

The Oji Group works in concert under the direction and supervision of the Board of Directors to put into practice the basic policy of the Oji Group Environmental Charter.

Oji Group Environmental Charter (established January 1997, revised June 2006)

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.

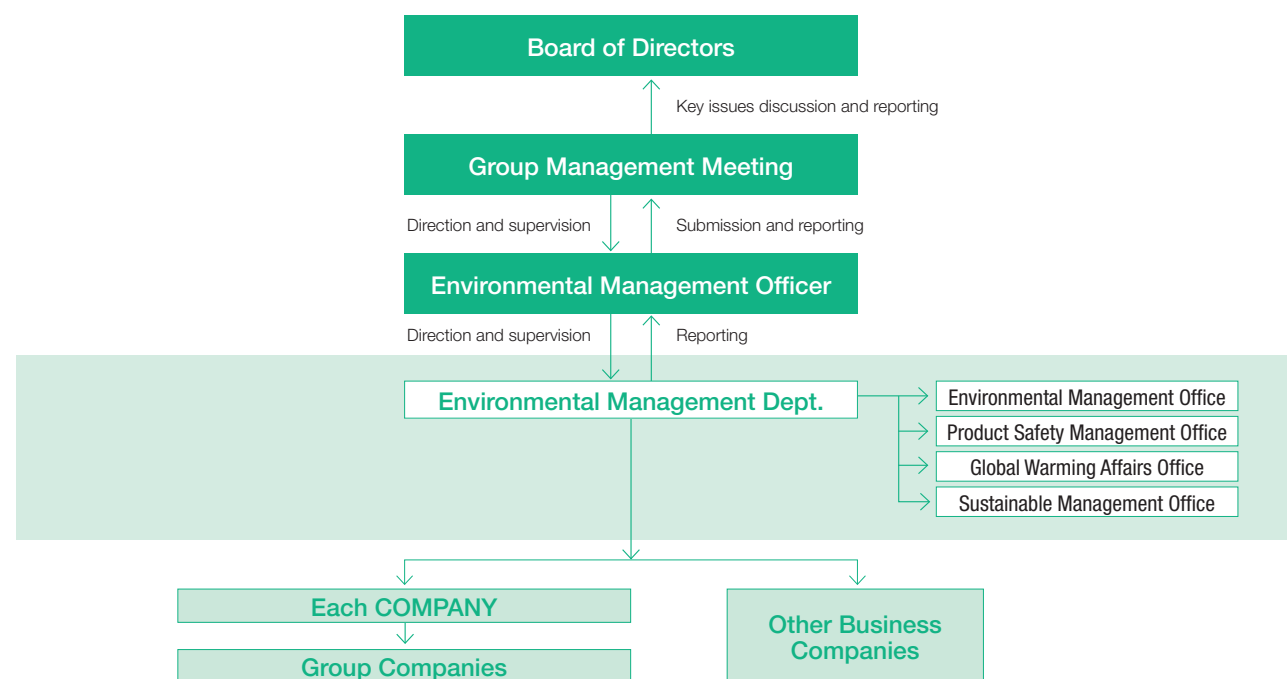
Environment Management Implementation Structures

The Oji Holdings Environmental Management Department oversees and manages Group environmental governance and carries out environmental management.

The four subsidiary organizations of the Environmental Management Department identify Group-wide risks and opportunities in the areas of their responsibility. These organizations manage and mitigate risks by disseminating information to the Group via committees and other bodies for each risk affecting Each COMPANY, Group companies, and so on.

The Environmental Management Department oversees and manages these risks, reports on a monthly basis to an environmental management officer for environmental matters in general including climate change, biodiversity, and water resources, and submits and reports on issues to the Group Management Meeting twice a year. Additionally, risks that the environmental management officer determines to be significant are reported to the Board of Directors.

Environment Management Implementation Structure Diagram



Progress in Environment Action Program

Based on the policy of the Oji Group Environmental Charter, we are working on the “Environment Action Program 2020” with FY2013 being the base year and FY2020 being the target achievement year (established in 2015). We will continue to work toward the achievement of the targets in the final year.

Environment Action Program 2020, established in April 2015	FY2019 Results ¹ and Activities, etc.										
1 Ceaseless Efforts to Achieve a Zero-environmental Burden											
1 Zero-emission Zero environmental incidents • Elimination of environmental incidents (violations of exceeding environmental regulatory standards) Zero product liability incidents • Elimination of product liability incidents Promotion of effective utilization of wastes • Reduction of wastes and promotion of effective utilization of wastes Japan: Effective utilization rate of at least 99% in FY2020 Overseas: Effective utilization rate of at least 95% in FY2020 Management of wastewater and exhaust gases with consideration of ecosystem • Compliance with environment-related laws/regulations, reduction of environmental load substances and management of wastewater and exhaust gases with consideration of ecosystem Reduction of greenhouse gases (GHG) • Promote energy conservation and fuel conversion, and reduce GHG emission intensity during product manufacturing by more than 10% in FY2020 compared to FY2013.	Environment incidents (violations for exceeding environmental regulatory standards): 2 cases (10 cases in FY2013) No penalties were imposed and no shutdown orders were given for regulatory violations <small>*Breakdown of violations in excess of environmental regulatory standards: Waste water: Total nitrogen; atmospheric: odor</small> Product liability incidents: Zero cases (none to date) Japan: Effective waste utilization rate: 98.4% (96.6% in FY2013) Overseas: Effective waste utilization rate: 88.5% (84.9% in FY2013) Percent changes from FY2013 to FY2019 in emissions per net sales ² <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>BOD</th> <th>COD</th> <th>SS</th> <th>SOx</th> </tr> </thead> <tbody> <tr> <td>Changes from FY2013</td> <td>-9.7%</td> <td>-12.4%</td> <td>-11.5%</td> <td>-26.3%</td> </tr> </tbody> </table> FY2020: Targeted at least 10% reduction compared to FY2013 and achieved a reduction of 9.6%. (Target achievement rate: 96%)		BOD	COD	SS	SOx	Changes from FY2013	-9.7%	-12.4%	-11.5%	-26.3%
	BOD	COD	SS	SOx							
Changes from FY2013	-9.7%	-12.4%	-11.5%	-26.3%							
2 Forest recycling / paper recycling Forest recycling • Target of forest certification acquisition: 100% Paper recycling • Promotion of paper collection and further expansion of recovered paper usage	Rate of forest certification acquisition Japan: 100% (excluding profit-sharing forests) (FY2013: 100%) Overseas: 94% (FY2013: 71%) Measures contributing to achieving the Japan Paper Association target of a 65% recovered paper utilization ratio: 65.6% recovered paper utilization ratio (62.7% in FY2013)										
2 Responsible Raw Materials Procurement											
Wood raw materials and pulp • Procurement complying with laws/regulations and considering environment and society by means of third party audit Raw materials (chemicals and materials) • Compliance with safety-related laws/regulations and appropriate management to follow voluntary standards	All traceability reports for procured chips and pulp underwent audit by a third party organization and no indications were made. Zero violations of laws and regulations relating to raw material safety (none to date)										
3 Sustainable Forest Management											
Sustainable forest management through the use of forest certifications • Preservation of forests' multi-functions including conservation of biodiversity Active promotion of lumber business • Contributions to recovery of the domestic forestry business and restoration of forests Expansion of forest certified products • Expand forest certified products	Preserved and nurtured endangered and other species and continued implementation of forest conservation such as thinning as biodiversity preservation measures The Group collaborated with a wide range of stakeholders both inside and outside the Group from mountain forestry workers in Japan to wood product users and supplies raw materials including lumber, plywood, paper, and biomass fuel. Sales volume of forest certified products: 3,092,000 t (228,000 t in FY2013)										

¹ Environmental performance data covers 113 consolidated Group companies involved in production (285 business sites). The data collection period for both Japan and overseas is in principle the fiscal year.

² BOD: Biochemical oxygen demand, COD: Chemical oxygen demand, SS: Suspended solids, SOx: Sulfur oxides

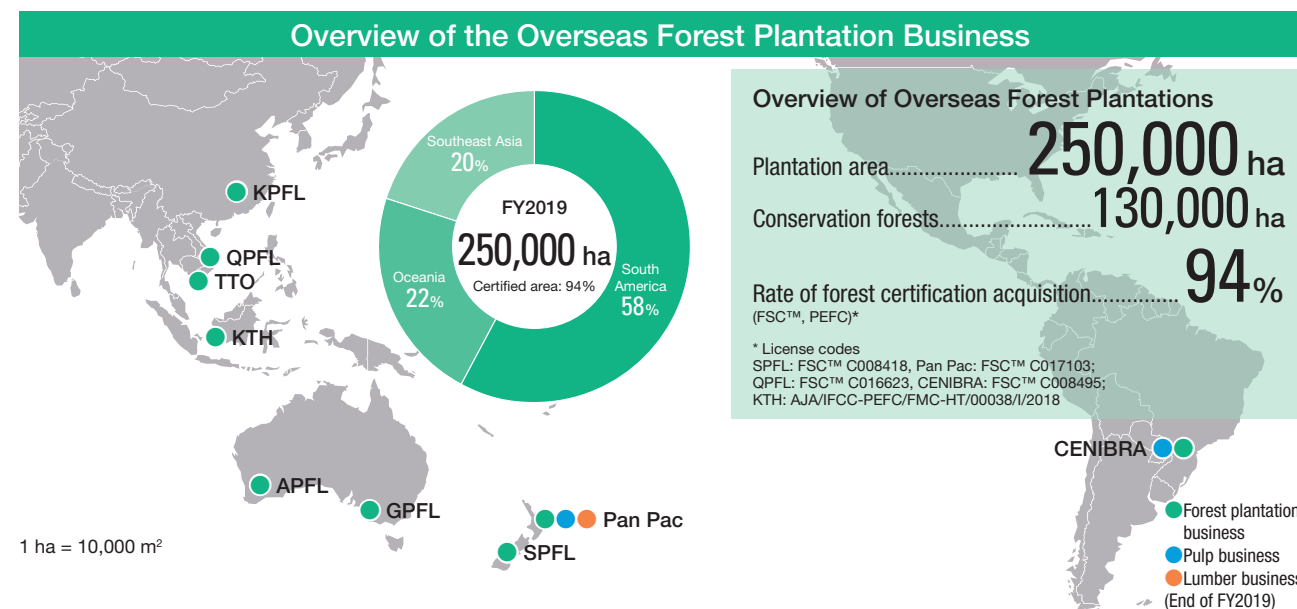
Next Environment Programs

FY2020 is the final year for achieving the targets in the Environment Action Program 2020.

Until this year, we have formulated and worked on five-year targets. In September 2020, we established the “Environment Action Program 2030” with FY2030 being the target achievement year as a medium-term program to start new initiatives in FY2021 and the “Environmental Vision 2050,” a 30-year long-term vision from now. The Environment Vision is composed with the main focus placed on “Net Zero Carbon,” which is what the Oji Group aims for, and the “Environment Action Program 2030” is positioned as a milestone for achieving the “Environment Vision 2050.”

The Oji Group maintains and manages a total of 440,000 hectares of production forests (an area twice the size of Tokyo), including 250,000 hectares of forest plantations overseas, and 190,000 hectares of company-owned forests in Japan. It is no exaggeration to say that forest resources are the foundation of the paper manufacturing industry. The stable supply of these resources as raw material for paper manufacturing and as fuel for biomass power generation is a central pillar of the Group's businesses. In the future, we also aim to provide a stable supply for wood fiber-derived new materials (pp. 34-36), such as the cellulose nano-fiber (CNF) and biomass plastic currently under development.

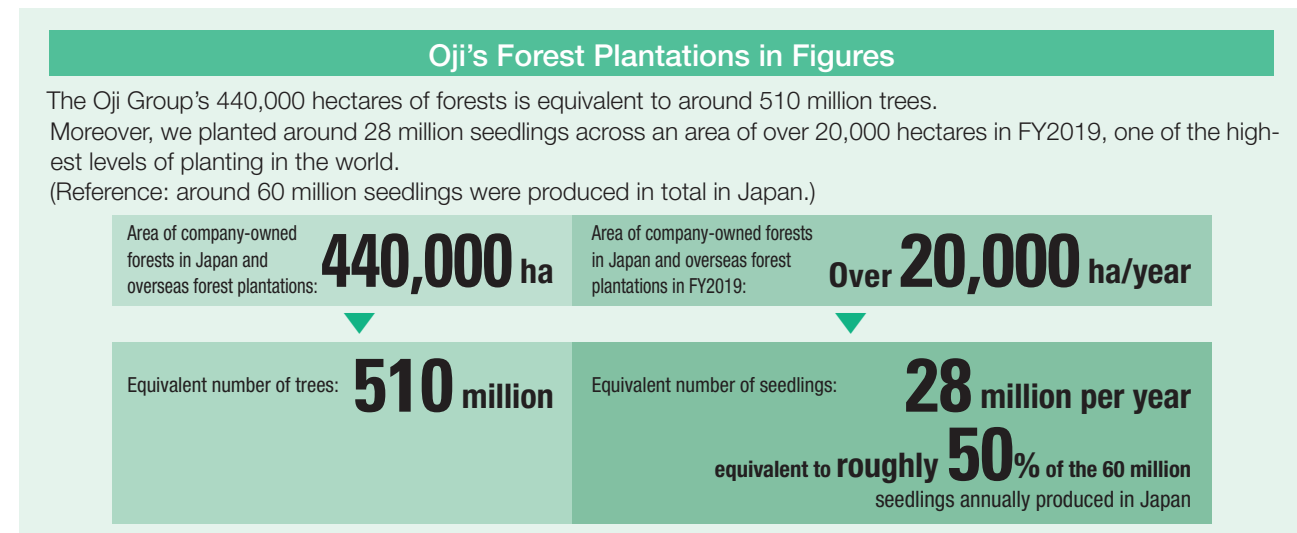
The Group spends approximately 11.0 billion yen annually for ongoing forest management in order to practice sustainable forest management.



The Oji Group owns 250,000 hectares of forest plantations, primarily in Brazil, New Zealand, and Southeast Asia. We mainly plant high-growth species, including hardwoods such as eucalyptus and acacia (harvestable in around 10 years), and softwoods such as radiata pine (harvestable in around 30 years). Our forest plantations in Brazil operate on a rotating basis, harvesting eucalyptus around every seven years.



The Oji Group owns around 190,000 hectares of forests in approximately 650 locations throughout Japan, extending from Hokkaido to Kyushu. We have obtained SGEC forest certification for all our company-owned forests, clearing stringent third-party standards, and engaging in sustainable forest management.



The Oji Group began managing forests with an awareness of sustainability long before it became a requirement. The awareness is demonstrated in the words "those who use trees have the responsibility to plant trees." We established the Oji Group Environmental Charter in 1997, adopting sustainable forest management and "forest recycling," where trees are planted, grown, harvested and planted again, as its action guidelines.

We have 190,000 hectares of company-owned forests in Japan, and 380,000 hectares (of which forest plantations comprise 250,000 hectares) outside of Japan. We pride ourselves in engaging in appropriate forest management.

Last fiscal year, the Group established a new target: 400,000 hectares of forest plantations outside of Japan.

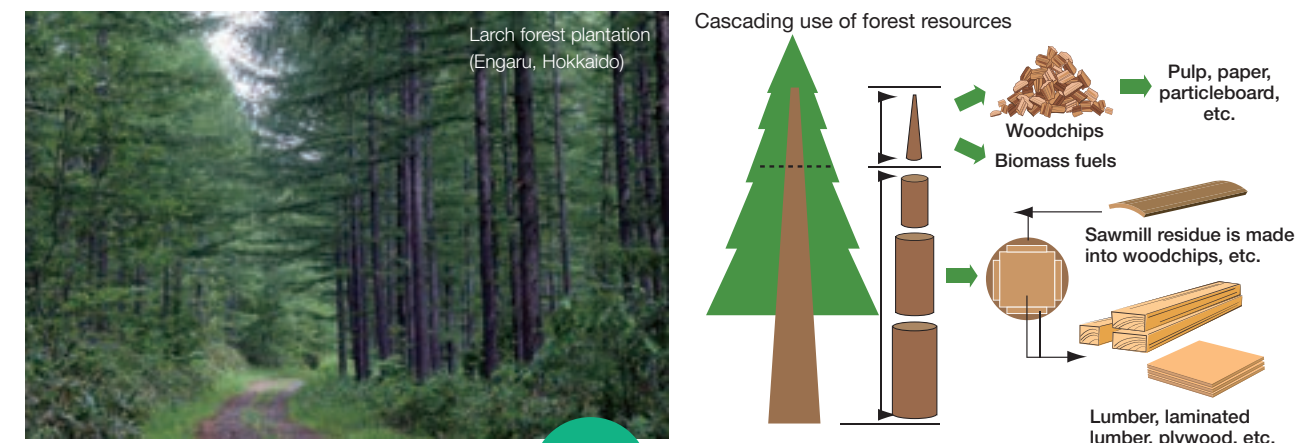
We are not only increasing our proprietary resources to ensure a stable supply of raw materials, but also engaging in appropriate management of plantation forests and conservation forests, utilizing forest certification as a tool to create, protect and grow forests for the next generation, that the whole world can be proud of.

Vice President, Forest Resources and Environment Marketing COMPANY
 Corporate Officer, Oji Holdings Corporation

Azumi Kawabe



Forests are a reproducible and sustainable resource that can be planted, grown, harvested and re-planted. The Oji Group has developed cyclic forest resource businesses, and promotes the effective utilization of forests as a comprehensive forestry business group, in order to harness the full potential of the wood it harvests, leaving none to waste.



We have planted around 14,000 hectares of larch forests, primarily in Hokkaido. These will grow for approximately 40-60 years before harvesting. The larch is used in a variety of applications such as lumber, plywood, packaging materials, pallet materials, raw material for paper manufacture, and wood biomass fuel.

Forest plantation trees are used for lumber, plywood, woodchips for paper manufacture, wood biomass fuel, etc. The lumber, laminated lumber, and the raw materials for plywood come from the thick part of the tree trunks. The sawmill residue from the production of lumber, and the tips of the trunks which cannot be used for lumber, are thoroughly utilized as woodchips for paper manufacturing or biomass fuel.





Initiatives for Conservation of Biodiversity

The Oji Group engages in activities for protecting and nurturing endangered species, recovering ecosystems, and other activities in cooperation with governments, administrative authorities, environmental NPOs, academics, local residents, and other parties.

1 Conservation Activity for Kiwi (Pan Pac / New Zealand)

Pan Pac Forest Products, an Oji Group company, conducts activities for protecting the kiwi, a rare bird species, in cooperation with the Ministry for the Environment of New Zealand, citizen volunteers, and other parties. For these activities, the company has designated land of an area of approximately 40 hectares as a kiwi sanctuary for protecting 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 awarded Community Corporate Sponsor of the Year at a national kiwi conference held by Kiwis for kiwi, a kiwi protection organization.

2 Sarufutsu Itou Conservation Activities (Sarufutsu company-owned forest in Hokkaido)

In 2009, Oji Holdings established the Sarufutsu Itou Conservation Council with a local NPO, administrative bodies, researchers, and others for the purpose of protecting the Japanese huchen, or the sea-run taimen (*Hucho perryi*), an endangered species that lives in the river zone of the Sarufutsu company-owned in Sarufutsu village, Hokkaido. An area of 2,600 hectares including the river zone was designated a conservation area, and conservation activities are conducted.

3 Restoration of Ecosystems and Protection of Rare Species (CENIBRA / Brazil)

One of the largest overseas forest plantations of the Oji Group is owned by CENIBRA, which operates the eucalyptus plantation and pulp businesses in Brazil. CENIBRA owns and manages a 150,000 hectares forest plantation and 100,000 hectares forest reserve areas. In the forest reserve areas, in accordance with the Brazilian Forest Law, natural forests as well as steep slopes and areas around water sources such as wetlands are left unharvested to preserve biodiversity. In cases where natural forest in a forest reserve area is lost due to erosion, wildfire, or other such events, the company plants indigenous species of trees so that the environment can recover (restoration of natural forest).

Diverse wildlife species are observed in the forest plantation areas of CENIBRA. The symbol of the company's biodiversity initiatives is the Macedonia Farm, a 560-hectare area that is registered as a natural forest reserve (RPPN). In this forest, the company has been engaged in activities for breeding the Mutum (a relative of the curassow), an endangered bird species, and returning them to the wild, jointly with an NPO since 1990. CENIBRA also provides environmental education related to forests and biodiversity to schools and local communities and conducts wide-ranging monitoring surveys of flora, fauna, and water resources in the forest on a regular basis.

* RPPN: Reserva Particular do Patrimônio Natural

4 Conservation Activity for the Fairy Pitta (Koyagauchi company-owned forest in Kochi Prefecture)

The fairy pitta is a migratory bird with multiple body colors and a body length of around 20 centimeters. It is listed as a class IB endangered species on the Red List of the Ministry of the Environment.

In August 2016, Oji Holdings concluded an agreement to protect the fairy pitta with the Ecosystem Trust Society at the 260 hectares of company-owned forest, which is adjacent to the fairy pitta sanctuary of the organization.

Disclosure of Information Related to Climate Change (response to TCFD)

We recognize that it is important to understand the risks and opportunities associated with climate change, formulate strategies, and manage them in order to continue our business and achieve sustainable growth. We are making efforts toward disclosure based on the TCFD recommendations.

* Task Force on Climate-related Financial Disclosures

A task force led by the private sector that encourages companies to disclose climate-related financial information to help investors to make appropriate investment decisions

Governance (p.74)

- At the Board of Directors chaired by the Representative Director, business risks and opportunities including those with environmental aspects (such as climate change) are reported (once a year).
- Corporate Governance Division and companies in charge, which oversee and manage business risks including climate change, analyze medium- to long-term issues of risks and opportunities, whereby formulating and promoting countermeasures.

Risks and Opportunities of Climate Change

		Risks	Time frame
Transition risks * Assuming a transition to a carbon-free society * Risks that arise primarily in the 2°C scenario	Policies, laws and regulations	• An increase in costs due to strengthening and introduction of carbon tax, introduction of an emissions trading system, etc.	Medium- to long-term
	Technologies	• Loss of opportunities, an increase in cost, and a decline in profitability due to delay in technological development	Medium- to long-term
	Markets, reputations	• Impact on sales due to changes in evaluation of attitudes towards climate change	Short- to long-term
Physical risks * Assuming insignificant progress in a transition to a carbon-free society and frequently intensified abnormal weather * Risks that arise primarily in the 4°C scenario	Acute	• Partial loss of forest assets due to intensified abnormal weather (forest fire, heavy rain) • Business stagnation due to natural disasters such as floods	Medium- to long-term
	Chronic	• An increase in procurement costs for chips, pulp, etc. due to poor growth of tree as a result of abnormal weather	Medium- to long-term
		Opportunities	
Products and services		• An increase in profits from new businesses that contribute to mitigation and adaptation to climate change • An expansion of the market for products that contribute to response to natural disasters (corrugated container beds, hats for emergency evacuation made of paper, etc.)	
Markets		• An increase in business opportunities due to changes in market evaluation of products derived from natural materials (wood) • An increase in value of company-owned forests through trading carbon credits obtained for the carbon absorbed by the forests	

How to Identify, Assess, and Manage Climate-related Risks

Corporate Governance Division and companies in charge oversee and manage the possibilities (risks) and opportunities that may cause uncertainty and economic loss in the business activities of the Oji Group. The risks and opportunities examined by each business division are classified and organized into categories such as climate change, pandemics, laws and regulations, and used by each business division to improve their business activities based on assessment of the impact on management and business activities over the medium- to long-term as well as discussion of countermeasures.

Strategies, Indicators, and Targets

As a leading company in the paper industry, we will contribute to the mitigation and adaptation to climate change through reduction of environmental burdens of our current businesses, products such as corrugated container beds that contribute to response to natural disasters, and development of new materials and new businesses. In particular, as a company that owns the largest amount of forest resources in Japan, we will put a lot of effort into CO₂ absorption, development of new materials derived from wood fiber components that are friendly to the global environment, water treatment business and biomass power generation business that apply paper manufacturing technology.

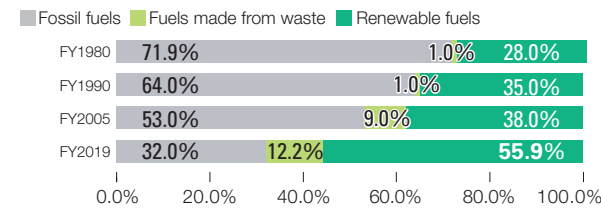
As the climate change issue becomes more serious, we recognize that reducing GHG emissions is an urgent issue and are working to reduce GHG emissions by conserving energy and utilizing non-fossil fuels (renewable fuels and fuels made from waste).

Efforts to Reduce GHG Emissions

Use of Non-Fossil Fuels

The Oji Group has been encouraging to reduce fossil fuel ratio by using black liquor², renewable fuels¹ such as wood residue, bark, and fuels made from waste such as RPF³. Renewable fuels accounted for 55.9% in FY2019.

Changes in Fuel Composition Ratio



- *1 **Renewable fuels:** Organic energy and resources derived from renewable biological sources (such as wood) except for fossil resources.
- *2 **Black liquor (black vegetative waste fluid):** Black vegetative waste fluid that remains after removing wood fibers in woodchips in the process of making pulp from woodchips (kraft pulping process). Its components include lignin and hemicellulose.
- *3 **RPF (Refuse paper and plastic fuels):** A type of waste-derived fuels (WDF). It is a solid fuel made from refuse paper and plastics. It has been attracting attention as a method of thermal recycling of wastes including plastics and paper that is difficult to recycle.



Biomass power plant (Oji Green Energy Nichinan/Miyazaki Prefecture)

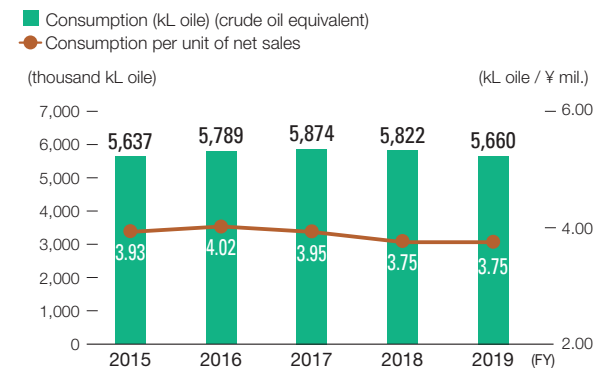
In the Energy Business utilizing renewable fuels, we sold 942 million kW/year of electricity in FY2019 through biomass power generation and hydroelectric power generation whose facilities were renovated. This amount of sold electricity contributed to the reduction of GHG emissions of 433 thousand ton-CO₂ to be emitted by other electric power companies.

Reduction of Energy Consumption

The Oji Group has positioned energy conservation measures as a crucial topic and takes continuous measures to address it. Conserving energy is important not only because it reduces energy costs, but also as a part of fulfilling our corporate social responsibility to undertake environmental measures.

Going forward, the entire Group will continue to make efforts toward thorough energy conservation and production efficiency improvement.

Energy Consumption* and Intensity



- * A star mark indicates that FY2019 figure for energy consumption has been assured by KPMG AZSA Sustainability Co., Ltd.
- *5 Energy consumption in conjunction with the manufacture of products is calculated excluding the following energy use.
 - (1) Business sites of consolidated companies are included in the total, but nonproduction sites (primarily the main building, sales offices, and other sites that perform managerial and administrative work and sites where GHG and environment impact are extremely low) are excluded.
 - (2) Consumption relating to the electric power business (supply of electricity or heat to other companies) and transport by Group-owned vehicles is excluded.
 - (3) Energy relating to the supply of electric power or heat to other party is excluded from fossil fuel and non-fossil fuel derived energy.
 - (4) Unit calorific values are calculated by using the following laws and international standards.
 - Japan: Act on Rationalizing Energy Use and Act on Promotion of Global Warming Countermeasures
 - Overseas: IPCC 2006 Guidelines for National Greenhouse Gas Inventories
 - (5) Since unit calorific values for non-fossil fuels emphasize comparability to reduction targets, the factors set in the FY2013 reporting are used.

Renewable fuel ratio:

55.9%
(FY2019)

Japan's target for renewable energy ratio by 2030:

22-24%

Reduction of GHG emissions through the Energy Business⁴:

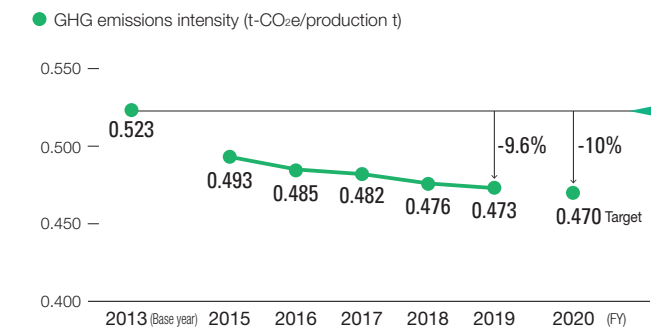
433 thousand t-CO₂
(FY2019)

- *4 Estimated value using the electricity emission factor of 0.462 t-CO₂/MWh (Emission factor by electric power company, announced by the Ministry of the Environment on January 7, 2020)

GHG Emissions by the Oji Group

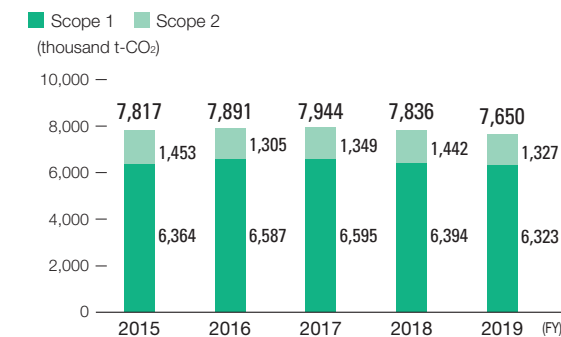
The Japanese government's target of reducing GHG emissions by 26% in FY2030 compared to FY2013 is equivalent to a 10% reduction in FY2020. The reduction rate of GHG emissions per ton of products, which was formulated based on that target, was -9.6% compared to the base year of FY2013, resulting in a target achievement rate of 96% of the FY2020 target.

GHG emission intensity accompanying product manufacturing



The Oji Group GHG emission intensity Compared to the base year **-9.6%** (FY2019)

GHG emissions volume^{6*}



- *6 Scope 1: Direct emissions including fuel combustion, electric power business, transportation by Group-owned vehicles, etc.
- Scope 2: Indirect emissions of purchased energy such as electricity and steam

- * A star mark indicates that FY2019 figures for GHG emission volume have been assured by KPMG AZSA Sustainability Co., Ltd.

- (1) Business sites of consolidated companies are included in the total, but nonproduction sites (primarily the main building, sales offices, and other sites that perform managerial and administrative work and sites where GHG and environment impact are extremely low) are excluded.
- (2) Emissions relating to the electric power business (supply of electricity or heat to other companies) and transport by Group-owned vehicles are included.
- (3) Emissions of carbon dioxide (CO₂) generated in conjunction with the use of fossil fuels do not include emissions relating to the supply of electric power or heat to other companies.
- (4) Unit calorific value and emissions factors are calculated by using the following laws and international standards.
 - Japan: Act on Rationalizing Energy Use (Energy Conservation Act), Act on Promotion of Global Warming Countermeasures (Global Warming Act), and base emissions factors of individual electric power companies.
 - Overseas: IPCC 2006 Guidelines for National Greenhouse Gas Inventories
 - IEA CO₂ emission factors by country in 2010
- (5) Emissions from fuels derived from biomass (black liquor, wood, etc.) that are subject to the Global Warming Act are calculated.
- (6) Since unit calorific values for non-fossil fuels emphasize comparability to reduction targets, the factors set in the FY2013 reporting are used.

Measures in the Logistic Division

In April 2020, we completed replacement of three vessels dedicated to the Tomakomai-Shinagawa route with new vessels with the latest energy-conserving functions incorporated. As a result, fuel consumption has decreased, achieving energy conservation of 43.9% per loaded vehicle (comparison on a full-ship basis).

Oji Rikuun, which is in charge of land transportation, has obtained Green Management Certification at all of its 15 business offices. We have been working on reduction of environmental burden through increasing the usage rate of recycled tires and providing training on eco-driving more in depth.

Going forward, based on the Oji Group White Logistics Declaration (p. 55), we will work on reduction of environmental burdens through improving our logistics, such as promoting the modal shift and improving delivery efficiency.

Efforts to Disclose More Climate-related Information

As an effort to disclose more climate-related information, the Oji Group is working to grasp not only GHG emissions accompanying product manufacturing, but also GHG emissions accompanying raw material manufacturing and logistics.



Energy conserving rate by replacing vessels with new ones

43.9%

The Oji Group GHG emissions in upstream and downstream logistics⁷

Compared to FY2018 **-11.3%**
(FY2019: 362 thousand t-CO₂e)

- *7 Total value of SCOPE 3 Category 4 (GHG emissions accompanying transportation of raw materials) and Category 9 (GHG emissions accompanying transportation of products)

The Oji Group GHG emissions accompanying raw material manufacturing⁸

Compared to FY2018 **-4.0%**
(FY2019: 3,766 thousand t-CO₂e)*

- *8 SCOPE 3 Category 1 (GHG emissions relating to purchased goods and services)
- For emission intensities, we have referred to the "Emission intensity database for calculation of GHG emissions by organizations throughout the supply chain (ver. 2.6)" and the "CO₂ equivalents common intensity database (ver. 4.0)."
- * A star mark indicates that FY2019 figure has been assured by KPMG AZSA Sustainability Co., Ltd.

The Oji Group recognizes that the reduction of environmental burdens and effective resource utilization are important tasks for achieving a sustainable society. The Group sets its own management values that are stricter than the regulatory values for waste water and exhaust gas, strives to strictly comply with laws and regulations, and promotes prevention of pollution.

We are also working on effective utilization of resources, promoting effective use of water resources and waste.

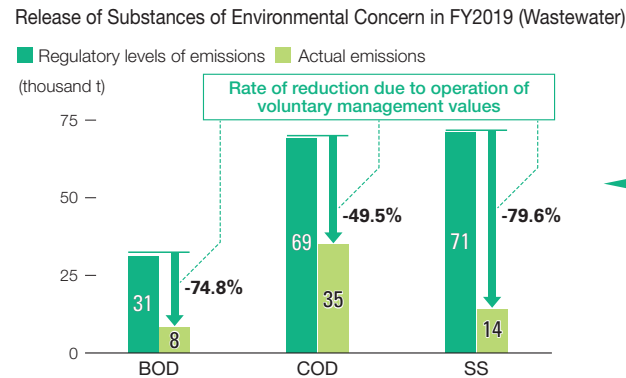
Reduction of Environmental Burden

Purification of Wastewater and Exhaust Gases

We operate with our own management values that are stricter than the regulatory values to manage wastewater and exhaust gases.

For example, emissions of substances of environmental concern in wastewater have been reduced by at least 49.5% compared to the emissions in keeping with the regulatory values. We are working to purify the wastewater.

In terms of exhaust gases, we are working to reduce emissions of VOC (volatile organic compounds) to maintain them at or below their levels in FY2010, which is a guideline presented by the Japan Paper Association. In addition, we manage SOx (sulfur oxides) and other compounds using our own management values.

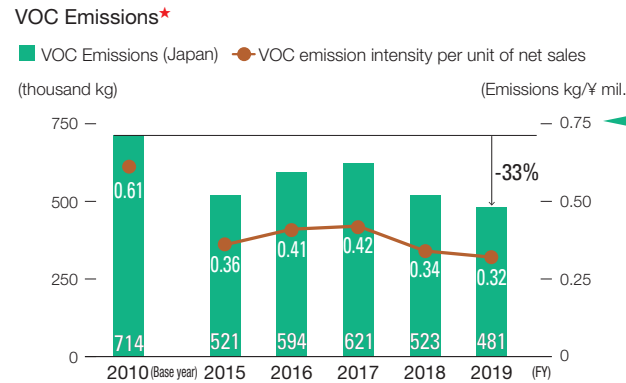


Comparison of release of substances of environmental concern (to the regulatory values)

At least 49.5% reduction (FY2019)

Percent changes from the base year (FY2013) in emissions per net sales

BOD	-9.7%
COD	-12.4%
SS	-11.5%



VOC emissions Compared to FY2010

-33% (FY2019)

SOx: FY2019 vs. base year (FY2013)

Reduction rate of emissions per net sales: 26.3%

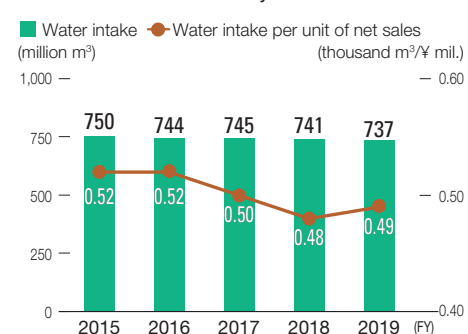
* A star mark indicates that FY2019 figure has been assured by KPMG AZSA Sustainability Co., Ltd.
 (1) Domestic Group companies subject to Japanese pollutant release and transfer register (PRTR) law have been included.
 (2) Of the substances subject to PRTR law, those corresponding to the 100 types of VOC indicated by the Ministry of the Environment based on the Air Pollution Control Act have been included.
 (3) Intensity is the volume of VOCs generated divided by net sales.

Resource Utilization (Water Resources)

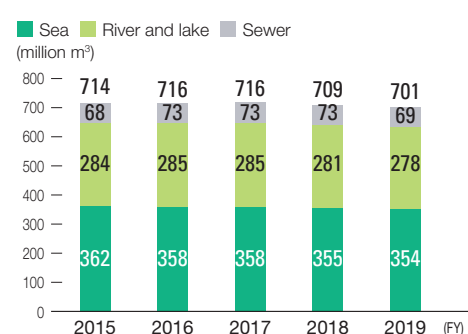
Water Intake and Wastewater

Water resources used in manufacturing processes are then purified. We return 95% of our water intake to rivers, oceans, etc.

Water Intake* and Intensity



Wastewater* and Destinations



Wastewater compared to water intake

At least 95% (FY2019)

We purify the water we use and release 95% back into oceans and rivers, etc

	FY2019	Proportion (%)
Water intake (million m ³)	737	100
Wastewater (million m ³)	701	95.1
Consumption (million m ³)	36	4.9

* A star mark indicates that FY2019 figures for water intake and the total amount of wastewater have been assured by KPMG AZSA Sustainability Co., Ltd.
 (1) Business sites of consolidated companies are included in the total, but nonproduction sites are excluded.
 (2) Intensity is the volume of water intake divided by net sales.

Effective Utilization of Water through Reuse and Recycling

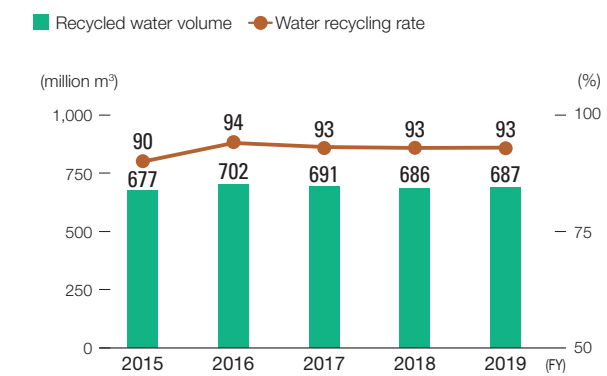
Paper and pulp businesses use a large amount of water in production processes. We work to prevent any wastage of water through our processes, while reusing water (through cascading processes) according to its quality and recycling water.

Wastewater generated by Jiangsu Oji Paper through manufacturing processes is treated and purified until it meets the regulatory levels for wastewater, then transferred to Nantong Nengda Water Co., Ltd. in Nantong Economic & Technological Development Zone, where it undergoes various treatment processes. All the resulting water is used as recycled water within the Economic & Technological Development Zone.

Recycled water is water of a quality between tap water and sewage, and is used for industrial purposes.

As a results of various initiatives the Oji Group achieved a water recycling rate of 93% in FY2019.

Recycled Water Volume and Water Recycling Rates



Water recycling rate*

93% (FY2019)

* Recycling rate refers to volume of water recycled, divided by the water intake.



Effective Use of Waste

Effective Use of Waste

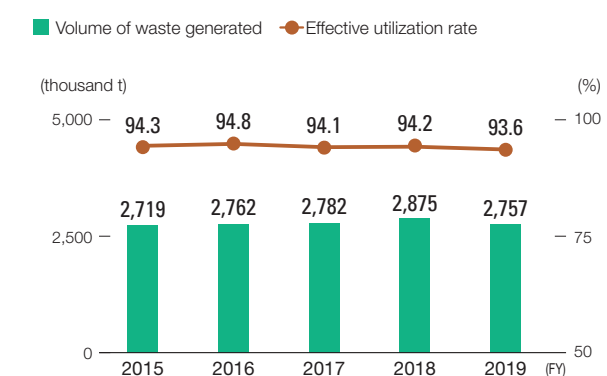
The effective waste utilization ratios were 1.8% higher than the base year (FY2013) in Japan, and 3.6% higher overseas.

We aim to achieve our targets for FY2020, by promoting the recovery and reuse of raw materials from water used in manufacturing processes, and by the effective utilization of ash left from burning fuel to generate the electricity and heat for manufacturing processes in applications such as roadbed materials.

Effective Waste Utilization Ratios

	Base year (FY2013)	FY2019	Compared to the base year
Japan	96.6	98.4	1.8% higher
Overseas	84.9	88.5	3.6% higher

Volume of Waste Generated* and Utilization Ratios



Effective waste utilization ratios Compared to the Base Year (FY2013)

Japan: 1.8% higher

Overseas: 3.6% higher (FY2019)

* A star mark indicates that FY2019 figure has been assured by KPMG AZSA Sustainability Co., Ltd.
 (1) Business sites of consolidated companies are included in the total, but nonproduction sites are excluded.
 (2) The volume of waste generated includes valuable materials (general waste is not included).

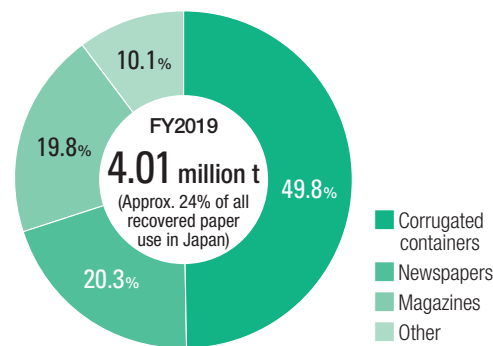
Paper is essential in our day-to-day lives. It is used in a wide range of situations for various applications such as newspapers, notebooks, copy paper, tissues, toilet paper, corrugated containers, and packaging materials. Approximately 60 percent of the raw material used for these types of paper is recovered paper, and the remaining 40 percent comes from trees. The Oji Group is working on “paper recycling” for the purpose of sustainable use of resources and contribution to the environment.

Recovered Paper Use Results

The Oji Group uses approximately 4.01 million tons of recovered paper each year, the largest amount and about 24 percent of the 16.50 million tons of total recovered paper use in Japan. The breakdown of recovered paper use is as follows: about 50 percent old corrugated containers and about 20 percent each of old newspaper and old magazines. In addition, recovered paper utilization ratio^{*1} in FY2019 was 65.6 percent, an increase of 2.6 points in the past 10 years as a result of various efforts to use recovered paper as a resource.

The Oji Group has achieved the target of a recovered paper utilization ratio of 65 percent by FY2020, which is

FY2019 Recovered Paper Use Results



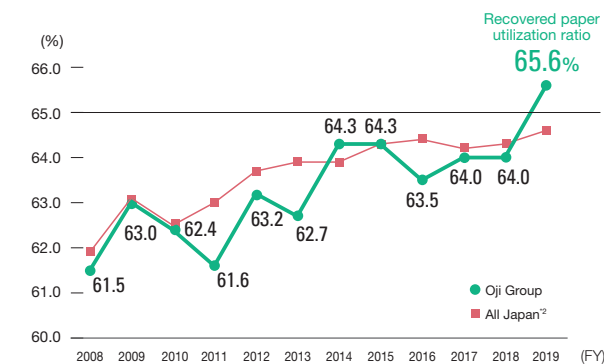
part of the Environmental Action Plan of the Japan Paper Association. We will continue to promote paper recovery and engage in the further expansion of waste paper utilization.

*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 other fiber raw materials)



Collection of recovered paper from households

Changes in Recovered Paper Utilization Ratio



*2 All Japan: Paper Recycling Promotion Center

Various Efforts to Promote the Use of Recovered paper

The Oji Group is working to promote various uses of recovered paper, such as thorough sorting of recovered paper at offices and mills within the group, a recovered paper wholesaler as a supplier, and an awareness campaign on paper recycling in cooperation with local residents and industry groups.

1. Enhancing the quality of Recovered paper

The inclusion within recovered paper of specially processed paper and foreign substances that are not suitable as papermaking materials (collectively referred to as prohibited materials) is a cause of product problems. Accordingly, the Group cooperates with Paper Recycling Promotion Center and recovered paper wholesaler, which play a central role in recovered paper logistics, engaging in initiatives such as awareness campaigns targeting households and businesses to eliminate prohibited materials included in recovered paper and strives to raise the recovered paper utilization ratio.

2. Increasing the use of Recovered paper

- Use of difficult-to-process paper: The Group is installing purpose-built facilities to process paper tubes, laminated paper, and other difficult-to-process paper for use as a raw material.
- Use of confidential documents: In consideration of the maintenance of confidentiality and issues of information leaks, confidential documents were incinerated in the past, but the Group performs confidential dissolution processing in fully secure facilities for use as a raw material.



Difficult-to-process recovered paper (paper tubes)



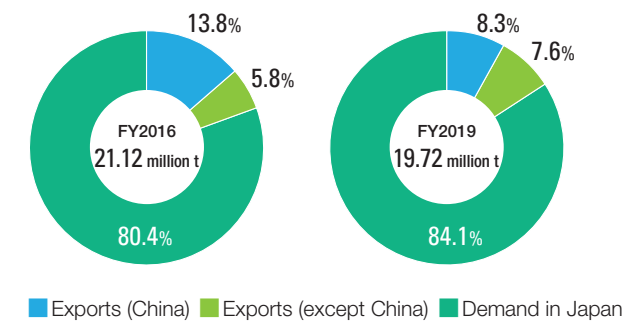
Confidential document processing facility (Oji Materia Edogawa Mill)

Contributing to Paper Recycling amid a Shrinking International Recovered Paper Market

Around 80% of the recovered paper collected in Japan, including the corrugated containers that enter the country from overseas together with agricultural produce, electric appliances and other imported products, is used as raw material by Japanese paper manufacturers.

The remainder is exported. However, China, which has received 80% of these exports, decided to prohibit the import of recovered paper from the end of 2020, which makes us difficult to compensate for the drop in Chinese demand, either from within Japan, or through demand from other importing nations. It is feared that if present

Recovered Paper Demand in Japan



conditions persist, some of the recovered paper collected in Japan will end up as rubbish.

In this context, the Oji Group is undertaking the following initiatives to contribute to the maintenance and survival of recovered paper recycling systems.

- Increase the use of recovered paper through expanded exports of containerboard
- Expand recovered paper exports to overseas Group companies (GSPP in Malaysia)
- Set and maintain procurement prices with due consideration for recovery cost of recovered paper

Containerboard and Recovered Paper Exports



Initiatives for Paper Recycling at Overseas Business Locations

Use of Recovered Paper in Malaysia

GSPP, a member of the Oji Group, consumed 330 thousand tons of recovered paper in 2019 for manufacturing corrugated containerboard.

Most were collected through domestic recovered paper franchise (recovered paper collecting and sorting bases) in alliance with GSPP, and the volume accounted for 15% of all recovered paper collected in Malaysia. GSPP is currently carrying out works to increase corrugated containerboard production capacity. Once this new capacity comes on line, GSPP is planning to increase imports of recovered paper, including Japan.

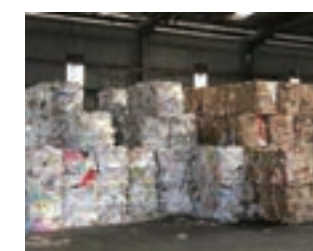
Activities to Promote Paper Recycling in Malaysia

GSPP is working to improve the quality of recovered paper in Malaysia, mainly with its domestic recovered paper franchise.

Moreover, GSPP is conducting awareness campaign targeting general public to further promote recovered paper recycling.

Photograph on the right below shows the sorting bins donated to welfare facilities by GSPP in conjunction with the Embassy of Japan in Malaysia.

Bins are designed to raise awareness of recycling by enabling separate disposal of paper, plastics and cloth.



Recovered paper at franchise



Recovered paper yard in GSPP paper mill



Quality check by GSPP on receipt of recovered paper



Donated sorting bins

The Oji Group is expanding and enhancing its CSR (Corporate Social Responsibility) procurement, which takes environmental and social factors into consideration when procuring raw materials. Specifically, the Group shares the Oji Group Partnership Procurement Policy with all its divisions involved in procurement, not only requesting the understanding of new suppliers before starting transactions, but also informing all existing suppliers of revised content at the time of revision, to fulfill its social responsibilities along the entire supply chain.

Partnership Procurement Policy

(established in 2007 and revised in 2012 and 2018*)



<https://ojiholdings.disclosure.site/en/themes/187/>

* We revised the Policy provisions relating to reducing GHG emissions, as well as climate change, management of water resources, protection of labor rights, etc., and requested our suppliers adhere to the revised Policy.

Wood Raw Material Procurement

The Oji Group has established the Wood Raw Material Procurement Guidelines for the procurement of wood raw materials, our main raw material, and we implement a range of initiatives to practice responsible procurement based on these policies and guidelines.

Wood Raw Material Procurement Guidelines (Summary)

- (1) Expand procurement of wood from certified forests
- (2) Increase use of plantation trees
- (3) Utilize unused wood effectively
- (4) Verify that procurement is in compliance with laws, environmentally friendly, and socially responsible
 1. Implement monitoring of supplies
 2. Ensure raw material traceability
 - a) Production place of raw materials (place of logging, forest owner, differentiation between plantation wood and natural forests, etc.)
 - b) Forest management method (applicable forestry laws, regulations for forest management, etc.)
 - c) Acquisition status for forest certification
 - d) Avoidance of wood obtained through illegal logging
 - e) Avoidance of genetically modified (GMO) wood
 - f) Avoidance of logging in forests that are recognized publicly as forests with high conservation value
 - g) Avoidance of raw materials associated with major social conflicts
 - h) Adherence to protection of human rights and labor rights
- (5) Disclose information

Procurement of Raw Materials (Chemicals and Materials)

The Group confirms the safety of raw materials (chemicals and materials) during the selection phase of procurement, through the following two systems.

Pre-use Evaluation System

When considering the use of a new raw material, the Oji Group conducts an assessment by checking laws and regulations, hazard information, and green procurement by major industry associations, etc. using proprietary pre-use evaluation sheets and makes a determination whether the material can be used.

Information Updating System

Chemical substance management regimes are being strengthened in Japan and overseas, and accordingly, the Group regularly updates evaluation sheets and information by regularly evaluating raw materials in use and confirms their safety.

Supply Chain Management

1. Supply Chain Management Structure

The Forest Certification System Implementation Committee, headed by the Director responsible for raw material procurement, meets twice a year. It shares environmental and social issues related to the supply chain, discusses and implements improvement measures.

2. Supplier Risk Assessment

The Oji Group has around 3,000 suppliers in Japan and overseas. As a first step, we implemented a survey of around 1,200 suppliers associated with the procurement of wood raw materials and recovered paper, our main raw materials, regarding compliance with our Procurement Policy. We are engaged in assessing supplier risk and providing feedback. We will progressively expand the scope of our risk assessment, and strive to mitigate risk.

Examples of Risk Assessment and Monitoring of Wood Suppliers

New suppliers

New suppliers are selected if they are deemed low risk as a result of new supplier due diligence (risk assessment):

- a) Confirming supplier's general information in documents
- b) Conducting national and regional risk assessments based on the forest certification system, Corruption Perceptions Index (CPI), and deforestation rate in the country or region indicated by Food and Agriculture Organization of the United Nations (FAO)
- c) Checking suppliers for a certificate for compliance with legal regulations

Existing suppliers

The Oji Group employees check information such as logging licenses, etc., verify sites (logging sites and forests), and monitor compliance with the Wood Raw Material Procurement Guidelines.



Interviewing a local supplier



Inspecting a forest with a local supplier

The Oji Group not only procures wood and other raw materials, but is also a supplier itself, selling paper and paper-board products produced by each of its Group companies to a diverse range of customers. For this reason, we have established systems to promptly provide documents to certify the lawfulness and traceability of wood raw materials whenever these are required by our customers.

Confirmation of Traceability

Woodchip procurement volume in Japan in FY2019 was 4.83 million BDT (bone dry tons). The Group obtained a total of 1,105 traceability reports including 492 on the entire volume of domestic woodchips, 217 on imported woodchips covering all ships, and 396 on the entire volume of purchased pulp, verifying that the Group conducted procurement in accordance with the Wood Raw Material Procurement Guidelines.



A third-party audit report on traceability reports



An FSC™ -FM certification audit QPFL (FSC™ C016623) Vietnam

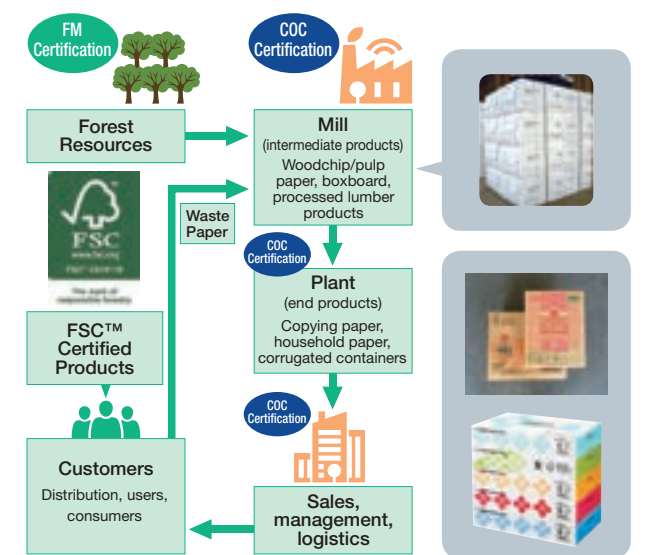
Utilization of Forest Certification Programs

The Oji Group also manufactures FSC™ certified products, the use of which indirectly contributes to preserving forests.

These products use woodchips that meet FSC™ requirements. The Group has acquired FSC™-FM certification¹ for its overseas forest plantations and FSC™-CoC certification² for its manufacturing and processing operations. Acquiring integrated certification from forests to converting plants enables the Group to offer a wide range of FSC™ certified products, from intermediate products to end products such as photocopying paper and paper for household use.

¹ FM certification: Confirmation of forest management

² CoC certification: Confirmation of management on processing and distribution of produced wood



Provision of Information to Customers

The Group responds to customer inquiries regarding the safety of the raw materials (chemicals and materials) we use, based on safety information for various raw materials verified using the pre-use evaluation system and the information updating system. Responses to customer inquiries are made using Research Reports, Article Information Sheets (AIS), Safety Data Sheets (SDS) and other documents.

Research Reports	Reports that respond to detailed individual inquiries by tracing back to the chemicals used
Article Information Sheets (AIS)	A document that summarizes laws and regulations relating to products and key handling points
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

