respond to nature-related risks and opportunities, including target setting.

When we construct our mills through large-scale land development or acquire new land through mergers and acquisitions, we assess the environmental impact on the atmosphere, water areas, soil, among others, that may be caused by the operations. As part of this environmental assessment, we also evaluate the impact on biodiversity.

Initiatives

New Zealand

Preserving and Restoring Natural Forests (Pan Pac/New Zealand)

In 2019, Pan Pac purchased forest land (total area 298 ha) just north of our Whirinaki mill. This forest land includes approx. 68 ha of well-established indigenous (native) forest. We partnered with government organizations to place the reserve into a secure Queen Elizabeth II National Trust (QEII)*[7] covenant, under the name Pakuratahi Bush.

While Pan Pac will maintain ownership of the land, the QEII covenant ensures that Pakuratahi Bush will be preserved for future generations. This forest is home to native tree species such as kahikatea, matai, titoki, karaka*[8], and kanuka. Unlike many other areas, it has remained largely undisturbed by livestock and pests, allowing these trees to thrive and reach their full lifespan. As a result, Pakuratahi Bush holds significant ecological and cultural value.

Since its designation as a reserve, Pan Pac has worked with experts to support the restoration of this precious natural forest. Efforts include installing fences to prevent deer damage and planting tens of thousands of native plants as part of a reforestation program.

Although Pakuratahi Bush is not generally open to the public, Pan Pac hosts events like native tree-planting activities and guided tours. These initiatives provide environmental education opportunities for the local community, including schools and indigenous groups with ties to the land.

*7 Queen Elizabeth II National Trust (QEII): https://qeiinationaltrust.org.nz/

A view of the reserve

*8 Karaka tree (Corynocarpus laevigatus)

Kiwi Conservation activities (Pan Pac/New Zealand)

Pan Pac Forest Products, an Oji Group company, is engaged in activities to protect the kiwi, a rare bird species, in collaboration with New Zealand's Ministry for the Environment, citizen volunteers and other parties. As a part of these activities, the company has designated approximately 40 hectares of land as a kiwi sanctuary to protect kiwi chicks. Chicks and eggs in the surrounding area are captured and collected, and chicks that are captured or hatched from the collected eggs are nurtured in the sanctuary before being returned to the wild.
In June 2019, Pan Pac was named Community Corporate Sponsor of the Year at a national kiwi conference held by Kiwis for Kiwi, a kiwi protection organization.

The kiwi crèche at Opouahi - SOKK Website

Environmental Conservation Activities through Pan Pac Environmental Trust (Pan Pac/New Zealand)

The Pan Pac Environmental Trust was established in 2019 by Pan Pac Forest Products Limited (Pan Pac), a sustainable integrated forest products company in Hawke's Bay. The trust adds to Pan Pac's existing community support and sponsorship initiatives in the region. Via the Trust, Pan Pac contributes to projects that benefit the environment and culture of Hawke's Bay.

A wide range of projects have been selected, from projects protecting endangered indigenous species and eliminating invasive predators to cultural and educational projects, including projects focused on Maori culture and traditions and projects providing scientific educational kits. Local communities and the Trust cooperate to achieve the targets of projects, with the former providing innovative ideas for environmental conservation or restoration and the latter providing the funding necessary to implement the ideas. Through these initiatives, Pan Pac has established strong partnerships with local communities.

Supported projects in 2024

Kākābeak/Ngutukākā Propagation (The Kākābeak is a native plant species that is threatened with extinction in the wild.)

Hawke's Bay Wilding Pine Control Trust

Mohi Bush Rodent Control

Predator Free Poporangi

Protecting the Hawke's Bay Skink

Te Wai Mauri Nursery

Pictured: Reece O'Leary from the Pan Pac Environmental Trust with James Powrie and Marie Taylor from the Kākābeak/Ngutukākā programme.

Mohi Bush Rodent Control

Protecting the Hawke's Bay Skink

Support activities in past years

Forest Lifeforce Restoration Trust

Te Huka Waiohinganga (Esk) River Care Group

Protection of Endangered Species of High Conservation Value (SPFL／New Zealand)

The Company has identified areas of high conservation value in collaboration with local ecologists and others.These areas include the habitats of rarethreatened and endangered (RTE) species or areas where there is the potential they may exist.

The habitats of RTE species are clearly delineated and protected through harvest planning, GIS and on-site measures. Monitoring and reassessment are also conducted every five years to ensure there has been no degradation caused by pests or diseases. Furthermore, when planning and implementing operational activities, all staff and contractors are given a brochure highlighting several RTE species that may be found in the area. This brochure is also posted on the SPFL's corporate website to increase the awareness of the people entering the forested areas.

Among the RTE species in SPFL's forests, the New Zealand falcon is observed most frequently. An example of this is that when a NZ falcon is attempting to nest in a designated operating area, the activities are postponed as necessary to protect the species.

NZ Falcon observed in SPFL's Plantation area

Brazil

Initiatives of CENIBRA, Brazil

CENIBRA is nurturing a broad spectrum of life by protecting the valuable ecosystem of the Atlantic Forest which is known as reservoir of biodiversity. In collaboration with external research institutions, universities, NGOs and other organizations, CENIBRA also monitors plants, animals and water resources, and is engaged in various activities to protect and conserve ecosystems, thereby enhancing the multi-functionality of forests.

Monitoring results up until 2023 confirm that 27 endangered species of bird and 20 mammal species inhabit CENIBRA's company-owned forests.

In addition, CENIBRA is engaged in breeding activities for the mutum-do-sudeste (Crax blumenbachii), an endangered bird species, and several other species, and is returning them to nature. It is also implementing a Ecological Corridor Project to link separated habitat areas.

For more information, see Red List, CENIBRA, Brazil.

Activities to protect the mutum-do-sudeste (the red-billed curassow, in the Crasidae family), an endangered species (CENIBRA/Brazil)

A mutum-do-sudeste (red-billed curassow) whose habitat is the Macedonia Farm

The largest of the Oji Group's overseas plantations is owned by CENIBRA, a eucalyptus plantation and pulp business in Minas Gerais, Brazil. This company owns and manages 250,000 hectares of forests and maintains 100,000 hectares of them as a forest reserve area. Forest reserve areas are protected under Brazil's forest law for biodiversity conservation. CENIBRA also protects native vegetation around rivers and lakes, including its water sources, in addition to natural forests. CENIBRA's Macedonia Farm is a symbol of its biodiversity initiatives. 560 hectares of the farm have been recognized by the government as a private natural heritage reserve (RPPN).*9 The valuable ecosystem of this Atlantic Forest (Mata Atlantica) area has been preserved, and the farm was identified and has been managed as an area of high conservation value in the forest certification process. As of 2020, regular monitoring surveys of its biota have identified 397 species of wild birds and 68 species of medium- and large-sized mammals, including endangered species. Since 1990, the company has been engaged in breeding, rearing, and returning the endangered mutum-do-sudeste (red-billed curassow) and other wild birds that are included in the above to the wild in collaboration with a local NGO. A total of 480 birds of seven species have been released, and more than 300 birds have been born in the wild from the released individuals. CENIBRA has formed a partnership with the state forest bureau, and through this partnership, it has expanded the area where it releases birds. Birds are released not only in CENIBRA's forest but also in a state park adjacent to it. In 2023, an additional ten pairs of mutum-do-sudeste were released in an area close to the Rio Doce State Park, and this species of birds, which had been regionally extinct for more than 50 years, was again added to the list of species in the park.

Mutum project - CENIBRA

*9 RPPN: Reserva Particular do Patrimônio Natural

Japan

Activities for Protecting the Sarufutsu Itou (Oji Forest & Products/Company-owned Forest in Sarufutsu, Hokkaido)

The itou (scientific name: Parahucho perryi) is one of the largest fresh water fish in Japan. It is designated as an endangered species by the International Union for Conservation of Nature (IUCN) and the Ministry of the Environment of Japan. Although they previously also lived in northern Honshu (the main island of Japan), now, their habitat is limited to Hokkaido.
In 2009, the Oji Group established the Sarufutsu Itou Conservation Council with a local NPO, local governments, researchers, and others to protect the itou whose habitat is the river zone of the Sarufutsu mountain forest in Sarufutsu-mura, Hokkaido, and it designated a conservation forest to protect the itou within the company-owned forest in Sarufutsu (approx. 17,290 hectares). We are engaged in protection activities, including the removal of artificial objects which hamper the upstream migration of the fish, and research regarding their spawning beds and the number of individuals which migrate upstream.

Photo provided by Yo Chirai

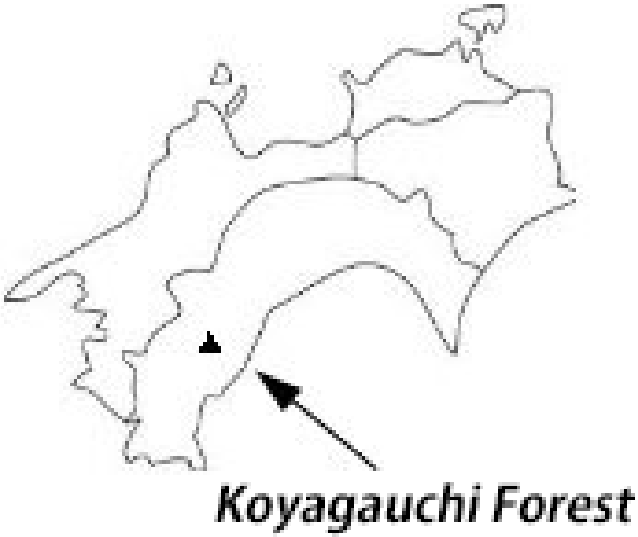
Itou being released after an ecosystem survey

Field research being conducted with participating university students

Activities for Protecting the Fairy Pitta (Oji Forest & Products / Company-owned Forest in Koyagauchi, Kochi)

The fairy pitta is a colorful endangered species of migratory bird whose body is approximately 20 cm long.
Since August 2016, the Oji Group has been dedicated to protecting the growing environment of this species of bird in collaboration with the Ecosystem Trust Society within a company-owned forest in Koyagauchi, Kochi. Our activities in the company-owned forest include aiding the construction of walkways used mainly for research, exchanging opinions with the local government and other stakeholders, and creating opportunities to share information.
This company-owned forest was examined by the Ministry of the Environment for certification as a Nationally Certified Sustainably Managed Natural Site. In October 2023, it was officially certified as a Sustainably Managed Natural Site, and in August 2024, it was registered as an Other Effective Area-Based Conservation Measure (OECM) in the World Database.

Provided by the Ecosystem Trust Society



Conservation activities for endangered alpine plants(Oji Forest & Products/ Company-owned Forest in Samani, Hokkaido)

The alpine plant community on Mt. Apoi (located at the southern edge of the Hidaka Mountains, on the west coast near the Cape Erimo, Hokkaido) is home to many endemic plants with place names such as "Apoi," "Samani," and "Hidaka," and was designated a national special natrural monument in 1952.
While the local government and people continue to work together to maintain trails to prevent trampling, patrol the area to prevent illegal digging, and conduct restoration experiments, the Oji Group provides support such as providing a site for regenerating alpine plants.

Hidakasou (Callianthemum miyabeanum)

Regenerating activity

Lily-of-the-Valley Habitat Conservation (Oji Forest & Products/ Company-owned Forest in Kami-Ashigawa,Yamanashi)

The Kami-Ashigawa company owned forest in Fuefuki City, Yamanashi Prefecture is a habitat for lily of the valley, which is a woodland flowering plant that has been designated as a natural monument by the prefecture. This is the lagest such habital outside of Hokkaido Prefecture and over the years it has been protected by local conservationists over the years. In order to maintain this conservation, the Oji Group has leased land to Fuefuki City for free of charge.
Since 2012, we have also contracted local people to patrol the habitat as part of the conservation efforts. The Lily of the Valley Festival, which Fuefuki City organizes every year in late May has helped the city to attract tourists who come to see the many flowers that bloom during this time.

Forest floor

Lily of the Valley

Participation in the 30 by 30 Alliance for Biodiversity

Oji Holdings participates the 30by30 Alliance for Biodiversity, a voluntary initiative led by Japan's Ministry of the Environment and formed by companies, municipalities, and other organizations. The alliance aims to conserve at least 30% of land and sea areas by 2030, as pledged at the G7 Summit in June 2021. Activities include registering members' owned or managed lands in the global OECM*10 database and expanding and supporting protected areas. The Oji Group's Koyagauchi Forest was registered as an OECM in August 2024.

*10 OECM: Other Effective area-based Conservation Measures: areas other than national parks that contribute to biodiversity conservation, such as company forests and satoyama landscapes.

The 30 by 30 Alliance for Diversity (The Ministry of the Environment)

Ecosystem Trust Society: About the Fairy Pitta (Only in Japanese)

Data

ESG Data →

Resource Circulation -Waste-

Policy Structure Targets and Achievements Initiatives Status of Reduction and Effective Use of Waste
Actions for a Plastic-free Society Data

Policy

The Oji Group is implementing initiatives to reduce waste and ensure proper management, and contribute to the transition to a circular economy. The Oji Group sets targets to reduce waste generation and the amount of waste disposed of by landfill, and is taking actions to achieve the target.

Structure

Sustainability Management Structure →

Environmental Management →

Targets and Achievements

In the Environmental Action Program 2030, the Oji Group set a target to achieve an effective waste utilization rate*1 of at least 99% in Japan and 95% overseas by FY2030.
In the Environmental Action Program 2040, formulated in May 2025, the Oji Group set a target to maintain and improve an effective waste utilization rate of 99% or higher in Japan and 95% or higher overseas by FY2040.

*1 Effective waste utilization rate = (volume of waste generated − volume of landfill waste) ÷ volume of waste generated x 100

	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2030 (Terget)
Japan	98.3%	98.4%	98.8%	99.1%	99.4%	99.0%	99.4%	99.0% or more
Overseas	89.6%	88.5%	89.4%	89.1%	83.4%	86.4%	90.2%	95.0%or more

For details, please refer to ESG Data 10. Waste and PRTR Chemical Substances

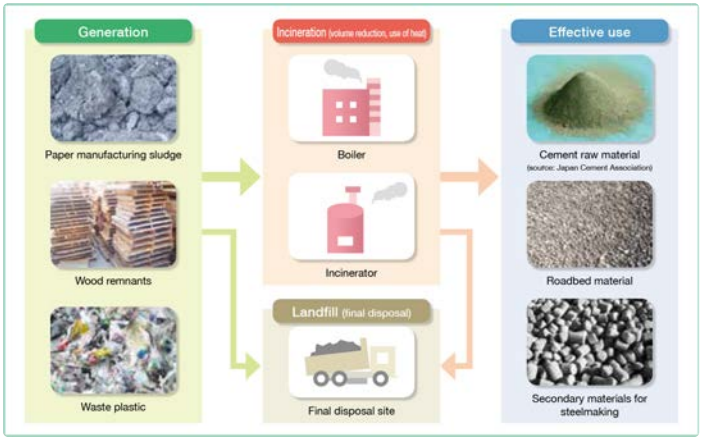
Initiatives

The Oji Group is working to reduce waste generation and final disposal (landfill) volumes by setting targets for an effective waste utilization rate of 99% in Japan and 95% or higher overseas (final disposal rates of 1% in Japan and less than 5% overseas).
We are contributing to the transition to a circular economy and reducing our impact on the environment by minimizing the waste generated in our manufacturing processes, and by properly treating, recycling and effectively utilizing waste.
To achieve the targets, each business site ensures proper waste management and provides education to employees on waste segregation.

Environmental Management

Status of Reduction and Effective Use of Waste

Waste includes paper manufacturing sludge generated in the manufacturing process, wood waste during processing and ash during fuel combustion. Any wastes are treated to make them harmless and they are used effectively.
In Japan, ash is used primarily as a raw material in cement and roadbed materials. Overseas, paper manufacturing sludge is used as fertilizer and for other applications.
We continuously work to reduce the amount of waste generated and to expand our effective utilization of it.



The effective waste utilization rate[*2] in FY2024 was 99.4% in Japan and 90.2% overseas.
We will continue to work to enable the recovery and reuse of raw materials from the water used in the manufacturing process and the effective use of the ash generated in the combustion of fuels to obtain electricity and heat used in the production process for roadbed materials, etc., to reduce our environmental impact.

*2 Effective waste utilization rate = (amount of waste generated − amount of landfill waste) ÷ amount of waste generated × 100

Collaboration with Industry Associations and Other Companies

The Oji Group participates in the Environmental Action Plan (Waste Management) of the Japan Paper Association, of which it is a member. To achieve the industry association target for reducing landfill disposal volumes, the Oji Group is advancing its own initiatives.

For details, please refer to ESG Data 10. Waste and PRTR Chemical Substances

Actions for a Plastic-free Society

In the field of packaging materials, one of the Group's core businesses, we have contributed to the reduction of plastics in society as a whole by reducing plastic usage by approximately 3,000 tons in FY2023 through the replacement of plastic products with sustainable packaging.
We will expanded sales of sustainable packaging by approximately 5,000 tons by FY2030 and contribute to the transition to a plastic-free society and a circular economy.
Within the Oji Group, Oji Nepia is transitioning to plastic-free packaging materials.
More than 90% of the waste plastic discharged from the Oji Group is derived from plastic mixed with recovered paper, the raw material for paper and paperboard. Each of our manufacturing sites actively ensures effective utilization of waste plastics. In particular, sites classified as large plastic waste generators*3 have accelerated their efforts and in FY 2024, approximately 98% of this waste was recycled (including thermal recycling). The Oji Group sets the target for large waste generators to achieve a 100% recycling rate by FY2030.

※3 Total for 9 Oji Group companies in Japan subject to the Act on Promotion of Resource Circulation for Plastics (Oji Paper Co., Ltd., Oji Materia Co., Ltd., Oji F-Tex Co., Ltd., Oji Nepia Co., Ltd., Oji Imaging Media Co., Ltd., Oji Container Co., Ltd., Morishigyo Co., Ltd., Oji Tac Co., Ltd., and New Tac Kasei Co., Ltd.)

1. Expansion of sales of sustainable packaging

To recycle for the future, we reduce the amount of plastic used by society as a whole by facilitating the expansion of sales of renewable eco-friendly products, such as the transition from plastic packaging to paper.

Click here for case studies

Reference: Reduction of CO_2 emissions by introducing paper packages (Only in Japanese)

2. Results for FY2024

In FY2024, 65,572 tons of waste plastic were generated from manufacturing sites of Oji Group's nine large plastic waste generators. Approximately 98%, or 64,561 tons, was recycled (including thermal recycling) and 1,009 tons of waste plastic remained unrecycled.

Table:FY2024 Targets, Waste Plastic Generation, Recycled amounts of Nine Large Plastic waste Generators, and Sustainable Package[4] Sales Performance

Unit: tonnage in presence, []: total emission ratio

	FY2021	FY2022	FY2023	FY2024	FY2030 (Target)
Total amount of waste plastic generated	74,426	75,684	73,642	65,572	
(Amount of recycled paper mixed in as raw material)	(67,696)	(68,984)	(67,449)	(60,978)	
Recycled amount (including thermal recycling)	69,678 [94%]	73,798 [98%]	72,419 [98%]	64,561 [98%]	[100%]
(of which material and chemical recycling)	(804)	(763)	(282)	(338)	
Unrecycled amount	4,749 [6%]	1,886 [2%]	1,215 [2%]	1,009 [2%]	[0%]
Sales of sustainable packaging	1,904	3,312	3,297	3,141	5,000 or more

*4 Includes some non-packaging plastic alternative paper products

3. Details of efforts as a specified plastic product provider

Grand Hotel New Oji, a provider of specified plastic-using products, has set rationalization targets for 12 specified items and is implementing reduction activities, with the aim of contributing to the preservation and sound development of the living environment.

Data

ESG data 10. Waste and PRTR chemical substances →

Resource Circulation -Recovered Paper-

Policy

The Oji Group produces newsprint, printing paper, paperboard and other products at mills across Japan, and more than 60% of the raw materials we use are recovered paper. We work to increase the circular use of resources and contribute to maintaining a healthy paper recycling system by actively utilizing various types of recovered paper.

Structure

Environmental Management →

Targets and Achievements

Increasing the Recovered Paper Utilization Ratio1 in Japan

The Oji Group consumes 3.5 million tons of recovered paper, annually the largest in Japan. This is 24% of the total 14.6 million tons of recovered paper consumed in Japan. The Oji group uses various types of recovered paper in a wide range of products. The recovered paper utilization ratio*1 has continued to increase every year, reaching a record high of 67.4% in FY2024. The ratio for containerboard in particular is a much higher 98.3%.

*1 Recovered paper utilization ratio = Volume of recovered paper consumed ÷ Total volume of fiber raw materials consumed (total consumption of recovered paper, wood pulp, and others)

Changes in the Amount of Recovered Paper Use and Recovered Paper Utilization Ratio

* This table can be viewed by scrolling horizontally.

		FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Amount of recovered paper use (kt)	Old newspapers	1,035	1,040	956	902	793	676	636	624	590	543
	Old magazines	667	649	710	765	815	795	773	677	628	579
	Old corrugated containers	1,979	2,025	2,077	2,051	1,996	1,976	2,056	2,171	2,018	2,048
	Others	349	352	351	362	406	378	369	333	340	328
	Total	4,029	4,066	4,093	4,081	4,010	3,826	3,834	3,806	3,577	3,498
Recovered paper utilization ratio (%)	Oji Group companies in Japan	64.3	63.5	64	64	65.6	68.5	67.1	67.6	68.3	67.4
	All Japan*2	64.3	64.4	64.2	64.3	64.6	67.5	65.9	66.3	67.1	66.5

*2 All Japan: Paper Recycling Promotion Center

Initiatives

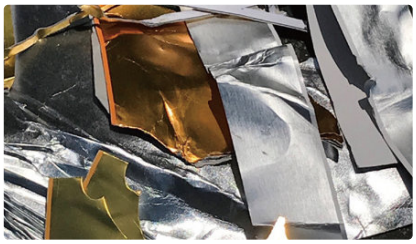
Initiatives in Japan

Expanded Use of Recovered Paper

To date, the Oji Group has actively worked to expand the use of recovered paper through the efforts including increasing recycling for confidential documents. We have also newly established a system to recycling used paper cups and liquid containers such as milk cartons that have conventionally been difficult to process, and are promoting their reuse at our mills.

With the decline of sales of newspapers, magazines and other forms of paper media, the amount of paper that can be recovered that is generated has declined each year, even as overseas demand for recovered paper remains strong. Therefore, we see it as our mission to improve paper utilization technology in a way that enables the stable consumption of paper that previously could not be recovered, and that maintains the domestic circulation of paper recovered in Japan being recycled in Japan. To fulfill this mission, we will work with recovered paper wholesalers and other recycling companies to increase the use of recovered paper as a domestic resource.

Recovered Paper Used at Kneading Pulper



Improvement in Quality of Recovered Paper

Foreign materials other than paper that are mixed in with recovered paper or inks from specially printed or processed papers can cause quality problems when used to manufacture new paper products, such as color spots or surface swelling. These contaminants are collectively referred to as prohibited materials. The Oji Group cooperates with recovered paper recyclers and the Paper Recycling Promotion Center to engage in awareness campaigns targeting local authorities, schools and businesses to prevent prohibited materials from commingling with recovered paper.

Prohibited materials

Paper products that cannot be used as raw materials in paper manufacturing	
Aromatic paper, perfumed paper	Wrapping paper and corrugated containers for detergents, soap and incense sticks, etc.
Sublimation transfer printing paper, thermal expansion paper	Thermal paper, iron-on transfer printing paper, 3D copy paper (such as the paper used for printing braille)
Waxed corrugated containers	Corrugated containers that contained imported fruits and vegetables or processed marine products
Stained paper	Paper stained with food or oil
Materials other than paper	
Stone, glass, metal, earth and sand, woodchips, fabric, plastics, etc.	

* Chart created using information from the Paper Recycling Promotion Center website

Lesson of paper recycling in collaboration with the Paper Recycling Promotion Center

Prohibited materials sample book

Initiatives of Overseas Group Companies

Oji's containerboard mills in Malaysia also recycle recovered paper to contribute to a recycling society.

In Malaysia, GSPP manufactures containerboard made almost entirely from recovered paper. In 2023, it used 695,000 tons of recovered paper, of which it procured 46% locally in Malaysia and imported 54% from overseas.

Activities to Increase Recovered Paper Recycling in Malaysia

GSPP is working to improve the quality of recovered paper in Malaysia, mainly with affiliated collection and sorting facilities.
Moreover, GSPP is conducting a campaign to increase the general public's awareness of recovered paper recycling.
Below, the photograph on the right shows sorting bins that GSPP donated to welfare facilities in conjunction with the Embassy of Japan in Malaysia.
The bins are designed to increase awareness of recycling by enabling the segregated disposal of paper plastics and cloth.

Quality confirmation by GSPP when receiving recovered paper

Donated sorting bins

Data

ESG Data →

Resource Circulation -Water-

Policy

Water is a finite resource, and the surrounding water environment varies depending on regional conditions. Therefore, it is essential to utilize water resources appropriately under proper management tailored to local circumstances, in collaboration with stakeholders.
The Oji Group uses external tools to assess water-related risks such as water scarcity at each business site and utilizes water resources in accordance with regional conditions. Through stakeholder engagement, the Group undertakes operational improvements to reduce water withdrawal and water usage, and actively pursues the circular use of water. We also communicate to our suppliers our ideas on water resource management as outlined in the Oji Group Sustainability Action Guidelines for Supply Chains, and work to reduce water consumption throughout the entire supply chain.

Oji Group Sustainability Action Guidelines for Supply Chains

Structure

The Representative Director of the Board, President and CEO of Oji Holdings Corporation, who is responsible for the Group's water management strategy and performance, chairs the Sustainability Committee. The committee comprises Directors, Audit & Supervisory Board Members and Corporate Officers of Oji Holdings (including the Presidents of all COMPANIES and female Outside Directors). It is tasked with formulating countermeasure policies and action plans, monitoring progress, and evaluating the achievement of these measures.
Water withdrawal volumes and intensity are incorporated into the annual plans and are regularly managed throughout the year.
The Corporate Sustainability Department of Oji Management Office, which serves as the secretariat of the Sustainability Committee, collects performance data on water withdrawal reduction targets from each company on a quarterly basis, monitors water usage, and evaluates progress toward the targets. Once a year, it reports to the directors at the Sustainability Committee and implements continuous improvements.

Sustainability Committee

Water Risk Assessment

The depletion of water resources caused by climate change in recent years pose significant risks not only to the continuity of businesses but also to industries and people's health in the communities where businesses operate. To better understand the water risks involved in its business operations, the Oji Group references assessments conducted by the World Resources Institute (WRI), a global environmental research organization.
The water risks at all 325 business sites were analyzed using the WRI's AQUEDUCT water risk assessment tool. The results indicated that 24 sites were located in areas with high water risk (baseline water stress: high or extremely high) (High water-risk areas).

Learn more about Aqueduct

The business sites located in high water-risk areas account for less than 1% of the Group's total water withdrawal, less than 2% of total water consumption, and less than 3% of total production volume. In addition, both the sales revenue and assets of these sites represent approximately 5% of the Group's total, and the financial impact is considered to be low.
On the other hand, the Oji Group recognizes the potential impact of water use on local communities in high water-risk areas. Through stakeholder engagement, the Group implements initiatives at these sites to reduce water withdrawal and improve the effective use of water resources, thereby helping to mitigate and prevent regional impact.

Water Risk Assessment（FY2024）*1

* This table can be viewed by scrolling horizontally.

	Number of business sites※2	Water withdrawal (Thousands of m^3)		Wastewater (Thousands of m^3)		Water consumption※3 (Thousands of m^3)		Production volume (Thousands of tons)		Sales Revenue (JPY 100 million)		Assets (JPY 100 million)	
Low (<10%) or No data	76	336,849	49.06%	317,706	48.77%	19,143	54.55%	6,527	43.3%				
Low to medium (10-20%)	126	213,060	31.03%	207,546	31.86%	5,514	15.71%	4,556	30.2%				
Medium to high (20-40%)	99	134,934	19.65%	124,984	19.17%	10,040	28.61%	3,598	23.9%				
High (40-80%)	5	1,436	0.21%	1,149	0.18%	287	0.82%	119	0.8%	1,057※4	5.7%	1,135※4	4.3%
Extremely high (>80%)	19	267	0.04%	157	0.02%	110	0.31%	276	1.8%				
Total	325	686,547	100%	651,452	100%	35,095	100%	15,075	100%	18,493※5	100%	26,350※5	100%

*1 WRI's AQUEDUCT (4.0) Water Risk Atlas - Baseline Water Stress (5-level evaluation): Indicates the degree of potential competition with other users of water, with higher values indicating more intense competition and higher risk.
Learn more about Aqueduct
*2 Excludes main offices, sales offices, and other business sites not involved in product manufacturing.
*3 Water consumption is the amount of water intake minus the amount of water discharged.
*4 Subtotals of sales and assets of companies that have business sites located in areas with high water risk (High and Extremely High), and the ratio of each against the total sales and assets of the entire Group.

*5 Total sales and total assets are for the entire Group.

Additionally, to mitigate water-related risk, we are currently investing approximately 30 million yen per year in the development of water treatment technology, which is a research theme. In the future, this may result in the mitigation of water risks and the development of new water-related businesses, contributing to the stability and growth of the Group as a whole.

Targets and Achievements

Target - Reduce water withdrawal and consumption -

In the Environmental Action Program 2030, the Oji Group set a target to reduce water withdrawal intensity by 6% or more by FY2030, using FY2018 as the baseline year.
In the Environmental Action Program 2040, formulated in May 2025, the Group set a target to reduce total water withdrawal by 10% or more by FY2040, also using FY2018 as the baseline year.

Water use in high water-risk areas

In the Environmental Action Program 2040, formulated in May 2025, the Group also set a target of "Conducting stakeholder engagement at least once per year in high water-risk areas." Under this target, the Group will engage with stakeholders at least annually at business sites located in high water-risk areas, while implementing initiatives to reduce water withdrawal and improve water efficiency.

* This table can be viewed by scrolling horizontally.

	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	Compared to FY2018
Water withdrawal (million m^3)	740	737	706	714	710	695	687	-
Water witdrawal intensity (1,000 m^3/million yen)	0.48	0.49	0.52	0.49	0.42	0.41	0.37	-22.2%
Waste water (million m^3)	708	701	672	676	673	672	651	-
Water consumption (million m^3)	32	36	34	38	37	23	35	-

ESG Data :13. Water Resources

To mitigate risks associated with water withdrawal, the water used at plants is not just surface water from rivers and other sources, but also groundwater and water from third-party water sources (industrial water, etc.).

* This table can be viewed by scrolling horizontally.

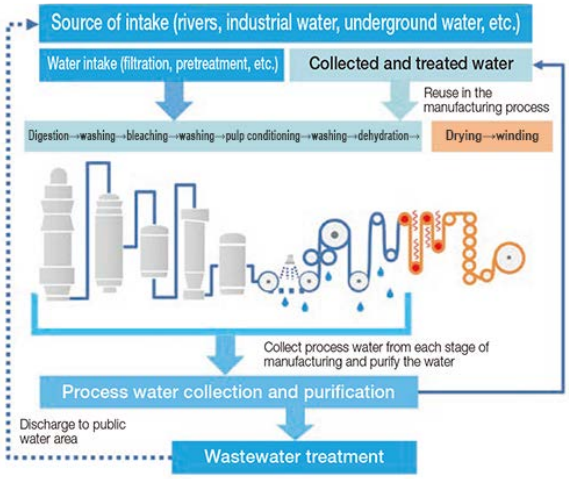
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Surface water (river, lake, etc.) (million m^3)	488	483	463	466	453	443	436
Surface water (sea) (million m^3)	10	10	9	9	9	9	9
Groundwater (million m^3)	137	133	128	127	131	128	129
Third party organization (million m^3)	106	111	106	112	117	115	112

Initiatives

Water Reduction and Effective Water Use Initiatives

The Oji Group is committed to the effective use of water resources across the entire Group. As part of this commitment, the Group has set the following targets:
In the Environmental Action Program 2030, a reduction of 6% or more in water withdrawal intensity by FY2030, using FY2018 as the baseline year.
In the Environmental Action Program 2040, formulated in May 2025, a reduction of 10% or more in total water withdrawal by FY2040, also using FY2018 as the baseline year.

All of the Group's business sites have formulated water management plans to control water withdrawal, wastewater discharge. In addition, the Group is taking steps, including efforts to reduce the water it uses, to effectively use water resources.
Paper and paperboard mills use a large amount of water throughout all of their production processes, including pulp evaporation, washing, bleaching, conditioning and papermaking. The water used in each process is collected, treated, purified and reused (recycled) thereby contributing to water reduction and the effective use of water resources. In addition, water used in the final stage of the papermaking process, drying (steam drying), is also recovered and reused.



Continuous improvement towards the FY2030 targets

In FY2024, the Oji Group's total water withdrawal was 687 million m^3, its total wastewater discharge was 651 million m^3, and its water consumption was 35 million m^3. The Oji Paper Group is working to effectively utilize water resources with the goal of reducing the water withdrawal intensity. Oji Paper, Oji Materia, Oji F-tex and Oji Nepia, whose water intake is approximately 80% of the Group's total water intake, have formulated specific reduction plans for 2030 and are working on them.

Examples of Water Reduction Initiatives

Each company within the Oji Group refers to the Aqueduct Water Risk Atlas evaluation and implements initiatives to reduce water usage and mitigate water-related risks.
This section introduces examples of such initiatives along with the Aqueduct evaluation results for each site.

IPI (Italy): Extremely High

IPI joined the group in FY2023. Immediately after joining the group, IPI upgraded its boiler cooling tower and installed RO membrane treatment equipment. This enabled IPI to reduce the amount of chloride ions in the wastewater generated during the process of softening the hard water used in production, and at the same time reduce its water consumption.

Jiangsu Oji Paper (China): Medium to High

Jiangsu Oji Paper has significantly reduced water consumption by implementing the best available technology recommended by the European Commission for environmental protection purposes in its paper and pulp production activities.

Oji Materia Osaka Mill (Japan): Low to Medium

Oji Materia Osaka Mill has adopted and implemented the following techniques, which are among the best available techniques recommended by the European Commission. This has resulted in significant water reduction effects, making it possible to reduce water intensity (m3/ton), which represents the amount of water used (m3) relative to the amount of paperboard produced (in tons), to single digits. We are proud to be industry leaders in terms of water usage efficiency.

6.3.2 Separation of sealing and cooling water from contaminated process water and water reuse
6.3.3 Optimal water management, water loop separation and arrangement, counter-current flows and internal water clarification
6.3.5 Removal of calcium from process waters
6.3.6 Installation of an equalization basin and primary treatment of waste water
6.3.11 Clarification of white water (water containing fine fibers)
6.3.12 Prevention and elimination of biofilms by using methods that minimize emissions of biocides
6.3.13 Effective reject and sludge handling and processing (dewatering) on site

For more technical information, see the Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board (europa.eu)

CENIBRA (Brazil): Low

CENIBRA is recovering cooling water to more effectively use it. Additionally, CENIBRA will invest in equipment to increase heat recovery efficiency in the future as part of the plant modernization project. By optimizing the use of steam, it is expected that water consumption will be further reduced.

Oji Fibre Solutions (New Zealand): Low

The installation of new water treatment facilities that enable previously unused wastewater generated during various manufacturing processes to be recycled and other measures.

Examples of Effective Water Use Initiatives

Jiangsu Oji Paper (China)

Wastewater generated by Jiangsu Oji Paper in its manufacturing processes is treated and purified until it meets the regulatory standards for wastewater, and then it is transferred to Nantong Nengda Water Co., Ltd. in the Nantong Economic and Technological Development Area. After undergoing various treatment processes, this water is all used as recycled water within the Economic and Technological Development Area.
Recycled water is water of a quality between tap water and sewage that is used for industrial purposes.

Initiatives in High Water-Risk Areas

Using the Aqueduct Water Risk Atlas developed by the World Resources Institute (WRI), the Group annually identifies business sites located in high water-risk areas (defined as regions with “Extremely High” or “High” Baseline Water Stress) and conducts interviews to assess their efforts in reducing water withdrawal and improving water efficiency.

In FY2023, the Group conducted a detailed survey of 21 business sites identified at the time as being located in high water-risk areas.

In FY2024, the Group confirmed the initiatives of IPI, a group company located in a high water-risk area, regarding water withdrawal reduction and water reuse and recycling.

To further advance water-related initiatives in high water-risk areas, the Oji Group established a new target in its Environmental Action Program 2040, formulated in May 2025:
“Conducting stakeholder engagement at least once per year in high water-risk areas.”
Under this target, the Group will continue to engage with stakeholders at least annually at business sites located in high water-risk areas, while implementing initiatives to reduce water withdrawal and improve water efficiency.

Initiatives in High Water-Risk Areas（FY2023）

Water Risk Fact-finding Survey

For those business sites that have been evaluated as high risk, we conduct annual interviews to ascertain the impact of water shortages and flooding on operations and the frequency of their occurrence, and to learn about examples of the countermeasures being implemented.
The results of the interviews conducted in fiscal 2023 indicated that there were no issues with production or operations identified at any business site, and no potential water risks were observed.
However, business sites reported proactive environmental protection actions, such as the implementation of voluntary initiatives to reduce water usage, engagement with stakeholders to reduce water consumption, and participating in water resource conservation activities led by public institutions.

Water risk assessment	country	Number of Business Sites	Impact on Operations Due to Water Shortage	Impact on Operations Due to Flooding	Measures to Reduce Water Risk	Activities in Collaboration with Local Governments, Related Organizations, and Supply Chain
Extremely High	China	6	None	None	• Purify and recycle all wastewater • Regular leak inspections of water pipes • Monthly monitoring of water usage	-
	India	5	None	None	• Set target values for reducing water usage • Use of rainwater • Monitoring and reducing water consumption, and promoting activities to reduce water pollution	• Share information with the government water resources committee on water conservation and management
	Thailand	4	None	None	• Implement water-saving campaigns • Regular leak inspections of water pipes • Monthly monitoring of water usage • Renovation of rainwater drainage ditches and expansion of locations for installing drainage weirs	• Collaborate with local governments and industrial park offices to report and engage in water-saving and drainage reduction campaigns • Conduct surveys with suppliers to promote environmental load reduction and water use
	Italy	2	None in the past 10 years	None in the past 10 years	• Reduce water usage by updating boiler cooling tower equipment and introducing RO membrane treatment equipment • Introduce water recirculation systems	-
High	Indonesia	2	None in the past 10 years	None in the past 10 years	-	• Formulate a water usage reduction plan in collaboration with industrial water providers
	Germany	1	None	None	• Reduce water usage by replacing the filling material of sand filtration equipment	• Participate in water resource conservation activities as a member of the regional public water association
	Australia	1	None	None	• Set target values for water-saving reduction	-

Reducing Regional Impact through Wastewater Treatment

Water used in business operations must be treated before being returned to the local environment. The Oji Group treats wastewater at its wastewater treatment plants and discharges it into surface water bodies such as rivers and lakes, or to third parties at levels below its own voluntary standard values, which are stricter than legal regulatory limits. For specific initiatives, please refer to the following link:

Environmental Impact Reduction

Engaging with Water-Related Stakeholders

Water resources, along with forests and biodiversity, are resources shared by the community, and the sustainable use of resources is ideal. In particular, production sites actively engage in dialogue with local stakeholders regarding water use, water conservation and water resource conservation concerning water resources which are essential for production.

CENIBRA (Brazil)

CENIBRA, Brazil: As a representative of the private sector, CENIBRA participates in local river basin committees and forest dialogue councils, contributing to the development of the forest sector and strategies for the conservation of water resources, natural resources and biodiversity.
CENIBRA's eucalyptus plantations and pulp production use water from the region's Doce River Basin. In recent years, there has been less rainfall than usual, and the risk of a water shortage has been a concern for the entire region. To address this issue, CENIBRA has regularly monitored water at each water point to identify the sub-basins of greatest influence. In collaboration with government authorities and local residents, CENIBRA is focusing on water conservation activities for these sub-basins to improve their practices regarding access to water and sanitation. Specifically, CENIBRA is working on the following initiatives:

Building water reservoirs in the forest

Since 2018, CENIBRA has built 100 reservoirs in its forests, storing a total of more than 1 million m3 of water, allowing excess water during the rainy season to slowly percolate into the soil, later into the river, maintaining the level of the water table in the basins. When determining the locations of these reservoirs, the residential-use water supply was considered, increasing harmony with the local community regarding the use of water resources.

Subsoiling

In recent years CENIBRA has developed subsoiling activities prior to planting seedlings to improve the regular infiltration of rainwater into the soil which is compacted by the activity of heavy machinery in its forests. Now CENIBRA is sharing this technique and its expertise with its neighbors, including log suppliers and farmers, who are contributing to the recovery of underground water retention in compacted pasture lands, as well as the prevention of erosion resulting in better water quality in the basin.

Click here for the video.

Water Source Protection Project

Within the scope of the Spring Protection Project, CENIBRA has played a crucial role in the preservation of springs located on third-party lands, especially those used for livestock and related activities. These areas, recognized as Permanent Preservation Areas under the Brazilian Forest Code, require landowners to ensure the preservation of native vegetation within them. However, many rural producers in the region were unaware of proper protection methods or faced economic constraints, resulting in inadequate conservation practices.

In this context, CENIBRA took the initiative to identify the basin of a Rio Doce tributary as a priority area for water source protection, facilitating actions that encourage producers to protect springs. This included providing materials, using technologies and installing protective fences. The delineation of these areas prevents livestock which previously had free access from entering them, preventing water source contamination and enabling the natural regeneration of vegetation.

Between 2017 and 2023, over 1,300 hectares of Permanent Preservation Areas, including all of the springs supplying the municipality of Peçanha, were effectively protected. In addition to the positive environmental impact, this project also significantly contributed to increasing landowners' awareness of the importance of water resources and biodiversity conservation. This partnership between CENIBRA, the municipality of Peçanha and the local community strengthens relationships and facilitates cooperative engagement for sustainability and collective well-being.

For more information about CENIBRA's initiatives in the past, click here.

KANZAN (Germany)

KANZAN (One of the initiatives at the water risk site), Germany: WVER is in charge of water resources management and wastewater treatment in Düren, Germany, where KANZAN is located. The association is a public organization that is managed by the residents and companies in the area that participate in the association. In addition to providing a stable water supply and wastewater treatment in the area, the association's role is to conserve water resources, and KANZAN attends meetings and participates in its activities as a member.

Oji Paper (Japan)

The Oji Paper Tomioka Mill and Yonago Mill participate in the Naka River South Bank Land Improvement District Water Use Association, etc. and the Hino River Basin Water Use Council, respectively. They are working to reduce water intake in accordance with dam storage rates to prioritize the local agricultural use of water during summer water shortages.

Oji F-Tex (Japan)

The Oji F-Tex Shibakawa Mill has signed a memorandum of understanding regarding water use with the local fisheries cooperative and cooperates in the protection of the local environment and aquatic life.

Data

ESG Data 13. Water resources →

Environmental Impact Reduction -Reduction of Pollutants-

Policy Structure Targets and Achievements Purification of wastewater Purification of exhaust gases Initiatives
Wastewater Treatment Initiatives Exhaust Gases Purification Initiatives Data

Policy

The Oji Group recognizes that reducing environmental impact caused by pollutants is a material issue that must be addressed as we moves toward the realization of a sustainable society.
To reduce environmental impact caused by pollutants in wastewater and exhaust gases, the Oji Group has set reduction targets for BOD, COD, SS, SOx and NOx under the Environmental Action Program 2030 and/or 2040, and is actively working toward achieving them. We establish voluntary standard values that are stricter than those required by relevant laws and regulations, and ensure legal compliance while preventing pollution. Additionally, we work to prevent pollution through thorough legal compliance measures.

Structure

Environmental Management →

Targets and Achievements

Purification of wastewater

In the Environmental Action Program 2030, the Oji Group has set a target to reduce the emission intensity of BOD, COD, and SS by 15% or more by FY2030, using FY2018 as the baseline year.
In the Environmental Action Program 2040, formulated in May 2025, the Oji Group has set a target to reduce the total emissions of BOD, COD, and SS by 20% by FY2040, using FY2018 as the baseline year.

*1 BOD: Biochemical oxygen demand
*2 COD: Chemical oxygen demand
*3 SS: Suspended solids

* This table can be viewed by scrolling horizontally.

		FY2018 (Base Year)	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2030 (Target)
BOD	Intensity (kg/ million yen)	5.48	5.48	5.93	5.28	3.67	3.33	3.31	4.66 or less
	Reduction rate	-	0.1%	8.3%	-3.6%	-33.1%	-39.2%	-39.7%	-15.0%
COD	Intensity (kg/ million yen)	24.86	25.52	26.77	26.58	21.91	20.91	19.03	21.12 or less
	Reduction rate	-	2.7%	7.7%	6.9%	-11.9%	-15.9%	-23.4%	-15.0%
SS	Intensity (kg/ million yen)	10.62	11.08	11.11	10.31	8.16	7.53	7.14	9.02 or less
	Reduction rate	-	4.3%	4.6%	-2.9%	-23.2%	-29.1%	-32.8%	-15.0%

ESG Data; 8. Pollutant load amount and discharge volume of wastewater

Purification of exhaust gases

In the Environmental Action Program 2030, the Oji Group has set a target to reduce the emission intensity of SOx*4 by 15% by FY2030, using FY2018 as the baseline year. In addition, the emission intensity of VOC*5 is targeted to be reduced by 50% or more by FY2030, using FY2010 as the baseline year.
In the Environmental Action Program 2040, formulated in May 2025, the Oji Group has set a target to reduce the total emissions of SOx by 50% and NOx*6 by 10% by FY2040, using FY2018 as the baseline year. Furthermore, the emission intensity of VOC is to be maintained at the FY2018 level.

*4 SOx: Sulfur oxides
*5 VOC: Volatile organic compound
*6 NOx: Nitrogen oxides

* This table can be viewed by scrolling horizontally.

		FY2018 (Base Year)	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2030 (Target)
SOx	Intensity (kg/ million yen)	4.12	3.78	4.07	3.69	3.49	2.98	2.90	3.50 or less
	Reduction rate	-	-8.2%	-1.3%	-10.5%	-15.4%	-27.8%	-29.7%	-15.0%
VOC	Intensity (kg/ million yen)	0.61	0.32	0.17	0.16	0.11	0.09	0.08	0.30 or less
	Reduction rate	-	-47.5%	-72.1%	-73.8%	-82.0%	-85.2%	-86.9%	-50.0%

ESG Data; 9. Pollutant load amount of exhaust gases

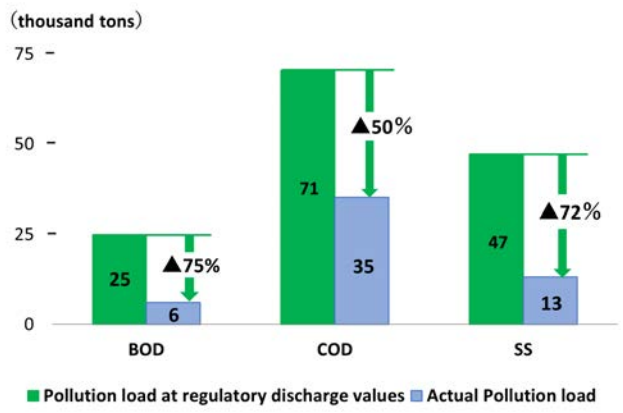
Initiatives

Wastewater Treatment Initiatives

Management of Compliance with Regulatory Values

The Oji Group drains the wastewater generated by its business activities into various waterways after reducing the environmentally hazardous substances in it to below regulatory values through physical, chemical and biological treatment processes.
As part of the wastewater monitoring process, we monitor and manage discharge water quality. We measure the quantity of pollutants in line with laws and control them by continuously measuring the wastewater. If the quantity of a pollutant exceeds our voluntary standard value, we take measures to prevent pollution by suspending operations.
Each Group mill manages wastewater quality using voluntary management values that are stricter than the regulatory values stipulated by laws and ordinances, ensuring compliance with these regulatory values. We are committed to purifying wastewater. For example, in FY2024, we reduced COD (chemical oxygen demand) in wastewater by 50% compared to the emissions that would have been allowed under the regulations.

Pollution load in wastewater(BOD, COD and SS)*7 (FY2024)



*7 BOD (Biochemical oxygen demand)
Biochemical oxygen demand (BOD) represents the amount of oxygen consumed by microorganisms to decompose organic matter under aerobic conditions. When BOD is elevated, foul odors, etc. are produced.

COD (Chemical oxygen demand)
Chemical Oxygen Demand (COD) represents the amount of oxygen required to chemically oxidize organic materials.

SS (Suspended solids)
Particulates suspended in water.

ESG Data; 8. Pollutant load amount and discharge volume of wastewater

Reduction of Pollutants in Wastewater

To ensure that wastewater discharges remain below voluntary standard values that are stricter than regulatory Values, the Oji Group installs and operates dedicated wastewater treatment plants. Specific initiatives are outlined below.

Oji Paper and Oji Materia (Japan)

At each mill of Oji Paper and Oji Materia, wastewater purification is carried out through tertiary treatment as recommended in the Best Available Techniques (BAT) for the pulp and paper industry (BAT 7.3.12). In addition to this advanced treatment, voluntary standard values that are even stricter than regulatory values are set to further enhance purification efforts.
For technical details, please refer to the Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board(europa.eu) .

IPI (Italy)

In 2023, IPI replaced ion exchange resins with RO membrane treatment equipment for the softening of hard water used in production processes. This change has contributed to the purification of wastewater by reducing the generation of chloride ions.

Furthermore, to improve and stabilize the quality of treated water and optimize operational costs and management, the Group has begun developing advanced wastewater treatment technologies utilizing remote monitoring and AI.
In FY2024, total expenses and investments related to wastewater treatment and other water-related activities amounted to 7,796 million yen and 1,076 million yen, respectively.

Exhaust Gases Purification Initiatives

Reduction of Chemical Substances Emissions in Exhaust

Management and Monitoring Processes for Compliance with Regulatory Values

The Oji Group owns several boilers and turbines. The electricity and thermal energy obtained through the direct combustion of fossil fuels, waste fuels and renewable fuels are used internally and provided to local communities.
The Group has set voluntary standard values that are stricter than the regulatory values regarding the atmospheric release of the pollutants produced through direct combustion. When measured values exceed these voluntary standard values, we suspend operations and take other measures to prevent pollution.
As part of our monitoring efforts, the Oji Group has adopted a Continuous Emissions Monitoring System (CEMS) for SOx, NOx, and dust to ensure compliance with laws and regulations. In addition, major mills continuously transmit measurement data to regulatory authorities via online systems. Alongside continuous monitoring, third-party certified measurement providers regularly conduct independent analyses to verify emission levels.

Status of Reduction of Chemical Substances in Exhaust

To ensure that emissions of air pollutants remain below voluntary standard values that are stricter than regulatory values, the Oji Group installs and operates air pollution control equipment such as desulfurization equipment, denitrification equipment, cyclones, scrubbers, and bag filters.
Under the guidance of the Japan Paper Association, the Oji Group has set VOC reduction targets in the Environmental Action Programs 2030 and 2040, and is actively working to achieve them.

ESG Data; 9. Pollutant load amount of exhaust gases

Data

ESG Data →

Stable Supply of Safe and Secure Products

Policy

Product Safety Charter

The Oji Group delivers safe products, fully recognizing that its corporate social responsibility entails providing quality and services that enable customers to use its products with peace of mind. Going forward, we will continue to fulfill the trust of our customers by ensuring that all of our employees reliably implement the following commitments.

1. Complying with all safety-related laws and regulations, we will also implement appropriate management to follow voluntary standards.
2. We will continually improve our Group-wide quality control system, striving to ensure safety.
3. We will provide timely and appropriate information on product safety and proper usage.
4. We will proactively gather information on products involved in incidents and make reports to relevant authorities in compliance with the law. We will also faithfully take necessary action to find the root causes of incidents and strive to prevent their recurrence.
5. We will continuously review our management system through regular internal audits, always striving for improvement.

Established: January 1, 1995

Initiatives

Confirmation of Raw Material (Chemical) Safety and Provision of Information to Customers

The Group confirms the safety of chemicals (including materials) during the selection phase of procurement to improve product safety. The Group also provides information to customers.

Confirmation of the Safety of Chemicals Used

The safety of chemicals used is ensured using the Group's Pre-use Evaluation System and Information Update System.

Pre-use Evaluation System

When considering the use of a new chemical, the Oji Group conducts a pre-use assessment by checking laws and regulations, hazard information and green procurement guidelines from major industry associations, etc. using proprietary pre-use evaluation sheets. The group then determines whether the chemical can be used.

Information Update System

Chemical substance management systems are being strengthened in Japan and overseas, and accordingly, the Group regularly updates its evaluation sheets and information by regularly evaluating the chemicals it uses and confirms their safety.

Response to the Revision of Laws and New Hazard Information

In the event that information regarding the revision of laws and regulations concerning chemical substances or new hazard information is reported relevant to the raw materials currently used in our products, we will consider alternatives for the materials that we have determined we should not continue to use from the standpoint of safety and reduce the number of raw materials containing hazardous substances.
For example, for D4 and D6, which are designated monitoring chemical substances under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substances Control Law; CSCL), and listed as SVHCs under REACH, we are working on reducing their use by making them subject to alternative management.
(Of the 25 raw materials subject to alternative management for D4 and D6 that we are looking to replace, 19 have been replaced or are no longer in use as of the end of 2024.)
In recent years, the movement calling for the regulation of PFAS has been growing, mainly in Europe and the U.S. Of the PFAS, the POPs Convention added PFOAs to its Annex A (chemicals to be eliminated) and they were designated Class I Specified Chemical Substances under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substances Control Law; CSCL). They are an impurity contained in some raw materials, but we completed the process of replacing these raw materials before the law came into effect.

Provision of information to customers

The Group responds to customer inquiries using the safety information about various chemicals that it has verified using the Pre-use Evaluation System and the Information Update System. The Group uses Research Reports*1, Article Information Sheets (AIS)*2, Safety Data Sheets (SDS)*3 and other information to respond to customer inquiries.

*1 Research Reports	Reports that respond to detailed individual inquiries by tracing back to the chemicals used
*2 Article Information Sheets (AIS)	A document that summarizes laws and regulations relating to products and key handling points
*3 Safety Data Sheets (SDS)	A document provided pursuant to laws and regulations concerning special products that contain substances designated in laws and regulations in amounts exceeding certain thresholds