

Biei, Hokkaido  
Company-owned forest



Beyond the Boundaries

Onneyu, Hokkaido  
Company-owned forest

# The Oji Group Integrated Report 2019

Fiscal year ending March 2019

Forest plantation in Brazil  
Photo by João Rabelo

Mutum, an endangered bird species in Brazil

Greeting from the Chairman and President

Both the business environment and the Oji Group itself have undergone major changes since the Group’s foundation in 1873.

The Group is pursuing increased corporate value over the medium- to long-term while contributing to the development of a sustainable society with “Creation of Innovative Value,” “Contribution to the Future and the World,” and “Harmony with Nature and Society” as its management philosophy.

It is our hope that Oji Group Integrated Report 2019 will help readers to enrich their understanding about the Group's undertakings.

矢嶋 進  
Susumu Yajima  
Director, Chairman of the Board,  
Oji Holdings Corporation

加来 正年  
Masatoshi Kaku  
Director of the Board, President,  
Oji Holdings Corporation



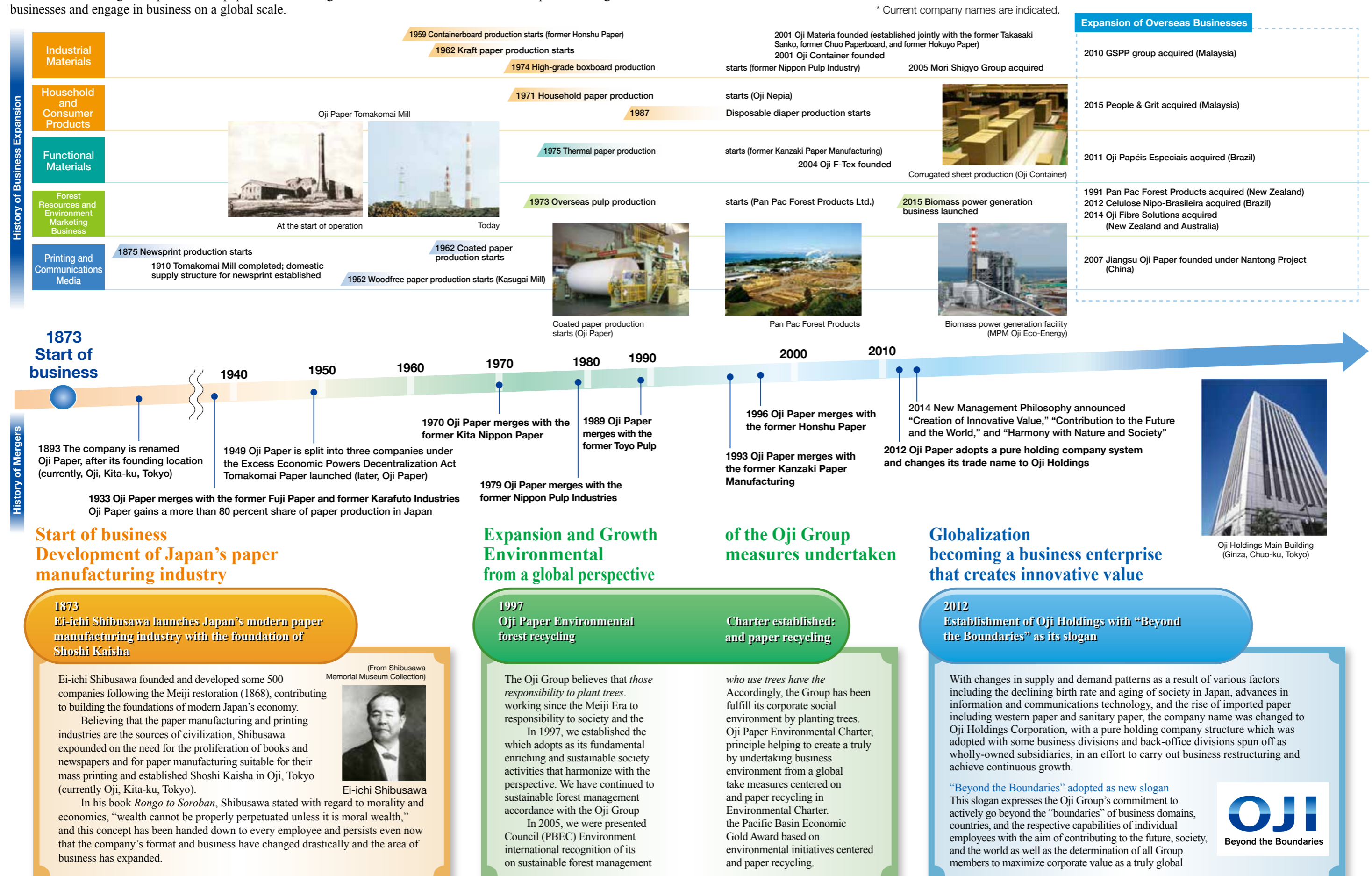
CONTENTS

Corporate Profile	History ..... 02
	Business Overview ..... 04
	Major Affiliated Companies Distribution Map ..... 06
What the Oji Group Aims For	Value Creation Model ..... 08
	Sustainability Strategy and Material Issues ..... 10
	Material Issues and KPI..... 12
Management Strategy	Message from the President ..... 14
	New Business Creation and R&D ..... 22
Financial Highlights and Non-financial Highlights	28
Business Strategy	Household and Industrial Materials Businesses (Industrial Materials Business) ..... 30
	Household and Industrial Materials Businesses (Household and Consumer Products Business)..... 32
	Functional Materials Business ..... 36
	Forest Resources and Environment Marketing Business ..... 40
	Printing and Communications Media Business ..... 44
	Main Businesses of Corporate Management Group and Shared Service Companies ..... 46
Governance	Corporate Officers ..... 48
	Corporate Governance ..... 51
	Oji Group Corporate Code of Conduct and the Oji Group Behavior Standard ..... 54
	Compliance ..... 55
	Risk Management ..... 56
Environment	Fundamental Stance and Policy ..... 58
	Relationship Between Business and the Environment ..... 60
	Measures Against Climate Change ..... 62
	Reduction of Environmental Burden ..... 64
	Effective Resource Utilization (Water Resources) ..... 67
	Effective Resource Utilization (Forest Recycling*)..... 68
	Effective Resource Utilization (Paper Recycling) ..... 72
	Initiatives for Conservation of Biodiversity ..... 74
	Contribution to Local Communities ..... 75
	Responsible Raw Materials Procurement ..... 76
Society	Consideration for Human Rights ..... 78
	Human Resource Measures ..... 80
	Occupational Safety and Health ..... 84
	Relationships with Local Communities ..... 88
	Evaluation from Society ..... 89
Financial Information	Financial Data Highlights ..... 90
	Consolidated Financial Statements ..... 92
Third-Party Independent Assurance Report	95
List of Affiliated Companies	96
Corporate Data / Stock Information	98
From the Publisher of this Integrated Report	99

\*Sustainable Forest Management





# History

Since its founding in 1873, the Oji Group has achieved continuous growth through the expansion of business fields. We use the technologies acquired in the paper manufacturing business and conducts R&D to develop a wide range of businesses and engage in business on a global scale.



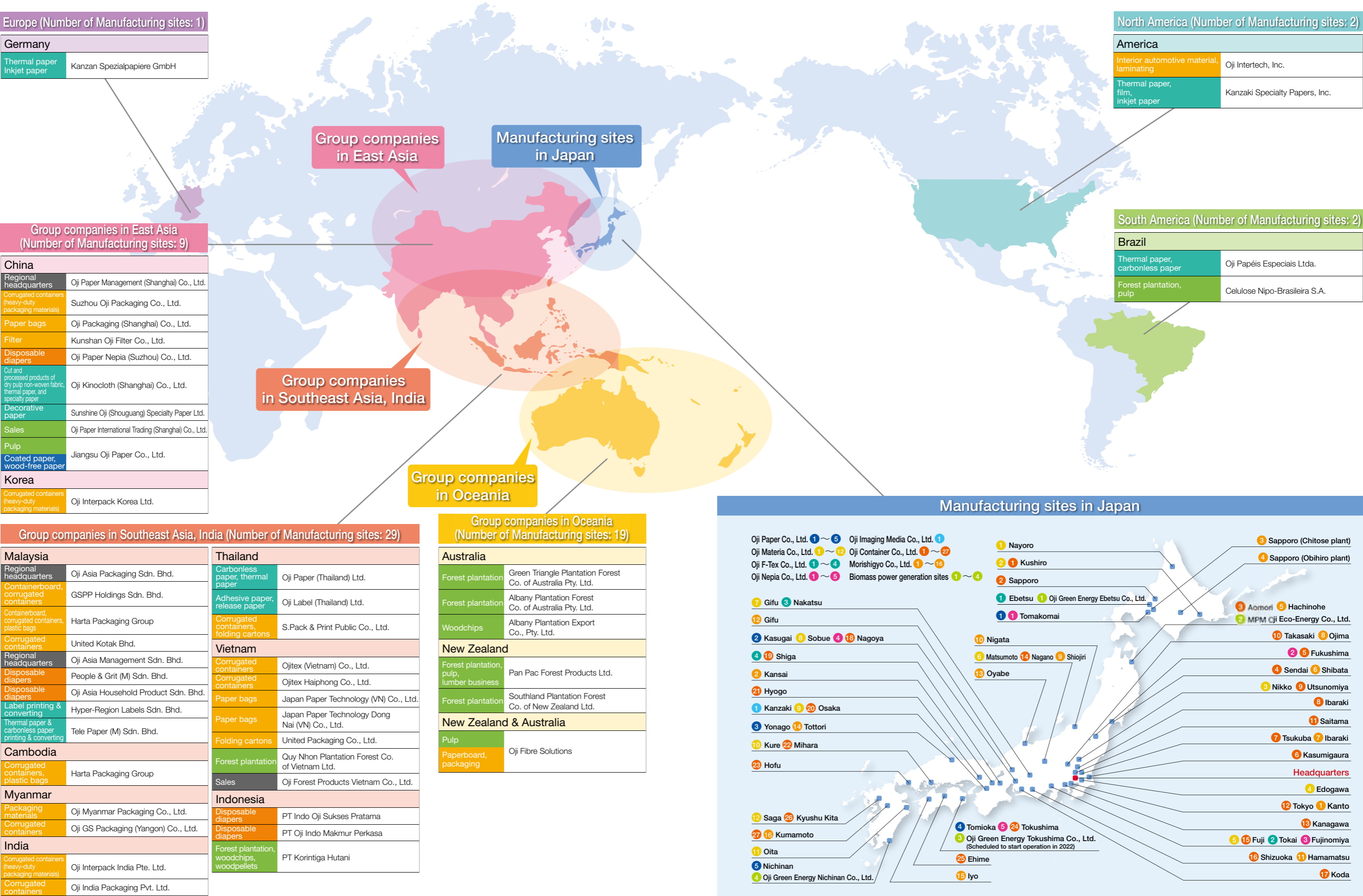
# Business Overview

Oji Group conducts business in four business segments. Our overall business is managed separately by five COMPANYS, as well as the Corporate Management Group Companies and the Shared Service Companies which support the entire Group.

Oji HD Corporation	<b>Industrial Materials COMPANY</b>  Main businesses: Containerboard and corrugated containers business, Boxboard and folding cartons business, Packaging papers and paper bags business	<b>Containerboard, boxboard, packing papers</b> ■ Oji Materia Co., Ltd. <b>Corrugated containers</b> ■ Oji Container Co., Ltd. ■ Morishigyo Co., Ltd. ■ Oji Interpack Co., Ltd. <b>Folding cartons, paper bags</b> ■ Oji Packaging Co., Ltd. ■ Oji Seitai Co., Ltd. ■ Chuetsu Package Co., Ltd. ■ Oji Adba Co., Ltd.	<b>[Overseas] Packaging</b> America ■ Oji Intertech, Inc. China ■ Suzhou Oji Packaging Co., Ltd. ■ Oji Packaging (Shanghai) Co., Ltd. ■ Kunshan Oji Filter Co., Ltd. Korea ■ Oji Interpack Korea Ltd. Malaysia ■ GSPP Holdings Sdn. Bhd. ■ Harta Packaging Group ■ United Kotak Bhd.	Cambodia ■ Harta Packaging Group Myanmar ■ Oji Myanmar Packaging Co., Ltd. ■ Oji GS Packaging (Yangon) Co., Ltd. India ■ Oji Interpack India Pvt. Ltd. ■ Oji India Packaging Pvt. Ltd. Thailand ■ S.Pack & Print Public Co., Ltd. Vietnam ■ Ojitex (Vietnam) Co., Ltd. ■ Ojitex Haiphong Co., Ltd. ■ Japan Paper Technology (VN) Co., Ltd. ■ Japan Paper Technology Dong Nai (VN) Co., Ltd. ■ United Packaging Co., Ltd. New Zealand & Australia ■ Oji Fibre Solutions*	<b>Household and Industrial Materials Businesses</b>  Products include daily necessities such as tissue paper and disposable diapers, as well as packaging products such as corrugated containers and paper bags 
	<b>Household and Consumer Products COMPANY</b>  Main businesses: Household paper business, Disposable diaper business	<b>Household papers, disposable diapers</b> ■ Oji Nepia Co., Ltd. <b>[Overseas] Disposable diapers</b> China ■ Oji Paper Nepia (Suzhou) Co., Ltd.	Malaysia ■ People & Grit (M) Sdn. Bhd. ■ Oji Asia Household Product Sdn. Bhd. Indonesia ■ PT Indo Oji Sukses Pratama ■ PT Oji Indo Makmur Perkasa		
	<b>Functional Materials COMPANY</b>  Main businesses: Specialty paper business, Thermal paper business, Adhesive products business, Film business	<b>Specialty paper, film</b> ■ Oji F-Tex Co., Ltd. <b>Thermal papers</b> ■ Oji Imaging Media Co., Ltd. <b>Adhesive products</b> ■ Oji Tac Co., Ltd. ■ New Tac Kasei Co., Ltd. ■ Shinomura Chemical Industry Co., Ltd. <b>Others</b> ■ Oji Kinocloth Co., Ltd. ■ Chuetsu Co., Ltd.	<b>[Overseas] Thermal paper</b> Brazil ■ Oji Papéis Especiais Ltda. America ■ Kanzaki Specialty Papers, Inc. Germany ■ Kanzan Spezialpapiere GmbH Thailand ■ Oji Paper (Thailand) Ltd. Malaysia ■ Tele - Paper (M) Sdn. Bhd.	<b>[Overseas] Adhesive paper</b> Thailand ■ Oji Label (Thailand) Ltd. Malaysia ■ Hyper-Region Labels Sdn. Bhd. <b>[Overseas] Others</b> China ■ Oji Kinocloth (Shanghai) Co., Ltd. ■ Sunshine Oji (Shouguang) Specialty Paper Ltd.	<b>Functional Materials Business</b>  Products include thermal paper for receipts etc., adhesive products including labels, a variety of film products, and specialty paper 
	<b>Forest Resources and Environment Marketing Business COMPANY</b>  Main businesses: Pulp business, Energy business, Plantation and lumber processing businesses	<b>Pulp</b> ■ Oji Green Resources Co., Ltd. <b>Energy</b> ■ Oji Green Energy Ebetsu Co., Ltd. ■ Oji Green Energy Nichinan Co., Ltd. ■ MPM Oji Eco-Energy Co., Ltd. ■ Oji Green Energy Tokushima Co., Ltd. <b>Lumber</b> ■ Oji Forest & Products Co., Ltd.	<b>[Overseas] Pulp</b> Brazil ■ Celulose Nipo-Brasileira S.A. New Zealand ■ Oji Fibre Solutions* ■ Pan Pac Forest Products Ltd. China ■ Jiangsu Oji Paper Co., Ltd.* <b>[Overseas] Forest plantation</b> Vietnam ■ Quy Nhon Plantation Forest Co. of Vietnam Ltd. Indonesia ■ PT Korintiga Hutani	Australia ■ Green Triangle Plantation Forest Co. of Australia Pty. Ltd. ■ Albany Plantation Forest Co. of Australia Pty. Ltd. New Zealand ■ Southland Plantation Forest Co. of New Zealand Ltd. <b>[Overseas] Woodchips</b> Australia ■ Albany Plantation Export Co., Pty. Ltd. <b>[Overseas] Sales</b> China ■ Oji Paper International Trading (Shanghai) Co., Ltd.	<b>Forest Resources and Environment Marketing Business</b>  Various businesses which utilize forest resources such as pulp for paper manufacturing, power generation, lumber processing etc. 
	<b>Printing and Communications Media COMPANY</b>  Main businesses: Newsprint business, Printing, publication, communications paper business	<b>Newsprint, printing, publication, communications paper</b> ■ Oji Paper Co., Ltd.	<b>[Overseas] Printing, publication paper</b> China ■ Jiangsu Oji Paper Co., Ltd.*		<b>Printing and Communications Media Business</b>  Products include paper for printing purposes such as newsprint, magazines and books, and paper for photocopying purposes 
	<b>Corporate Management Group and Shared Service Companies</b>  Main businesses: Real estate, Engineering, Trading, Logistics, etc.	<b>Real estate</b> ■ Oji Real Estate Co., Ltd. <b>Engineering</b> ■ Oji Engineering Co., Ltd. <b>Trading</b> ■ Kyokuyo Co., Ltd.	<b>Logistics</b> ■ Oji Logistics Co., Ltd. <b>Others</b> ■ Ginpo Pack Co., Ltd. ■ Hotel New Oji, Co., Ltd.	<b>[Overseas] Sales</b> Vietnam ■ Oji Forest Products Vietnam Co., Ltd.	<b>Corporate Management Group and Shared Service Companies</b>  Various services that support Oji Group's collective strengths

\* Major Group companies are listed. Companies with multiple businesses are listed in several places on this page.

Major Affiliated Companies Distribution Map



Number of manufacturing sites in ( ): It shows the number of manufacturing sites of the companies listed on this page. Mori Shigyo Co., Ltd. indicates the business site. Other Group companies indicates the plant name.

Value Creation Model

Under the management philosophy of “Creation of Innovative Value,” “Contribution to the Future and the World” and “Harmony with Nature and Society,” the Oji Group is striving to ensure that its business itself contributes to a sustainable society by deploying the sustainability strategy globally. The Group sets “Contribution to a Sustainable Society” as the foundation of our FY2019 to FY2021 Medium-term Management Plan and provides various values to society and contributes to the genuine enrichment of society by steadily implementing the three pillars of “Profitability Improvement of Domestic Business,” “Expansion of Overseas Business,” and “Promotion of Innovation.”

[Sustainability Strategy]  
The Oji Group will promote “resource circulation throughout the value chain” through five core competencies centered on forest resources.  
Five core competencies: “**Manufacturing that Supports Lives and Industry**,” “**Sustainable Forest Management** (forest recycling),” “**Utilization of Renewable Resources** (water recycling, paper recycling),” “**Application of Fundamental Paper Manufacturing Technologies** (deployment of renewable energy such as biomass power generation)” and “**Development of New Materials Derived from Wood Fiber** (cellulose nano-fibers, etc.).”

Management Philosophy

Creation of Innovative Value

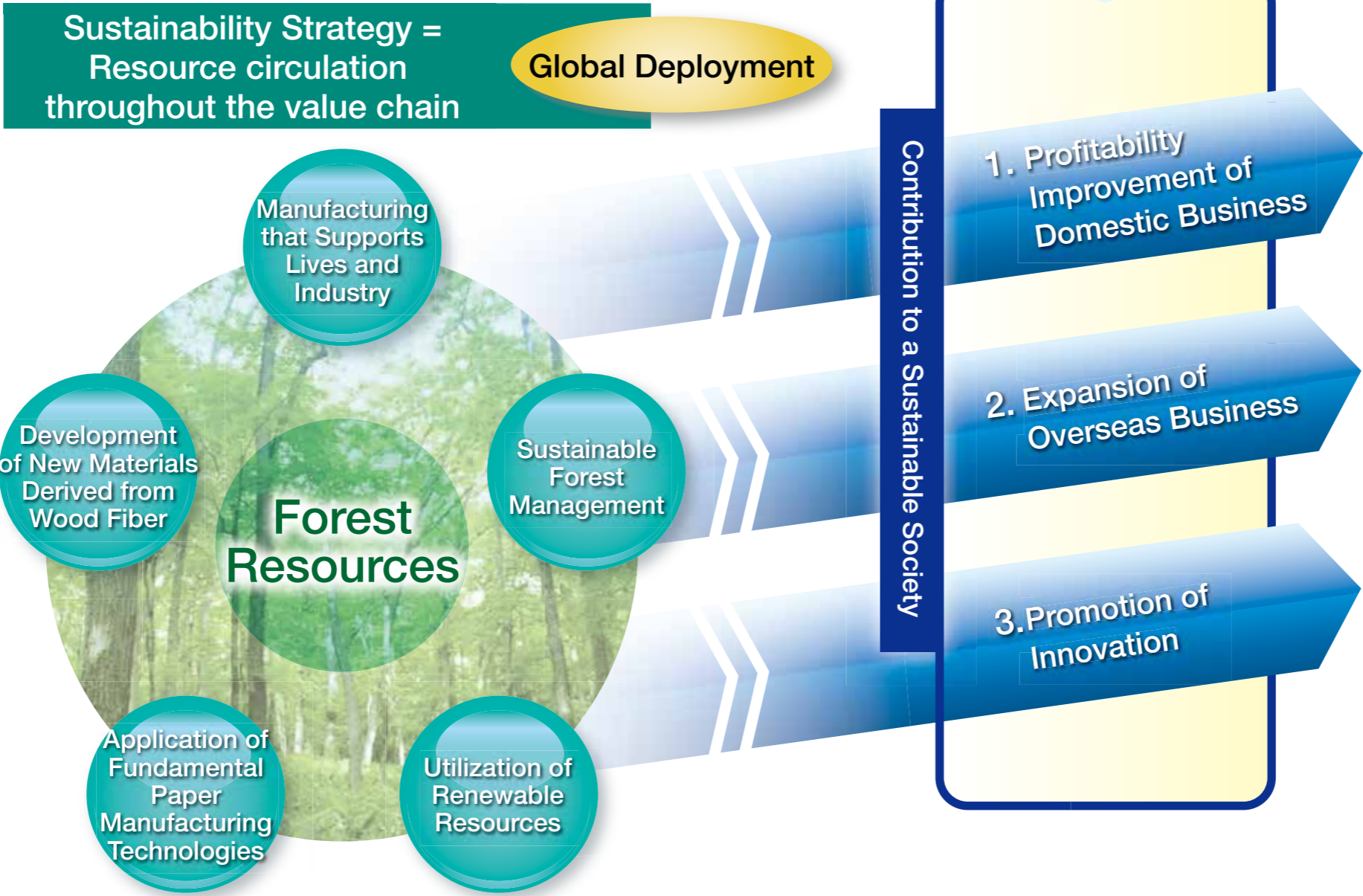
Promptly detect changes in values across broad fields of society and strive to offer “innovative value” that fulfill society’s latent needs by promoting “challenging manufacturing” based on novel ideas.

Contribution to the Future and the World

Continue to be a global enterprise that provides “innovative value” to all countries, regions, and societies and work toward creating a new future.

Harmony with Nature and Society

Actively address environmental problems and contribute to the realization of a sustainable society for the sake of continual existence and flourishing with nature and the Earth.



Value provided to society through business

Contribution to the genuine enrichment of society

Forest conservation

Responsible production and consumption forms

Supply of safe and secure products

Transfer of technologies to emerging countries

Solutions to the issue of plastic in the ocean

Shift from fossil fuels to non-fossil fuels

Mitigation of climate change

Safe water supply

Promotion of recycling systems

Respect for human rights

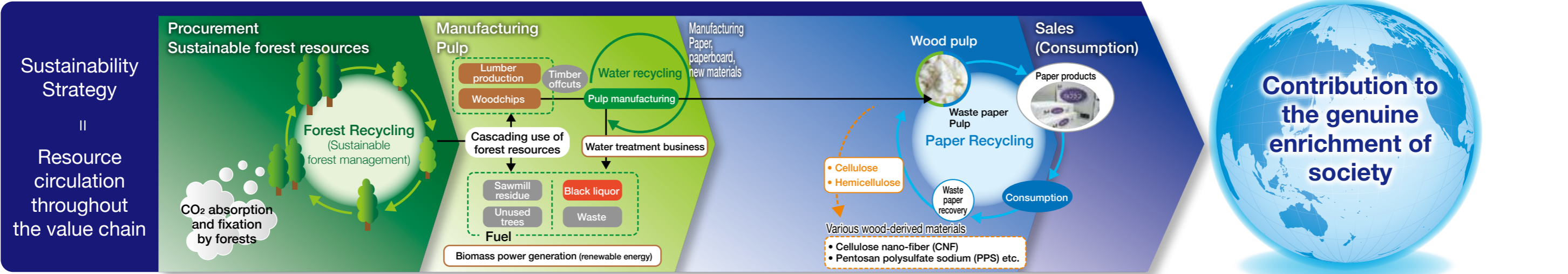
Safety and health

Diversity & Inclusion

Corporate Profile
What the Oji Group Aims For
Management Strategy
Financial Highlights and Non-financial Highlights
Business Strategy
Governance
Environment
Society
Financial Information

Sustainability Strategy and Material Issues

\* We have identified material issues in our sustainability strategy and are addressing them in the value chain.



Material issues		Measures in the value chain				Value provided to society		Corresponding SDGs			
Sustainable forest management	Environment	Conservation of forests and biodiversity				Forest conservation	Responsible production and consumption forms	6	8	14	15
		Forest certification acquisition						6.6	8.7	14.2	15.1, 15.2, 15.3, 15.4, 15.5
		Development of infrastructure in areas near forests									
		Acquisition of certifications throughout the value chain (CoC certification)									
		Compliance with Group procurement policies				Forest conservation	Responsible production and consumption forms	8	12	15	
		Raw materials procurement that satisfies certification and management standards						8.7	12.1, 12.4, 12.6	15.2	
Responsible raw materials procurement	Environment	Proper management of raw materials									
Stable supply of safe and secure products		Compliance with raw materials safety confirmation standards	Measures for stable operations			Supply of safe and secure products	Transfer of technology to emerging countries	12	17		
			Transfer of technology to emerging countries								
			Formulation of BCP								
			Compliance with quality standards								
Promotion of innovation	Environment		Promotion of Green Innovation	(promoting development of eco-friendly products and technologies)		Solutions to the issue of plastic in the ocean	Safety and health	2	9	13	14
			Development of raw materials for biodegradable plastics	(from edible materials to wood-derived non-edible materials)				2.1	9.4, 9.5, 9.b	13.3	14.1
			Development of pharmaceutical products	using wood-derived materials							
Mitigation and adaptation to climate change		Maintenance and enhancement of CO <sub>2</sub> absorption and fixation through forest conservation	Shift from fossil fuels to non-fossil fuels (renewable fuels	and fuels made from waste)	Reduction of CO <sub>2</sub> emissions during transportation	Shift from fossil fuels to non-fossil fuels	Mitigation of climate change	7	12	13	
		Reduction of CO <sub>2</sub> emissions during transportation	Promotion of energy-saving					7.2, 7.3	12.2	13.1, 13.2	
Reduction of environmental burdens	Environment		Reduction of wastewater, exhaust gas and waste (compliance with voluntary chemical substance management	values that are stricter than regulatory values)	Deployment of waste water treatment technology	Safety and health	Safe water supply	3	6	14	17
								3.9	6.1, 6.3, 6.4	14.1, 14.2, 14.3	17.7, 17.8
Effective resource utilization		Waste paper recycling	Improvement of the recovered paper	utilization ratio	Maintenance and promotion of recovered paper recycling systems	Promotion of recycling systems		6	12	14	
			Efficient use of water					6.4, 6.5	12.4, 12.5, 12.6, 12.7	14.1	
Respect for human rights	Society	Checks on the status of respect for human rights by suppliers	Checks on the status of respect for human rights at manufacturing sites and contractor sites	(awareness surveys, etc.)		Respect for human rights		5	8	10	
		Promotion of respect for human rights at group companies						5.1, 5.5, 5.c	8.5, 8.7, 8.8	10.2, 10.3, 10.4	
			Harassment countermeasures								
Ensuring worksite safety and health			Rigorously ensuring the safety of machinery, equipment, and work, and raising hazard	sensitivity through experience-based training (virtual reality, etc.)		Safety and health		8			
			Promotion of the physical and mental well-being of	workers and creation of comfortable work environments				8.8			
Diversity & Inclusion	Society		Working style reforms			Diversity & Inclusion		5	8	10	
			Change mindset and behavior of management level employees					5.5, 5.c	8.2, 8.5, 8.8	10.2, 10.3	
			Demonstration of the abilities and career development of diverse human resources								
			Improvement in employee work-life management								
Contribution to local communities and society		Conservation of biodiversity in collaboration with local communities						17			
		Activities that contribute to local communities in areas near manufacturing sites (recycling measures, youth education,			cultural exchanges, environmental conservation, healthcare support)			17.7, 17.17			
Dialogue with stakeholders	Society	Environmental education, and cultural and sports programs									
			Appropriate information disclosures					17			
			Attentive communications with individual stakeholders					17.7, 17.17			

Material issues			Qualitative target*1	Key performance indicators (KPI)*1 (Unless otherwise specified, until 2030)	Current value*1 (Unless otherwise specified, as of the end of March 2019)	Calculation formula
Sustainable forest management			<ul style="list-style-type: none"><li>· Increase the rate of overseas forest certification acquisition (maintain the domestic rate at 100%)</li><li>· Increase overseas forest plantations</li></ul>	<ul style="list-style-type: none"><li>· Seek 100% rate of forest certification acquisition for all forest plantations</li><li>· 400,000 ha*2 of overseas forest plantations</li></ul>	<ul style="list-style-type: none"><li>· Rate of forest certification acquisition [Japan] 100% (excluding profit sharing forests); [overseas] 85%</li><li>· 250,000 ha of overseas forest plantations</li></ul>	<ul style="list-style-type: none"><li>· [Japan] Forest certification acquisition rate = Certification acquisition area (ha) ÷ Managed and owned areas excluding profit sharing forest (ha)</li><li>· [Overseas] Forest certification acquisition rate = Certification acquisition area (ha) ÷ Planted area (ha)</li></ul>
Responsible raw materials procurement			<ul style="list-style-type: none"><li>· Procure raw materials in accordance with Group Procurement Guidelines and implement supply chain management</li></ul>	—	—	—
Stable supply of safe and secure products			<ul style="list-style-type: none"><li>· Continue zero product liability accidents</li></ul>	<ul style="list-style-type: none"><li>· Zero product liability accidents (each fiscal year)</li></ul>	<ul style="list-style-type: none"><li>· Zero product liability accidents (continued from 1998)</li></ul>	—
Promotion of innovation			<ul style="list-style-type: none"><li>· Commercialize eco-friendly products</li></ul>	—	—	—
Mitigation and adaptation to climate change			<ul style="list-style-type: none"><li>· Reduce GHG*3 emissions intensity</li><li>· Maintain and expand CO2 absorption and fixation through forest conservation</li><li>· Maintain and expand the shift to non-fossil fuels</li><li>· Use energy efficiently</li></ul>	<ul style="list-style-type: none"><li>· Reduce GHG emissions intensity from product manufacturing by at least 10% compared to FY2013 by FY2020</li><li>· Fix at least 170 million tons of CO2 (estimated value)</li><li>· Reduce energy consumption intensity by at least 1.0% compared to the previous fiscal year</li></ul>	<ul style="list-style-type: none"><li>· GHG emissions intensity: 9.0% reduction from FY2013</li><li>· CO2 fixation amount: 120 million tons</li><li>· Energy consumption intensity: 1.4% reduction compared to the previous fiscal year</li></ul>	<ul style="list-style-type: none"><li>· CO2 fixation amount (CO2 tons) = Residual cumulative volume m³ at end of FY2018 × Biomass expansion factor 1.7 × Bulk weight BDT/m³ × Carbon ratio 0.5 × CO2 conversion factor 44/12</li></ul> <p>*BDT: Bone dry tons</p>
Reduction of environmental burdens (atmosphere, water, waste)			<ul style="list-style-type: none"><li>· Reduce waste</li><li>· Acquire environmental certification (ISO 14001, etc.)</li></ul>	<ul style="list-style-type: none"><li>· Achieve effective waste utilization ratios of at least 99% in Japan and at least 95% overseas (2020)</li></ul>	<ul style="list-style-type: none"><li>· Effective waste utilization ratio [Japan] 98.3% [Overseas] 89.6%</li></ul>	<ul style="list-style-type: none"><li>· Effective waste utilization ratio = (Volume of waste generated - Volume of landfill waste) ÷ Volume of waste generated × 100</li></ul>
Effective resource utilization			<ul style="list-style-type: none"><li>· Improve the recovered paper utilization ratio</li><li>· Reduce water usage intensity</li></ul>	<ul style="list-style-type: none"><li>· Recovered paper utilization ratio of at least 65% in Japan</li><li>· Reduce water usage intensity accompanying product manufacturing by at least 1% from the previous year</li></ul>	<ul style="list-style-type: none"><li>· Recovered paper utilization rate: 64.0%</li><li>· Water usage intensity: Down 0.8% from FY2017</li></ul>	<ul style="list-style-type: none"><li>· Recovered paper utilization ratio = Volume of paper consumed ÷ Total volume of fiber raw materials consumed (total consumption of recovered paper, wood pulp, and other fiber raw materials)</li></ul>
Respect for human rights			<ul style="list-style-type: none"><li>· Reinforce human rights management systems (particularly at overseas sites)</li></ul>	—	—	—
Ensuring worksite safety and health			<ul style="list-style-type: none"><li>· Eliminate fatal accidents</li><li>· Reduce the lost time injury frequency rate (LTIFR)*4</li><li>· Reinforce safety risk management systems and safety education at overseas offices</li></ul>	<ul style="list-style-type: none"><li>· Zero fatal accidents (each fiscal year)</li><li>· Reduced the lost time injury frequency rate (LTIFR) by 50% compared to 2018</li></ul>	<ul style="list-style-type: none"><li>· Number of fatal accidents: 0 (consolidated companies)</li><li>· Lost time injury frequency rate (LTIFR): 0.55 (consolidated companies, January 1 to December 31, 2018)</li></ul>	<ul style="list-style-type: none"><li>· Lost time injury frequency rate (LTIFR) = (Number of occupational accident casualties ÷ Total work hours) × 1,000,000</li></ul>
Diversity & Inclusion			<ul style="list-style-type: none"><li>· Globalize the workforce (The following apply to Japan)</li><li>· Raise the percentage of female managers</li><li>· Raise the percentage of disabled employees</li><li>· Improve work-life management</li></ul>	<ul style="list-style-type: none"><li>· Percentage of female managers [Japan] 10% (6% in 2020)</li><li>· Percentage of disabled employees [Japan] 2.34% (2021)</li></ul>	<ul style="list-style-type: none"><li>· Percentage of female managers [Japan] 3.1% (16 Oji Group companies)</li><li>· Percentage of disabled employees [Japan] 1.83% (as of June 2018)</li></ul>	<ul style="list-style-type: none"><li>· Percentage of female managers = Number of female managers ÷ Number of all managers</li><li>· Percentage of disabled employees (employment rate) = Number of regular workers with physical or intellectual impairments or with mental illness ÷ Number of all regular workers</li></ul> <p>* Workers with short working hours are counted as 0.5 workers</p> <p>* Persons with severe disabilities are counted as two persons</p>
Contribution to local communities and society			<ul style="list-style-type: none"><li>· Conduct environmental education</li><li>· Promote cultural and sports activities</li></ul>	—	—	—
Dialogue with stakeholders			<ul style="list-style-type: none"><li>· Transparent and appropriate disclosures via websites and integrated reports</li></ul>	—	—	—

\*1 Unless otherwise specified, Japanese and overseas consolidated companies  
\*2 ha = 10,000m²  
\*3 Greenhouse Gas  
\*4 Lost time injury frequency rate (LTIFR)  
(1) Covered period: January 1 to December 31  
(2) Number of deaths and injuries due to occupational accidents per million working hours (fatal accidents and accidents with at least one day off)  
(3) Total working hours are calculated based on the number of group company employees (regular employees and temporary / non-regular employees) as of the end of September every year, assuming the annual working hours per person is 2,000 hours.  
(4) The frequency rate calculation does not include accidents at overseas group companies that are determined to be at the level of accidents accompanied by injuries without lost work days in Japan based on standards established by the Company.

## Message from the President

We seek to always anticipate changing needs,  
tackle the challenges of innovation,  
and be a corporate group that achieves continuous growth.



I had the honor to be appointed president of Oji Holdings in April 2019.

I would like to discuss the strong commitment of Group management and employees to the long-held mission of the Group—to contribute to the genuine enrichment of society—and how we are carrying out that mission.

### ■ Oji Group—Development Since its Foundation—

The origins of the Oji Group can be found 146 years ago in 1873 when Eiichi Shibusawa established Shoshi Kaisha with the aim of developing the domestic paper manufacturing industry, which until then had relied on imports. He was committed to supporting social and economic development in Meiji Era Japan through the proliferation of books and newspapers to raise the level of knowledge of the public. Today, we engages in a wide range of businesses including book paper and newsprint in the Printing and Communications Media Business as well as packaging materials, household paper, and disposable diapers in the Household and Industrial Materials Businesses, specialty paper, thermal paper, adhesive products, and film products in the Functional Materials Business, and pulp sales and electric power generation using renewable energy in the Forest Resources and Environment Marketing Business. Also, our business is not limited to Japan and has expanded globally.

### ■ Sustainability Strategy

We have established resource circulation throughout the value chain so that our business activities contribute to the development of a sustainable society, namely through Forest Recycling\*, Paper Recycling, and Water Recycling.

#### Forest Recycling

The Oji Group owns 190,000 hectares of forests in Japan, the largest private holding in the country, and an additional 250,000 hectares of forest plantations overseas. At these Oji Forests, we conserve forest resources based on the belief that “those who use trees have the responsibility to plant trees.” We practice sustainable forest management while continuously planting trees.

In addition, through the maintenance of the precious forest resources of Oji Forests, measures against global warming via CO<sub>2</sub> absorption and fixation in forests, and conservation of precious animals and plants that live in the forest, we are contributing to the maintenance of biodiversity.

#### Paper Recycling

We undertake continuous paper recycling by encouraging waste paper recycling and establishing a waste paper recovery system.

#### Water Recycling

We develop water treatment technologies to promote reuse of wastewater in our paper and pulp manufacturing processes.

We are making further advances in paper manufacturing technologies and achieving innovations in the development of new materials such as cellulose nano-fiber (CNF) and advanced paper with functions that can serve as alternatives to plastics. In addition, we are applying fundamental paper manufacturing technologies using forest resources to develop the renewable energy business such as biomass power generation.

We seek to maximize the value of diverse forest resources and to pass healthy forests on to future generations. By doing this, we provide value to society. We are committed to fulfilling the responsibility of continuing to provide value to society into the future.

\* Forest Recycling: Sustainable Forest Management

### ■ Management Strategy: FY2016–2018 Medium-Term Management Plan

Next, I would like to discuss our management strategy. The management strategy is a key roadmap that urges us strongly along the path that we should take. Under the previous medium-term management plan, which ended in FY2018, we set as our fundamental strategies **Expansion of Overseas Business, Concentration and Advancement of Domestic Business, and Enhancement of Financial Foundations**. We worked to achieve our performance indicator targets of 100 billion yen in consolidated operating profit, an overseas sales ratio of 35 percent, and interest-bearing debt of 700 billion yen.

With regard to **Expansion of Overseas Business**, we increased the number of manufacturing sites, particularly in the packaging business, increased production capacity and efficiency, and focused on entering new business fields in Southeast Asia.

In relation to **Concentration and Advancement of Domestic Business**, we worked to raise earnings capacity by cutting costs and reorganizing production structures. In addition, we used core Oji Group technologies to develop high-performance and high added value products and focused on expanding the renewable energy business including biomass and hydroelectric power generation.

With respect to **Enhancement of Financial Foundations**, we improved operating cash flows, sold off shares held for strategic purposes and idle assets, and worked to reduce interest-bearing debts.

These efforts produced results, with consolidated operating profit reaching 110.2 billion yen in FY2018 (up 38.2 billion yen compared to FY2015) and interest-bearing debt falling to 620.6 billion yen (down 157.1 billion yen compared to FY2015). Thus, we achieved both our earnings and financial targets. The overseas sales ratio was 32.0 percent (up 4.2 points from FY2015), falling below the target, but over the three years of the plan, we steadily reinforced structures for increasing overseas profits.

### ■ Management Strategy: FY2019–2021 Medium-Term Management Plan

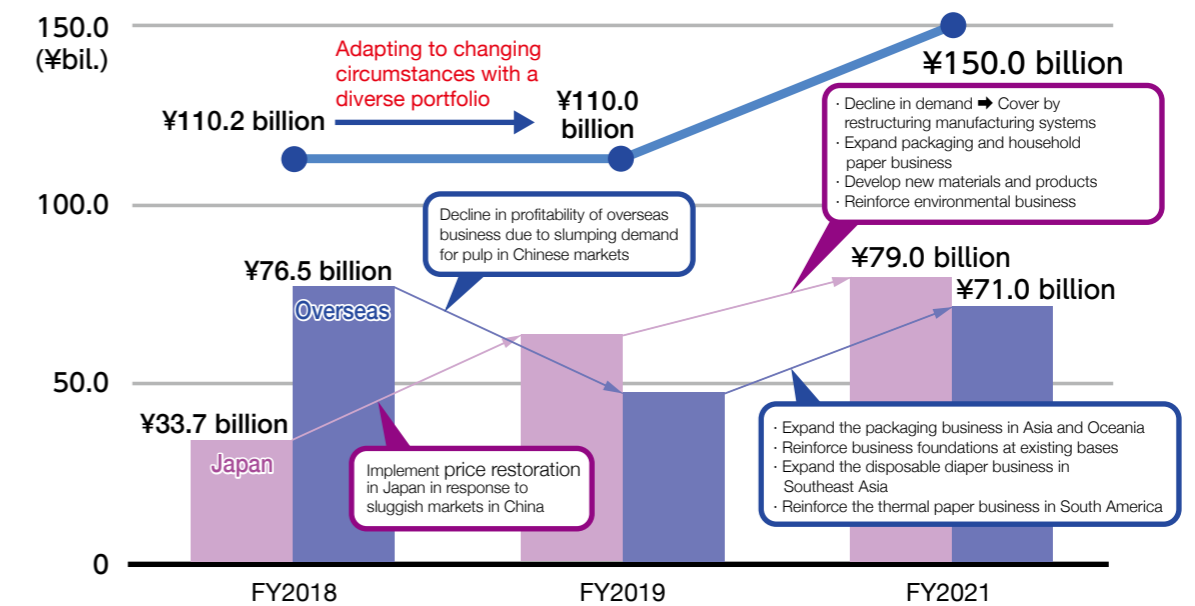
We are now carrying out our new Medium-Term Management Plan covering the period from FY2019 to FY2021. The fundamental policies of our current management strategy comprise three pillars: **Profitability Improvement of Domestic Business, Expansion of Overseas Business, and Promotion of Innovation**. Also, we will pursue **Contribution to a Sustainable Society**, as a cornerstone of the fundamental policies.

With regard to the management targets for FY2021, consolidated operating profit of 150 billion yen is the target for FY2021, the final year of the Medium-Term Management Plan, and this includes a target of maintaining stable operating profit of at least 100 billion yen each year. We will also pursue an overseas sales ratio of 40 percent and ROE of 10.0 percent.

#### Performance Indicator Targets Under the FY2019-2021 Medium-Term Management Plan

- Consolidated operating profit: At least 150 billion yen (maintain stable operating profit of more than 100 billion yen)
- Overseas sales ratio: 40% (with a target of more than 50% in the short term)
- ROE: 10.0%
- Net D/E ratio: Maintain current status \* FY2018 result: 0.7 times
- Market capitalization: At least 1 trillion yen

### Operating Profit from FY2018 to FY2021



The direction that the Oji Group will take in the future has not fundamentally changed. Optimal manufacturing structures will be created throughout the Group through a process of selection and concentration of existing businesses, and we will commit to enhancing businesses that are promising and hold the potential for growth and creating new businesses that will become our new core businesses. At the same time, we will respond in a timely and appropriate manner to changes in the business environment. Until now, we have been sensitive to changes in global and domestic circumstances, taking various anticipatory actions to establish a diverse business portfolio. We will reinforce foundations so that a wide range of business fields and territorial areas can complement one another and generate synergy effects in the pursuit of even further growth.

Now, I will describe the three pillars of our fundamental policies in detail.

First is **Profitability Improvement of Domestic Business**. As demand for newsprint and printing paper continues to decline in domestic business in conjunction with the rapid advancement and proliferation of information and communications technologies, we will continue our efforts to secure cash flows through extensive cost cutting. We will also shift our strategies towards the generation of cash flows through maximum effective utilization of existing facilities, thereby enhancing the earnings capacity of domestic business.

Specifically, we are building optimal manufacturing systems for newsprint and printing paper and rapidly shifting excess facilities to growth businesses. Oji Paper Co., Ltd. and Oji F-Tex Co., Ltd. have made decisions to shut down a total of three printing and communication paper machines. In addition, one newsprint machine at Oji Paper Tomakomai Mill that is no longer needed will be modified into a containerboard and kraft paper machine. As a result, we will work on achieving substantial cost improvements, enhancing international competitiveness, and increasing cash flows.



We are also steadily developing the potential of promising businesses. In the corrugated container business, for example, we are constructing a state-of-the-art containerboard plant, one of the largest in Japan, in Funabashi City, Chiba Prefecture in the Kanto region, which is expected to experience particularly significant increases in demand. We are also expanding business by promoting total packaging including new product development and sales, containerboard manufacturing to corrugated container converting, and packaging machine sales and maintenance by using our proposal capabilities as a strength.

In the household paper business, MPM Oji Home Products Co., Ltd., a joint venture with Mitsubishi Paper Mills Limited with a production base in Hachinohe City, commenced production in April 2019. Having acquired its first household paper production site in the Tohoku region, the Oji Group plans to expand sales and streamline logistics further. Furthermore, a household paper base paper machine will start operating in China in 2020. In Japan, we plan to establish a new converting base in Edogawa-ku, Tokyo, to increase household paper supply capacity in the Tokyo Metropolitan region. We will expand business through collaboration between domestic and overseas operations.

In the energy business, we will expand the biomass power generation business even further. A biomass power generation facility in Hachinohe City, a joint venture with Mitsubishi Paper Mills Limited began operations in 2019, and a joint venture biomass power generation facility established with ITOCHU ENEX Co., Ltd. will commence operations in 2022. In conjunction with the expansion of the biomass power generation business, the biomass fuel business is also being reinforced.

Until recently, the Oji Group's capital and business alliances with Mitsubishi Paper Mills Limited have been confined to sporadic cooperative relationships in specific business fields such as the household paper and energy businesses. Going forward, we will expand and reinforce this relationship. We will actively undertake measures to cut costs through the elimination of duplicative transportation, joint procurement of raw materials and facilities, and development of new products through joint development, and to make reciprocal use of each other's sales channels with the aims of increasing the competitiveness and raising the earnings capacity of both companies.

Next is **Expansion of Overseas Business**. Overseas business has been expanding rapidly since about 2010. At that time, overseas business accounted for less than 10 percent of sales, but surpassed 30 percent in FY2017. We have set a target of 40 percent for FY2021 as a transitional point on the way to our future target of 50 percent. Our overseas business has already exceeded our domestic business in terms of the number of companies and the number of employees, and by combining our capabilities throughout the Group, we will further expand sites and territories while creating inter-business and inter-site synergies for dynamic growth to boost competitiveness and enhance our presence.

Looking to individual businesses, in the corrugated container business, we are expanding business and increasing the number of sites with a focus on Southeast Asia and India while reinforcing business foundations. We are installing an additional containerboard machine in Malaysia and building corrugated container converting plants in India, Vietnam, Cambodia, and Indonesia in stages. Particularly in Indonesia, we decided to construct a corrugated container plant through a joint venture with a leading firm, enabling the Oji Group to enter business in the country. The region continues to develop economically, and we will seek to steadily capture the growing demand for corrugated containers and increase our market shares.

In the disposable diaper business, we are conducting business in Indonesia through a joint venture with Indofood, a leading local company. While the JV company has conducted OEM sales since the end of 2016, it will begin operation of its own production facilities in March 2020. We will work to expand sales, secure cost competitiveness, and strengthen business foundations. In Malaysia, we are conducting manufacturing and sales at two sites, and exporting products to Vietnam and other neighboring countries. In China and Southeast Asia, there is a preference for high-quality, high added value, made-in-Japan products, and we will take advantage of this to expand exports from Japan and increase sales.

In the pulp business, we continue to implement strategic revenue management measures in order to reinforce business foundations that are resilient against price fluctuations in pulp markets. Pulp markets have been affected by trade frictions between the U.S. and China, making the business environment more demanding. Under these circumstances, we are implementing daily cost improvements so that we can maintain stable quality and fulfill our supply responsibilities. We are taking measures in various regions including updating manufacturing facilities in Brazil and stabilizing and enhancing the efficiency of operations in New Zealand.

With regard to **Promotion of Innovation**, we are advancing the technologies accumulated in the paper manufacturing business even further and accelerating new materials development, which will become our core businesses in the future, to ensure the sustainable growth of the Oji Group.

Specifically, we are developing applications for cellulose nano-fiber (CNF) by extending pulp fibrillation technologies, fibrillating wood fiber on the nano-level, and using the nano-fiber not only as a raw material for conventional paper, but also as an alternative for glass and plastics.

The issue of plastic in the ocean is currently attracting considerable attention. The Oji Group is participating as a founding member in the Clean Ocean Material Alliance (CLOMA), a platform for promoting measures to address the issue of plastic in the ocean by industry as a whole, and undertaking joint measures with other industries to reduce waste. CLOMA has set five Key Actions, of which one is developing and using paper and cellulose materials. As a part of these efforts, we are developing and using different types of paper materials such as barrier paper with barrier properties not found in conventional paper and various liquid containers.

We are also establishing a bio-refinery that can effectively use the byproducts generated when pulp is produced from wood materials. In addition to developing sugars derived from non-edible raw materials as new raw materials for biodegradable plastics through the application of saccharification technology, we are promoting developments of therapeutic agents for equine arthritis, therapeutic agents for human cystitis, and an anticoagulant necessary for dialysis (heparin; currently produced from cows and swine and thus cannot be used by certain persons because of religious grounds) using sulfated hemicellulose at a life science research organization which we established with Hokkaido University.

As we undertake the development of new materials that will be at the core of our business in the future, we are also conducting green innovation (development of eco-friendly products) using wood materials produced through sustainable forest management.

Based on the three pillars of the fundamental policies of our management strategies that I discussed above, we will continue contributing to the formation of a sustainable society by reinforcing the Oji Group's environmentally-friendly business in Japan and overseas and pursuing innovation.

## ■ Safety, the Environment, and Compliance as the Top Priorities in Management

As I mentioned, management strategies are important as indicators of the path that we should take, but above all else, Safety, the Environment, and Compliance are the highest priority management issues over the business.

As long as a company exists, it must ensure the safety of the people who work for it. When safety is impaired, the health and happiness of employees and their families can be lost in an instant. I see my own role as ensuring that the employees who report to work healthy in the morning are able to return home healthy at the end of the day, and I seek to make this known at every opportunity. As the Group expands, the scope of this also grows. Protecting the more than 36,000 Group employees in Japan and overseas as well as all of the people involved in our value chains is an ongoing issue. We are committed to maintaining safe and reassuring work environments by conducting various trainings to raise employee safety awareness and enhancing the safety of equipment.

I also want to act in good faith at all times with respect to the diverse stakeholders who are essential for the company's existence. We will continue comprehensive environmental measures including compliance with environmental laws and regulations and preventing environmental accidents on the Group level and at individual business sites to maintain plants and offices that can exist in harmony with local communities and residents. This also applies to our compliance initiatives. We will conduct business in a manner that proves worthy of the trust that we have established over the Group's 146-year history.

## ■ Message to Stakeholders

We move forward every day with the support of diverse stakeholders including shareholders and investors, customers, business partners, local communities, global society, and employees. We achieved our long-held target of 100 billion yen in operating profit last fiscal year, but the business environment is by no means grounds for optimism. Nonetheless, we have built business foundations that will enable us to transform difficult circumstances into opportunities and pursue growth. Just as the era name in Japan changed this year from Heisei to Reiwa, we will anticipate changing needs, undertake the challenges of innovation, and strive to be a corporate group that achieves sustainable growth.

We will continue to make every effort to meet the needs and expectations of stakeholders. I look forward to your continued understanding and support.

## New Business Creation and R&D

## Creating Innovative Value

With the aim of creating new business and strengthening the competitiveness of the company's existing businesses in mind, the Oji Holdings Innovation Promotion Division undertakes activities ranging from the creation of technological seeds to the development of new markets and new products that are more business-oriented, thereby propelling the company's business restructuring.

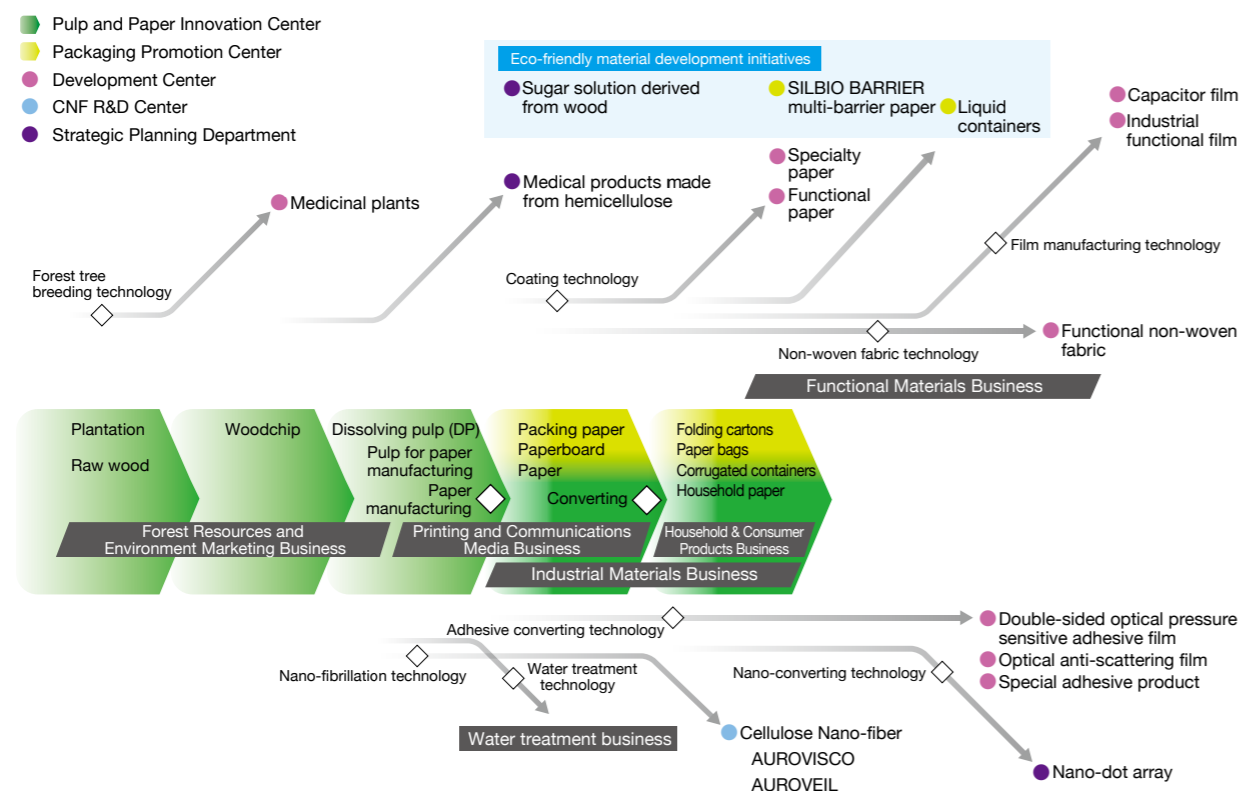
## Priority Strategies of the Innovation Promotion Division

- Creating technological seeds and capturing needs
- Building business models and establishing value chains
- Strengthen cost competitiveness through refinement of pulp and paper technologies

## Ongoing Innovative Value Creation by the Innovation Promotion Division

The Division is evolving underlying core technologies cultivated from paper manufacturing and film converting to promote the development of new business and new products and achieve early profitability. The Division is also developing eco-friendly products and technologies as a form of contribution to the realization of a sustainable society. Specific projects include development of technology for producing sugar from wood for use as a raw material of biodegradable plastic and development and application of paper materials with high barrier properties as an alternative to plastic for containers and packaging material.

The Division is also developing medical products made from hemicellulose which has had only limited applications, creating uses for cellulose nano-fiber using proprietary technologies, promoting the water treatment business using technologies acquired through paper manufacturing, and developing capacitor films for electric and hybrid vehicles to support the potential widespread adoption of eco-cars.



## Eco-Friendly Material Development Initiatives

The Oji Group is developing eco-friendly materials to address the issue of plastic in the ocean, a global scale problem, and to contribute the reduction of CO<sub>2</sub> emissions as a measure to fight global warming. By developing paper materials that can take the places of plastic packaging and biomass\*1 plastic materials made from renewable forest resources, the Group seeks to contribute to the development of a sustainable society.

\*1 Renewable, bio-derived organic resources excluding fossil resources

## Development of biomass plastic raw materials

Biodegradable plastics have been the subject of considerable attention in recent years, and much of the sugar used as a raw material is produced from sugarcane or corn. There are concerns that sugar produced from edible resources will result in food competition in relation to global food supply shortages.

The Oji Group is researching the production of sugar by breaking down wood components (cellulose) using enzymes through the application of technologies acquired from bioethanol research. The aim is to supply sugar derived from non-edible sources as a new raw material for the production of biodegradable plastics, demand for which will increase



**Cellulose-derived  
sugar solution**  
(Left: Unrefined product;  
right: refined product)

## Development of paper materials as alternative to plastic packaging

## Development of multi-barrier paper

The Oji Group developed SILBIO<sup>®2</sup> BARRIER, a multi-barrier paper made from a paper base with a barrier coating layer, using its water-based coating technologies, one of the Group's areas of specialization.

The barrier coating layer prevents water vapor, oxygen, and other substances from passing through, curtailing deterioration of the content and maintaining aroma and moisture content.

\*2 SILBIO = SILVA+BIOREFINERY

Silva means forest in Latin. The name was coined to incorporate the intent to create eco-friendly products that enrich society using biorefinery technology from forests.



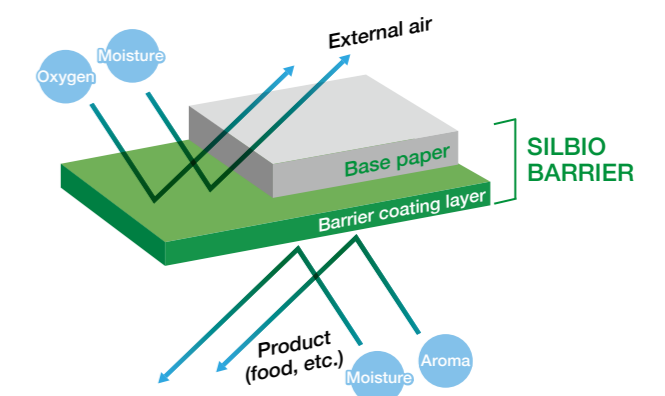
SILBIO Barrier was presented at a G20 Summit (held in Karuizawa-machi, Nagano Prefecture on June 15 and 16, 2019) ministerial meeting as an innovative initiative from Japan.



### Examples of processed pulp composite materials

## Development of biomass plastic film

Biomass-derived plastic films are expected to be used for food packaging and an expanding range of other applications in the future. The Oji Group has commenced development of distinctive biomass plastic films through the application of thin film stretch processing technology accumulated in the development of capacitor films.

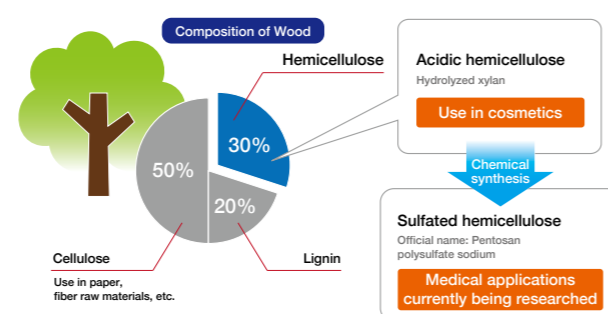


### Structure of SILBIO BARRIER

## Development of Medical Products Derived from Hemicellulose

The components of wood are mainly composed of cellulose, hemicellulose, and lignin. Cellulose has extensively been used as a raw material for paper and textiles without waste, but we are advancing research and development to use hemicellulose, which has been utilized as a fuel and other limited applications, as a product with higher added value. Acidic hemicellulose (hydrolyzed xylan) refined from hemicellulose is used as a raw material in cosmetics, as it provides skin moisture retention properties and protects the barrier function. In addition, a substance referred to as sulfated hemicellulose (pentosan polysulfate sodium: PPS) that is refined and chemically synthesized from acidic hemicellulose is attracting attention as an active pharmaceutical component, and the Group is conducting joint research and development with Hokkaido University.

PPS has the following effects: (1) suppressing arthritis symptoms, (2) suppressing bladder inflammation, and (3) suppressing blood coagulation. The Group is conducting development with the aims of use for effect (1) as a pharmaceutical agent for animals (in particular, horses) and for effects (2) and (3) as a pharmaceutical agent for people.



## Application of People- and Eco-Friendly Temporary Materials at Civil Engineering Sites

The Oji Group and Shimizu Corporation jointly developed KAMIWAZA, a technology for improving the productivity of temporary construction using people- and eco-friendly paper materials. KAMIWAZA is a solution that uses paper materials in temporary structures at civil engineering sites. By using easily handled paper materials as an alternative to conventional steel and wood, the burdens on workers are reduced and the productivity of temporary construction can be enhanced. The main materials used for temporary construction are HiPLE-ACE<sup>\*1</sup> manufactured by Oji Interpack Co., Ltd. and Hatosheet<sup>\*2</sup> manufactured by Oji Kinocloth Co., Ltd.



HiPLE-ACE manufactured by  
Oji Interpack



Hatosheet manufactured by Oji  
Kinocloth

- <sup>\*1</sup> HiPLE-ACE  
A corrugated board material with a three-layer structure that is used as packing material for heavy loads and has high shock absorption performance and high strength.
- <sup>\*2</sup> Hatosheet  
A nonwoven fabric made primarily from wood pulp that is capable of controlling the diffusibility, retentivity, and volatility of liquids that it absorbs. Verification tests of the temperature increase prevention effects were carried out during dam construction in Iwate Prefecture by installing Hatosheet that contain water in an aggregate storage facility for concrete materials.

### HiPLE-ACE Use Example: Tunnel Wind Gates

The temporary tunnel wind gates constructed in mountain tunnels are used to prevent rapid airflows that can occur during tunnel boring. With conventional construction techniques, special-purpose (disposable) nylon balloons were used to build a wall blocking the tunnel cross-section. When HiPLE-ACE is used, a wind gate of approximately 100 m<sup>2</sup> can be constructed by attaching corrugated board members (with an area of approximately 1 m<sup>2</sup>) with one-touch technique using just an aerial work platform. In addition, the corrugated board can be recycled and construction costs can be cut by approximately one half compared to conventional methods. The photo to the right shows an example from a road tunnel worksite in Nagasaki Prefecture.



New construction method using HiPLE-ACE

## Development of Cellulose Nano-Fiber

Cellulose nano-fiber (CNF) is a plant fiber (pulp) that is finely fibrillated to the nano-order level, 1/1,000,000 of 1 mm, where its width is equivalent to 1/20,000 of a hair. Oji Group is conducting development for commercialization of CNF with the aim of application of phosphorylated CNF, a proprietary technology, in a wide range of fields.

### CNF Reinforced Polycarbonate Resin

Polycarbonate (PC) resin is lightweight, highly transparent, and shock resistant material expected to be used as an alternative to glass for automobile windows, but it also has weaknesses—it is easily bent by force and deformed by heat. These weak points can greatly be improved by creating a compound of CNF and PC. The Oji Group is developing applications such as automobile windows with an aim of practical application at an early stage.

#### Composite of CNF and polycarbonate



### CNF for Use in Cosmetic Ingredients

Working with Nikko Chemicals Co., Ltd., a leader in the cosmetics materials industry, the Oji Group commercialized AUROVISCO CS, a cosmetic ingredient.

AUROVISCO CS boasts more than 100 times the viscosity of naturally-derived thickeners but has a non-sticky and moist feel. Moreover, the wood fiber used as a raw material is a sustainable and renewable resource that can be supplied from forests. It is expected that AUROVISCO CS will be adopted in various cosmetics.



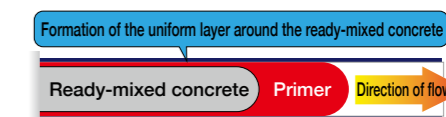
Cosmetics products

### CNF Used as Concrete Pump Primer

The Oji Group began sales of AUROVISCO for use with RUBURI concrete pump primer<sup>\*</sup> made by TAKEcite Co., Ltd. in January 2019.

Approximately 1 ton of conventional mortar is typically used, but when RUBURI mixed with CNF is used, this amount can be significantly reduced to tens of kilograms, slashing the amount of industrial waste generated. It also contributes to greatly reducing work times. RUBURI was selected as a standardization project for the Standardization System for Cultivating New Markets by the Ministry of Economy, Trade and Industry of Japan, and once standardization is approved, uses expected to expand to a wide range of construction sites.

<sup>\*</sup> Primer is used to form a uniform lubricating layer on the inner surfaces of ready-mixed concrete pumping pipes to prevent clogging of pipes when pressure is applied to pump the concrete.



Cross Section of a Pumping Pipe



A concrete pump truck pumping concrete

## Expansion of the Water Treatment Business

### Establishment of Water Treatment Technologies

The Oji Group provides water treatment systems suitable for all needs based on its operational expertise and water production and wastewater treatment technologies accumulated through paper manufacturing technologies over many years. The Oji Group has created new water treatment systems by combining proprietary chemical treatment with the OJI-MEMBRANE ultrafiltration membrane as well as remote support technologies that optimize facility operations and prevent problems before they occur using the Internet of Things (IoT).

Based on its established technologies, the Group will continue to develop new water treatment technologies so that it can provide integrated services from design and installation of water treatment facilities to supply of consumables and after-sales support including maintenance and management to customers in Japan and overseas.

### Developing Overseas Business with a Focus on Southeast Asia

The Group's water treatment business is not limited to Japan. It is increasing in Southeast Asia including proposals for industrial water production equipment at an industrial estate in Thailand, water production facilities for a beverage company and drinking water production facilities and wastewater treatment facilities for a large-scale multipurpose facility in Myanmar.

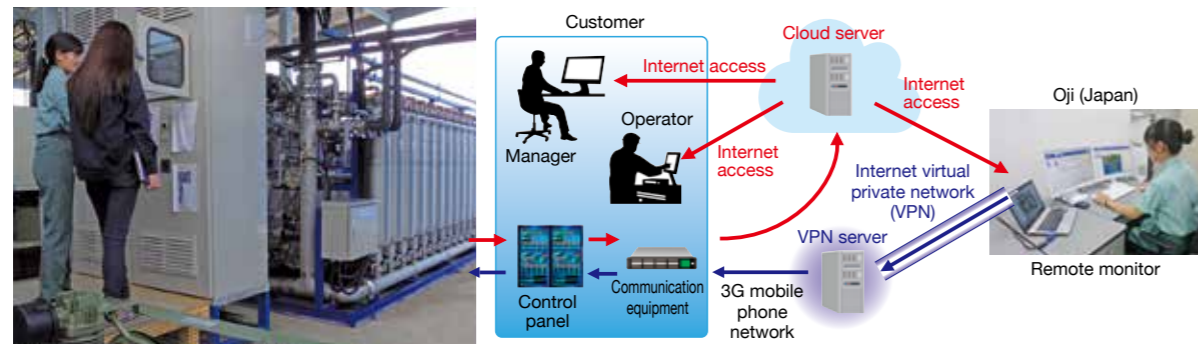
The Group has also conducted business seminars in Yangon, Myanmar's largest city, to provide education on preservation of water environments and undertakes other measures to contribute to local communities.

Going forward, the Group will develop its water treatment business overseas with a focus on Southeast Asia while generating synergy effects with other Group businesses.

Business conductor: Oji Engineering  
Technology developer: Water Environment Business Promotion Section, Innovation Promotion Division

### IoT-based remote support service introduced at industrial water production facility in Thailand

#### Ultrafiltration equipment



### Proposals for water treatment chemicals



OJI-FLOCK™  
(flocculant)



OJI-ION™  
(ion exchange resin)

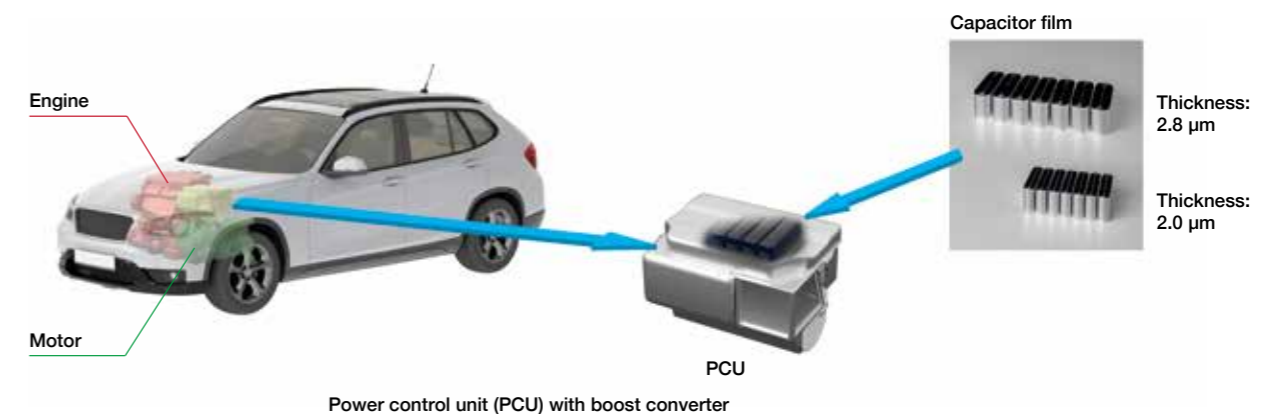


OJI-CARBON™  
(activated carbon)

We use our accumulated expertise to propose appropriate water treatment chemicals that can ensure stable operation of equipment even when water quality varies depending on the external environment or operations.  
[Products offered]  
Flocculants for waste water treatment  
Ion exchange resin for producing pure water  
Activated carbon for deodorization and organic matter treatment  
Chemicals for boiler water, etc.

## Film Manufacturing Technologies Pursue “Thinner and Stronger”

The Oji Group's biaxially stretched polypropylene film has a wide range of applications in electrified vehicles including hybrid and electric vehicles. Electrified vehicles use highly safe film capacitors in inverters and other electric drive system components. The main component of those film capacitors is high-performance polypropylene film, and the thinner the film, the smaller the capacitors can be made. The solution of how to drive on electricity alone without using gasoline is attracting considerable attention worldwide, and the trend towards high voltages and high currents to obtain more powerful drive force is continuing, creating a need for high levels of insulation that can withstand high-voltage electricity even when thin. The Oji Group is leveraging its proprietary materials design technologies and stretch processing production technologies to develop technologies for producing ultra-thin, high-voltage resistant polypropylene film that can withstand high-voltage even when extremely thin. These efforts are contributing to making more compact electrical components for electric vehicles, which are expected to become more widespread throughout the world.



## Japan's First Licorice Cultivation Technology Established

The Oji Group has commenced research on medicinal plants that hold future potential for use in Kampo medicines, the market for which is expanding, as well as cosmetics and functional foods. Licorice is used in approximately 70 percent of Kampo medicines. At present, most raw materials are dependent on imports of wild licorice from overseas, but there are calls for domestic production through the development of efficient cultivation techniques in order to respond to fear of resource depletion accompanying the increase in demand and export restrictions. The Oji Group established Japan's first licorice cultivation technology through the application of afforestation technology developed by the Group. The technology shortens the time from seed sowing to harvesting of licorice, from five to six years to just two years. Further, the glycyrrhizin amount conforms to the Japanese Pharmacopoeia's active ingredient standards of containing at least 2 percent glycyrrhizin in cultivated licorice. A large-scale cultivation trial was commenced in the Nayoro area of Hokkaido in 2017, and business feasibility is being verified. In the future, the Group will seek to achieve Japan's first large-scale cultivation with the aim of providing stable supply of domestic licorice to customers who emphasize safety, security, and traceability.



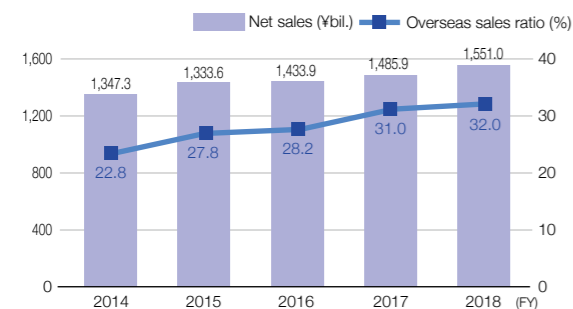
A large-scale licorice field (photo taken in summer 2019)

# Financial Highlights

\* Unless otherwise specified, the scope covers domestic and overseas consolidated companies.

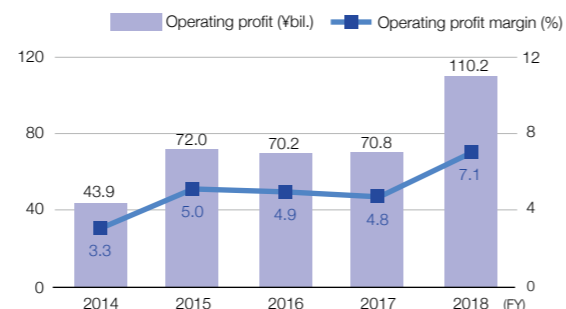
## Overseas Sales Ratio

**32.0%** Change from FY2017 **+1.0 pt.**



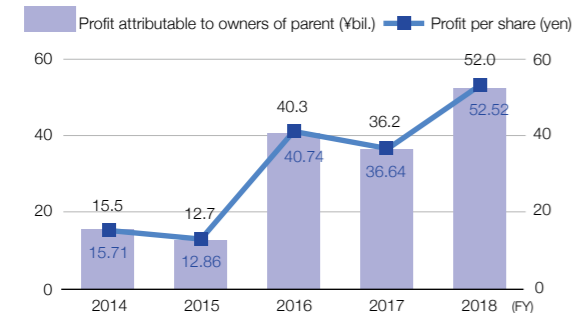
## Operating Profit

**¥110.2 billion** Change from FY2017 **+55.6%**



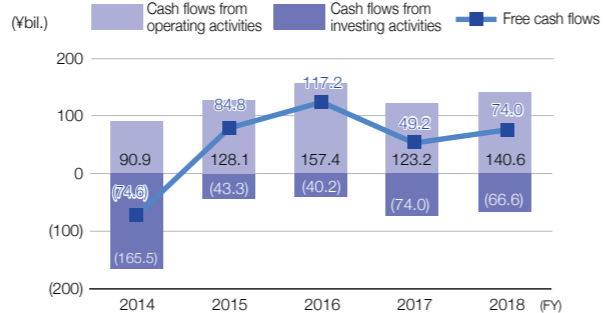
## Profit per Share

**¥52.52** Change from FY2017 **+43.3%**



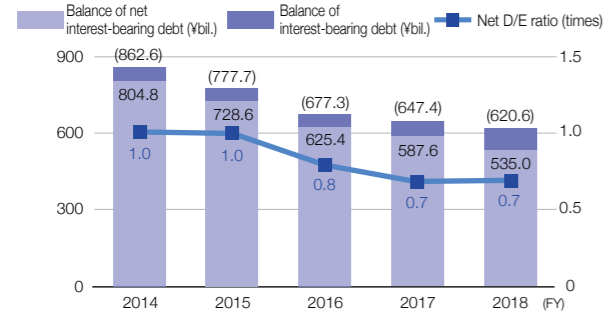
## Free Cash Flows

**¥74.0 billion** Change from FY2017 **+50.4%**



## Net D/E Ratio

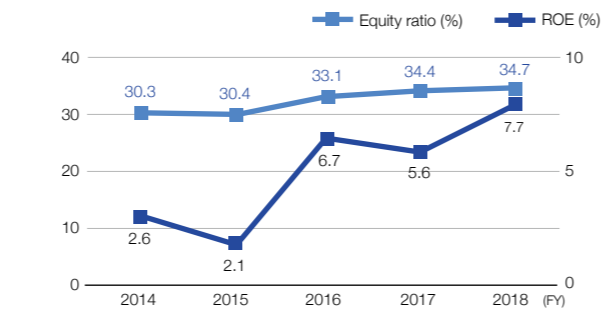
**0.7 times** Change from FY2017 **-**



\* Net D/E ratio (times) = net interest-bearing debt/net assets at the year-end

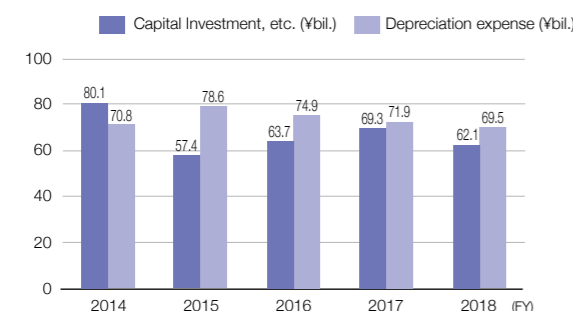
## ROE

**7.7%** Change from FY2017 **+2.1 pt.**



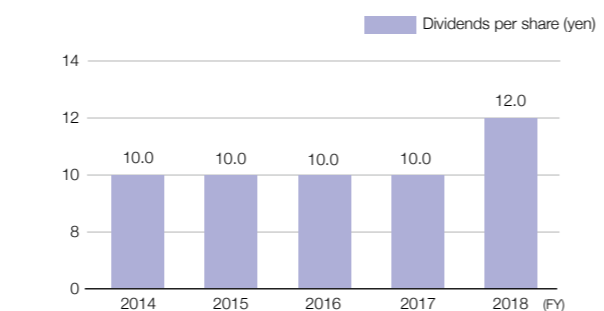
## Capital Investment, etc.

**¥62.1 billion** Change from FY2017 **↓ 10.4%**



## Dividends per Share

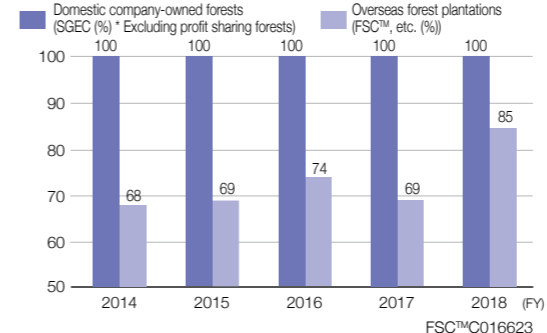
**¥12.0** Change from FY2017 **+¥2.0**



# Non-financial Highlights

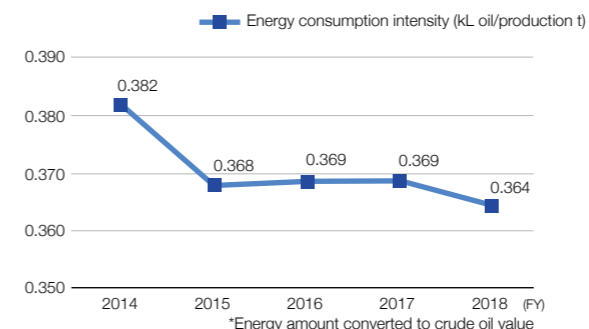
## Forest Certification Acquisition Rate

**Japan: 100%, Overseas: 85%** Change from FY2017 (overseas) **Overseas: +16 pt.**



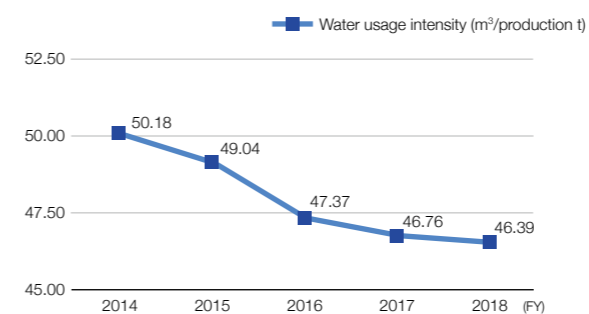
## Energy Consumption Intensity

**0.364 kL oil\*/production t** Change from FY2017 **↓ 0.005 kL oil/production t**



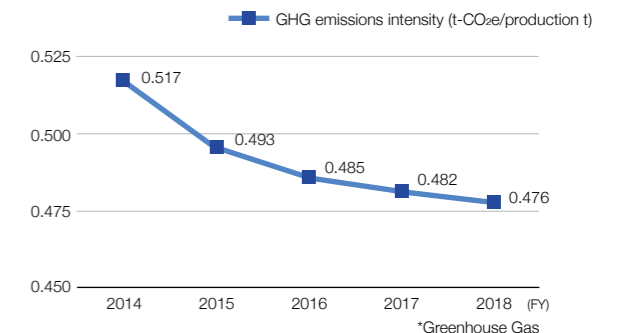
## Water Usage Intensity

**46.39 m³/production t** Change from FY2017 **↓ 0.37 m³/production t**



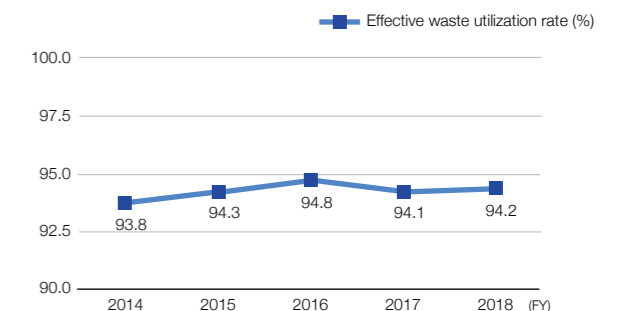
## GHG\* Emissions Intensity

**0.476 t-CO₂e/production t** Change from FY2017 **↓ 0.006 t-CO₂e/production t**



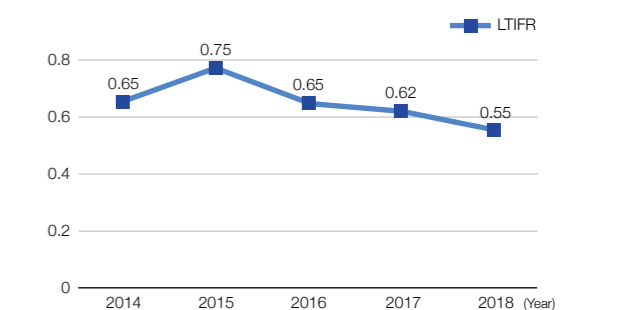
## Effective Waste Utilization Rate

**94.2%** Change from FY2017 **+0.1 pt.**



## Lost Time Injury Frequency Rate (LTIFR)

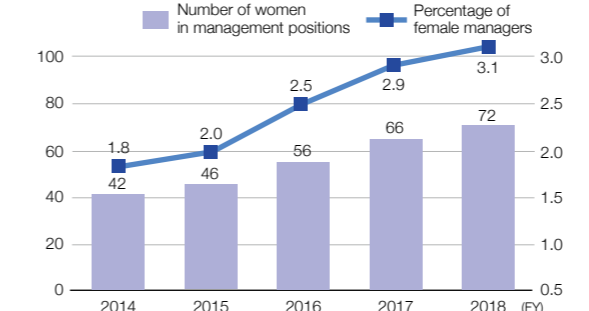
**0.55** Change from FY2017 **↓ 0.07**



(1) Covered period: January 1 to December 31  
(2) Number of deaths and injuries due to occupational accidents per million working hours (fatal accidents and accidents with at least one day off)  
(3) Total working hours are calculated based on the number of group company employees (regular employees and temporary/non-regular employees) as of the end of September every year, assuming the annual working hours per person is 2,000 hours.  
(4) The frequency rate calculation does not include accidents at overseas group companies that are determined to be at the level of accidents accompanied by injuries without lost work days in Japan based on standards established by the Company.

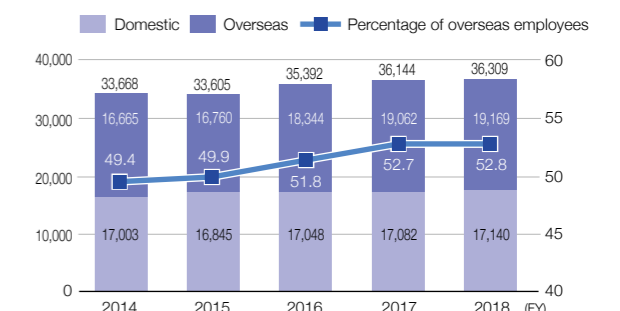
## Percentage of Women in Management Positions (16 Oji Group companies)

**3.1%** Change from FY2017 **+0.2 pt.**



## Number of Domestic and Overseas Employees

**36,309** Change from FY2017 **+165** (Of which, overseas +107)



# Household and Industrial Materials Businesses

The Household and Industrial Materials Businesses aim to be a “lifestyle and social support enterprise” that contributes to the prosperity of society as a whole into the future by sustainably providing materials and technologies that are closely tied to people’s day-to-day lives.

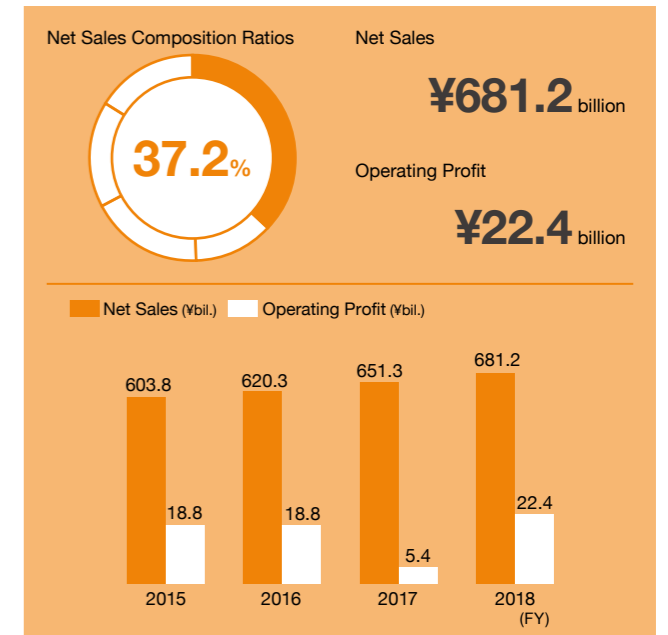


**Ryoji Watari**

President, Industrial Materials COMPANY  
President, Household and Consumer Products COMPANY

## Changes in Net Sales and Operating Profit

In FY2018, the Household and Industrial Materials Businesses had net sales of 681.2 billion yen (up 29.9 billion yen from FY2017) and operating profit of 22.4 billion yen (up 17.0 billion yen from FY2017). The Industrial Materials Businesses reported that costs increased as a result of higher raw materials and fuel prices and other factors, but profit increased year-on-year due to product price revisions and progress in cost reductions. The Household and Consumer Products Business reported higher net sales as a result of an overall increase in household paper sales.



## Industrial Materials Business

### Business Overview

#### [Industrial Materials Business]

The Industrial Materials Business has production and sales structures that integrate materials and processing from base paper manufacturing to product processing and packaging design for the packaging materials that are essential to industry such as corrugated containers, folding cartons, and paper bags and responds in a timely manner to customer needs.



Main products of the Industrial Materials COMPANY

### Business Strategies (1)

#### Increase the Earnings Capacity of Domestic Business

Demand for corrugated containers, one of the main business lines of the Industrial Materials COMPANY, is expanding nationwide as a result of e-commerce and other factors, and the growth in demand in the Kanto region in particular is prominent because of the concentration of population in the Tokyo metropolitan area.

To meet this demand, the Industrial Materials COMPANY decided to construct a new corrugated container plant at a Group logistics center in the bay area of Funabashi City in Chiba Prefecture. Operations are scheduled to start in stages in April 2020. In addition, base paper supply capacity will be increased by converting Oji Paper newsprint manufacturing facilities into containerboard and kraft paper manufacturing facilities.

To further reinforce earnings bases through the integration of materials and processing, investments will be made for the full utilization of Group management assets.



Rendering of the completed new Funabashi corrugated container plant

## Expansion of Overseas Businesses

The Industrial Materials COMPANY conducts business at 44 sites in nine countries in Southeast Asia, India, and Oceania. Until now, business has focused on establishment and expanding processing sites to respond to growing packaging demand however, but a new containerboard manufacturing facility is being established in Malaysia with a target of commencing operations in 2021, and efforts are being made overseas to develop business further by integrating materials and processing.

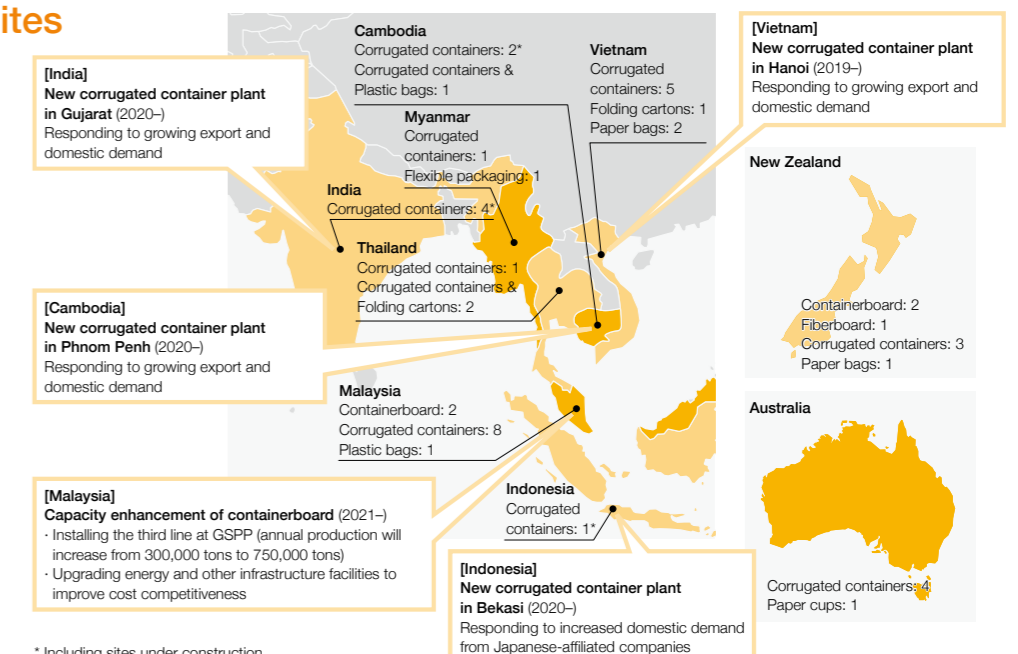
A decision was also made to enter business in Indonesia, a previously untapped market, by means of a joint venture, and preparations are underway for a corrugated container plant to

start operating in 2020. Going forward, business expansion will continue by carefully examining risks and returns in each region and market and making effective use both of new business site establishment and M&A.



Rendering of the completed containerboard manufacturing facility in Malaysia (structures with blue roofs)

## Main Overseas Sites



Business Strategies (2)

Promotion of Innovation

As a result of the growing trend to shift away from plastics, a movement to replace various plastic products with paper can be seen around the world.

The Industrial Materials COMPANY is making efforts to capture the demand to switch to products made from both

paper and plastic such as shopping bags and is working in collaboration with the Innovation Promotion Division to develop products with new functions using paper and other materials for products that previously were available only in plastic to capture this new demand.

ESG and SDG Topics

Promoting Recycling—Dissolution treatment of confidential documents

Oji Materia Edogawa Mill is equipped with a high-security dissolution treatment facility, where confidential documents packed in sealed corrugated carton boxes are recycled into boxboard, entirely remaining unopened. This system, which takes the environment into consideration while maintaining information security, contributes to the creation of a sustainable society.

Aid Distribution Agreement under Disaster Cases (Oji Container & Morishigyo Group)

“Aid Distribution Agreement under Disaster Cases” refers to collaboration between our corrugated container plants located throughout Japan with neighboring local governments, so that we are able to contribute to making people feel safe and at ease at evacuation sites when disaster strikes. In times of disasters we promptly deliver corrugated container products such as portable beds, sheets, partitions, and portable toilets to the public.



Household and Consumer Products Business

Business Overview

[Household and Consumer Products Business]

In the household paper and disposable diaper business fields, Oji Nepia integrates sales, marketing, and production in the pursuit of three types of quality: quality of life as in the seeking of good texture, comfort, and functionality; environmental quality as in forest conservation such as the adoption of FSC™ certified paper\*; and social quality such as taking CSR initiatives that contribute to society and that are in line with customers’ hopes. FSC™C018118

\* FSC™ is the world’s most widely recognized forest certification program. Examinations are performed on issues such as whether forests and lumber are properly managed and whether new trees are planted to replace trees cut in order to protect precious nature. Selecting products with the FSC™ certification mark is a sign of support for forest conservation activities worldwide, and is conducive to sustainable forests in the future.

Main Products



Business Strategies (1)

Profitability Improvement of Domestic Business

In addition to boosting sales of nepia Genki! baby diapers, concentrated efforts are put forward to penetrate the market with high-quality, high-price range nepia Whito products. By reinforcing collaboration with retailers such as drugstores and baby goods stores, the fine quality and benefits of these products are conveyed to parents resulting in an upwards shift in profitability of the disposable baby diaper market.



The Whito high-quality, high-price range nepia brand

Expansion of Overseas Businesses

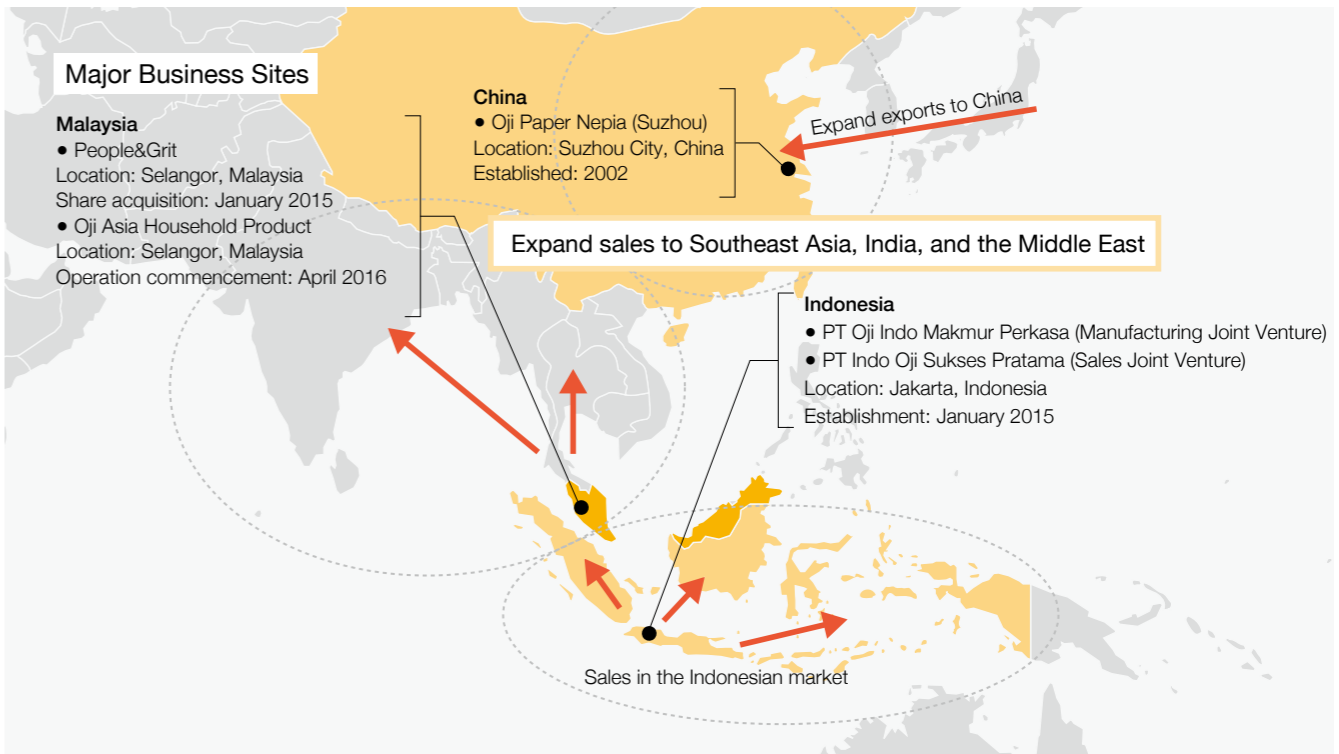
In order to strengthen the business foundation, the Southeast Asia business is being expanded, where consumption of disposable baby diapers is expected to grow. This besides, production capacity was increased and costs were reduced through reorganization of production structures at two sites in Malaysia, and a production facility is being constructed in Indonesia, which has the largest population in the region. Active business expansion through investment including M&A is also under consideration.

As high-quality “made in Japan” products, export of Genki! brand and Whito brand products has also been growing in China and Southeast Asia.



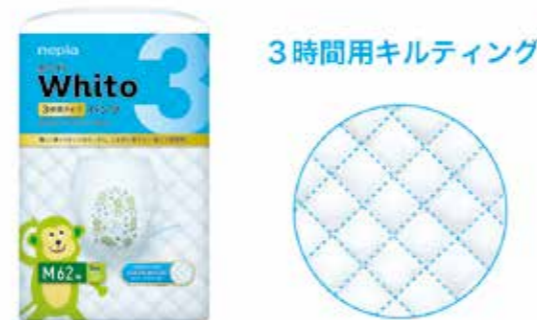
Genki! products sold in Malaysia

Main Overseas Sites



## Promotion of Innovation

Three-hour-use pants diaper is unprecedentedly developed for the baby diaper market and added to the superior nepia Whito brand lineup to further enhance product quality and respond to the requests of parents. The Household and Consumer Products COMPANY will continue to propose products that reform the competitive axis of the market by instilling the differentiation between 3-hour-use and 12-hour-use with a focus on their different usage conditions. The company will continue its efforts in advancing the proprietary quilting technology adopted in Whito products to enhance performance even further.



3-hour use pants diapers added to the product lineup

## ESG and SDG Topics (1)

### nepia Quality

Pursuing “nepia Quality,” which comprises high living, environmental, and social quality, Oji Nepia engages in various activities in order to be the No. 1 in each of these three aspects. This is especially evident in “environmental quality,” where we have adopted the FSC™ certified paper for our major products since 2011, way ahead of our industry peers.

Furthermore, we established a tie-up with WWF Japan in 2017 and created a logo which emphasizes forest conservation, while encouraging the use of FSC™ certified paper as our focus.



FSC™C018118

WWFはFSC™認証を応援しています。  
ネピアの紙は、森を守る紙FSC™認証紙※です。『FSC™認証紙のネピアを選ぶことは世界の森を守ることです』と消費者に呼びかけています。  
※一部商品を除きます。  
© 1986 Panda symbol WWF ® “WWF” is a WWF Registered Trademark

### Adult Disposable Diapers

Reducing the work burdens of caregivers has become a major issue because of a shortage of workers at care sites, and changing diapers is one such burden. Because of this, the market for urine pads with high absorption volumes that can reduce the frequency of changing is growing year by year. This trend is expected to continue into the future.

Nepia Tender, a commercial brand, is developed by the Household and Consumer Products COMPANY to ease changing difficulties and reduce and shorten the changing procedures for caregivers. Meanwhile, the absorption capability provides comfort and long periods of peace of mind for diaper users.

In recent years, research has focused on absorbing not just urine, but watery stool as well. Watery stool can cause skin problems for diaper users and, in the case of leakage, can lead to substantial burdens on caregivers. For these reasons, it is included among the most troublesome issues relating to diaper changing. From October 2019, the Household and Consumer Products COMPANY began

sales of incontinence pads with the ability to allow watery stool to pass through and be absorbed without spreading along the surface of the diaper. Going forward, the Household and Consumer Products COMPANY will continue to pursue comfort for both caregivers and care recipients and contribute to human dignity, health, and longevity by enhancing the quality of care.



Large urine pads with the ability to absorb watery stool fulfill the need of nursing care facilities to reduce diaper changing burdens

## ESG and SDG Topics (2)

### nepia 1,000 Toilets Program

In today's world, approximately 800 children lose their lives each day due to diarrhea and dehydration in environments that lack potable water and proper sanitary systems. In the Democratic Republic of Timor-Leste, (hereinafter, East Timor), where open defecation remains commonplace, there are many such children. The mortality rate for children under the age of five years is 50 per 1,000 live births, and diarrhea caused by contaminated water and lack of sanitary systems is one of the leading causes.

The nepia 1,000 Toilets Program is a program intended to install toilets and end open defecation in East Timor. Since 2008, a portion of Oji Nepia's sales have been contributed to a UNICEF (United Nations Children's Fund) program for improving sanitation in East Timor. The aim is to eliminate open defecation, a cause of disease, by installing toilets through community efforts and conducting educational programs, mainly in agricultural villages. Oji Nepia will continue to provide support to protect the lives and health of East Timorese children and their families.

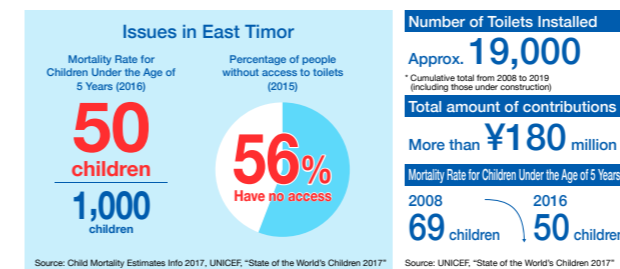


Photo by Kisei Kobayashi



A toilet installed with the support of the project

Photo by Kisei Kobayashi

### Poo Class by Oji Nepia

“As a company that delivers toilet rolls, we want to contribute to society via the topic of poo.” With this thought in mind, Oji Nepia launched a unique learning program called the Poo Class jointly with the Japan Toilet Labo. in 2007.

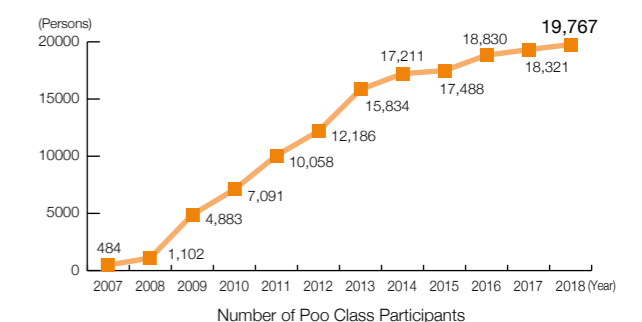
Excretion is equally important as ingestion in maintaining our lives. There are numerous opportunities for children to learn about diet and health, as indicated by the term “dietary education,” but there are few opportunities to learn about excretion and health. For this reason, the Poo Class was created to provide children with opportunities to learn about excretion and think about their health.

To date (as of 2018), a total of 19,767 children have attended the Poo Class. Through 2018, the class has been conducted at a total of 48 elementary schools in the Kanto region as well as Fukushima, Iwate, Fukui, and Aichi Prefectures.

Through Poo class, children learn about the importance of excretion in a fun way. With an aim to promote healthy lifestyle to children, the Poo Class program will continue to expand in the future.



Children learn about their bodies through poo.



# Functional Materials Business

The Functional Materials Business will lead the Oji Group's transition to an "Innovative Value-Creating Company" by enhancing our comprehensive proposal making capabilities to react promptly and appropriately to various customer needs, and further developing high value-added products targeted at global markets.



**Shoji Fujiwara**  
President, Functional Materials COMPANY

## Business Overview

### [Specialty Papers Business]

The specialty Papers Business has a lineup of products with advanced special functions such as electrical material paper including insulation materials, dry pulp nonwoven fabric with excellent bulk and liquid retention properties, and glass paper with outstanding dimensional stability and heat resistance.



Glass paper (Oji F-Text)

### [Imaging Media Business]

The Oji Group boasts a leading share of the world's market for thermal recording media. Using diverse coating technologies such as thermal and inkjet technologies, the Imaging Media Business is developing products that meet diverse needs in household, industrial, logistics, and medical applications.



Various types of thermal papers (Oji Imaging Media)

### [Adhesive Products Business]

Using proprietary adhesive force control technology, the Adhesive Products Business handles products such as familiar items like food and beverage labels, courier delivery labels, adhesive tape for packaging, and wound dressings as well as to less familiar, special applications like aluminum tape for construction material and forgery prevention tape.



PP Clean stickers (Oji Tac)

### [Film Business]

Films for capacitors are used in the power supply units of hybrid and full electric vehicles, and the Oji Group offers films of various thicknesses including the world's thinnest. The Film Business also offers optical adhesive double-coated films and hard-coated films that are seeing rapid growth due to their use in smartphones and other precision devices.

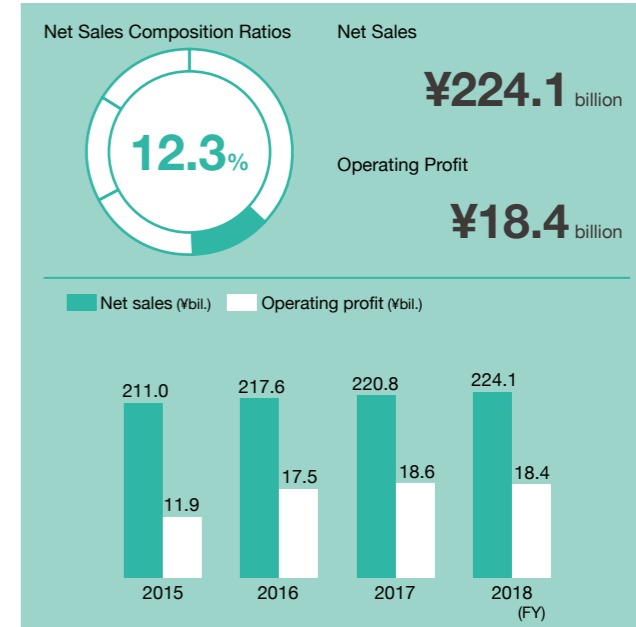


Film used in capacitors (Oji F-Text)

## Changes in Net Sales and Operating Profit

In FY2018, the Functional Materials Business had net sales of 224.1 billion yen (up 3.3 billion yen from FY2017) and operating profit of 18.4 billion yen (down 0.2 billion yen from FY2017).

With regard to net sales, effects from the suspension of mill operations caused by the 2018 Hokkaido Eastern Iburi Earthquake resulted in lower sales volume, but effects from price revisions concerning specialty papers for export sales and higher sales volume of thermal paper, particularly in emerging countries in Southeast Asia and South America, pushed net sales higher. Cost reduction efforts were implemented, but effects from higher prices for raw materials and fuel resulted in lower operating profit.



## Business Strategies

### Profitability Improvement of Domestic Business

Through the integration of Oji Group core technologies developed in the past such as papermaking, converting (functional and adhesive coatings), and film forming with new materials, the Functional Materials Business will rapidly develop and supply high-function and high Value-added products. Air laid technology that forms sheets from various powders, fibers, and so on contributes to the reduction of waste through the recycling of manufacturing process waste materials generated by fiber manufacturers into raw materials and manufacturing new air laid nonwoven fabrics.

In addition, we maximize profit, by expanding new business fields high value-added products in collaboration with the Innovation Promotion Division, by achieving business collaboration effects with Mitsubishi Paper Mills, and by reorganizing production structures.



The 6FM at the Oji F-Text Shiga Mill



Oji Kinocloth Fuji Factory Machine No. 2 (Product name: Kinocloth)

## Expansion of Overseas Businesses

In conjunction with the economic development of emerging countries and regions such as Southeast Asia, India, and South America, demand for existing products including thermal paper and adhesive paper is expanding steadily.

The Functional Materials COMPANY is establishing integrated production structures and expanding business in Southeast Asia from upstream (release paper production, thermal sensitive coatings) to midstream (adhesive converting) and downstream (printing). Plans call for the production capacity of Oji Papéis Especiais to be increased and sales boosted in response to robust demand for thermal paper in Brazil. In Myanmar, production and sales of flexible packaging products such as films for consumer goods makers was launched in 2017, and efforts are being made to develop new markets.

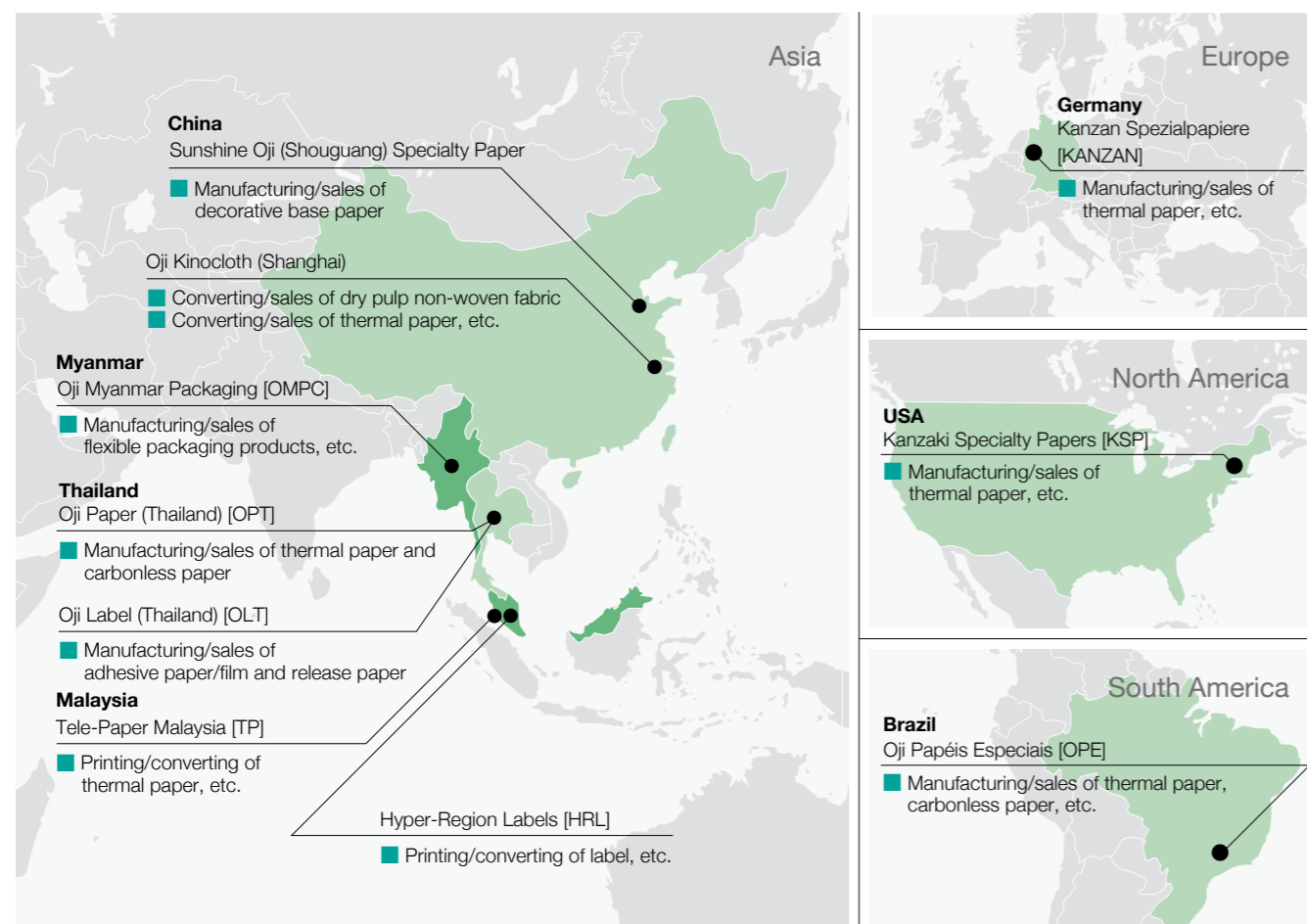


Overall view of the Oji Paper (Thailand) and Oji Label (Thailand) Plant



The PC3 at Oji Papéis Especiais

## Main Overseas Sites

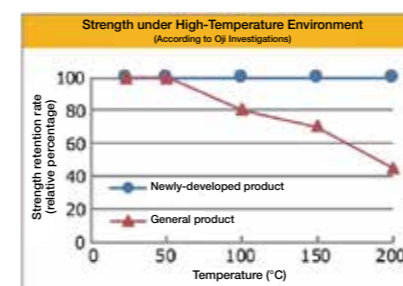


## Promotion of Innovation

Oji F-Tex developed heat resistant glass paper by adding heat resistance properties to existing glass paper. Glass paper is made primarily from glass fiber and formed into sheets that maintain excellent properties derived from glass fiber such as electrical insulation, dimensional stability, high elasticity, heat resistance, corrosion resistance, and durability and can be processed in various ways. Glass paper is a product that is expected to have reliable effects and enhance functionality

in various applications. In addition to the characteristics of existing glass paper, the newly developed heat resistant glass paper maintains strength even under high-temperature environments and hardly emits any smoke at all even when near fire. Moreover, individual fireproofing treatment (sintering) of glass paper is not needed.

Adding new functions to glass paper and expanding possible applications is expected to lead to use in new fields.



Smoke test with heating from alcohol lamp

## ESG and SDG Topics

### Measures to Address the Issue of Plastic in the Ocean

The Issue of Plastic in the Ocean is becoming increasingly serious, leading to movements to eliminate plastics around the world and rising demand for paper products with minimal environmental impact as alternatives to plastic containers and straws. A shift from plastic to paper straws and other such changes can be seen in leading restaurant chains.

Oji F-Tex is leveraging the technologies used to manufacture various types of base paper for food applications to develop straw base paper that has the same water resistance as existing plastic straws and maintains spiral processability. Supply of prototypes has started.

Oji F-Tex is also developing composite materials (resin pellets) that contain biodegradable plastics made from pulp and polylactic acid. In addition to biodegradability, improvements in physical properties such as improved rigidity after molding and heat resistance are expected to expand application to food containers and other products that can replace plastics.



Samples of cup base paper use



Molding examples (spoons and chopsticks)

# Forest Resources and Environment Marketing Business

The Forest Resources and Environment Marketing Business supports the Group's business through the stable supply of raw materials and other materials and comprehensively leverages Group assets including renewable resources of the likes of forests and water as well as facilities, real estate, and technologies to reinforce business.



**Fumio Shindo**

President, Forest Resources and Environment Marketing COMPANY

## Business Overview

### [Pulp Business]

Market pulp supply capacity is 2.5 million tons per year, and the Forest Resources and Environment Marketing Business has a diverse lineup of pulp grades including hardwood pulp, softwood pulp, and dissolving pulp. The broad product lineup and the Group's sales channels are used to boost sales in Asia and other growth regions. Moving forward, we will continue to carry out strategic financial measures to secure our competitiveness.



Dissolving pulp

### [Energy Business]

The electric power generation business has strengthened by expanding and fortifying electricity generation facilities and entering the electricity retailing business. With regard to biomass electric power generation, the Energy Business brought two new boilers online in FY2015 and, in March 2016, established a joint venture biomass power generation company together with Mitsubishi Paper Mills, which started operation in 2019.

As for hydroelectric power plants, the energy business continues to update existing facilities. Additionally, a joint electricity retailing business was launched with ITOCHU ENEX.



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

### [Lumber Processing Business]

In the lumber business, the Forest Resources and Environment Marketing Business stockpiles and sells lumber products and processed lumber products, primarily in Asia and Oceania, and is taking measures to expand production capacity. Efforts to



Pan Pac lumber

expand sales at sales bases established in China and Southeast Asia are ongoing.

### [Forest Plantation Business]

The Group has engaged in forest management for many years and has 190,000 hectares forests in Japan and 250,000 hectares of forest plantations overseas. The purposes of forests are, in addition to existing uses for paper manufacturing raw materials, and use for processed products including lumber and plywood as well as diverse resources namely, biomass fuel, to develop a comprehensive forestry industry that generates maximum value from forest resources.



Integrated Report p. 68

Forest Recycling: Company-Owned Forests in Japan and Overseas Forest Plantations

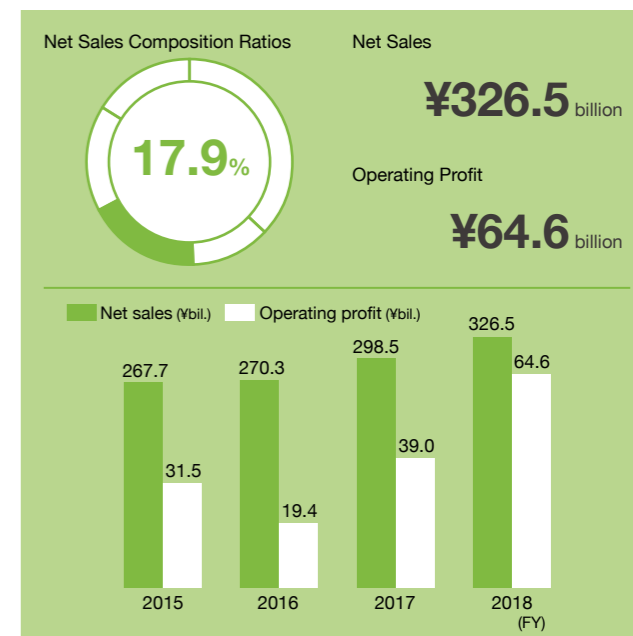
### [Raw Materials and Fuels & Materials Procurement Business]

As prices for raw materials, fuels, and materials increase in conjunction with economic development of emerging countries, centralized management procurement and advantageous procurement are conducted for the group as a whole. CSR procurement is conducted while taking into consideration the environment and society in accordance with the Oji Group Partnership Procurement Policy.

## Changes in Net Sales and Operating Profit

In FY2018, the Forest Resources and Environment Marketing Business had net sales of 326.5 billion yen (up 28.0 billion yen from FY2017), and operating profit of 64.6 billion yen (up 25.6 billion yen). Thus, both sales and profit increased significantly, due mainly to effects from higher pulp prices.

In the pulp business, sales volumes were solid both in Japan and overseas. In the lumber business too, sales volume was brisk in Japan and overseas, particularly to China, and sales were up from the previous fiscal year. In the energy business, sales were solid with electric power sales remaining at the same level as the previous year.



## Business Strategies

### Expansion of Overseas Businesses

In the pulp business, the Forest Resources and Environment Marketing Business continues to implement strategic profit measures at key business sites to reinforce business foundations that are resilient to fluctuations in pulp markets.

Oji Group know-how and operational management methods have been introduced and used in New Zealand to stabilize operations and raise efficiency. In Brazil, profit measures are implemented on a continuous basis by updating production facilities and through other means.

In Japan, the Forest Resources and Environment Marketing Business is expanding business and started production of high value added products: medical product materials and filter materials in addition to existing products for rayon applications.

The Forest Resources and Environment Marketing Business conducts forest plantation operations in nine locations in six overseas countries and is working to continuously secure sustainable resources.

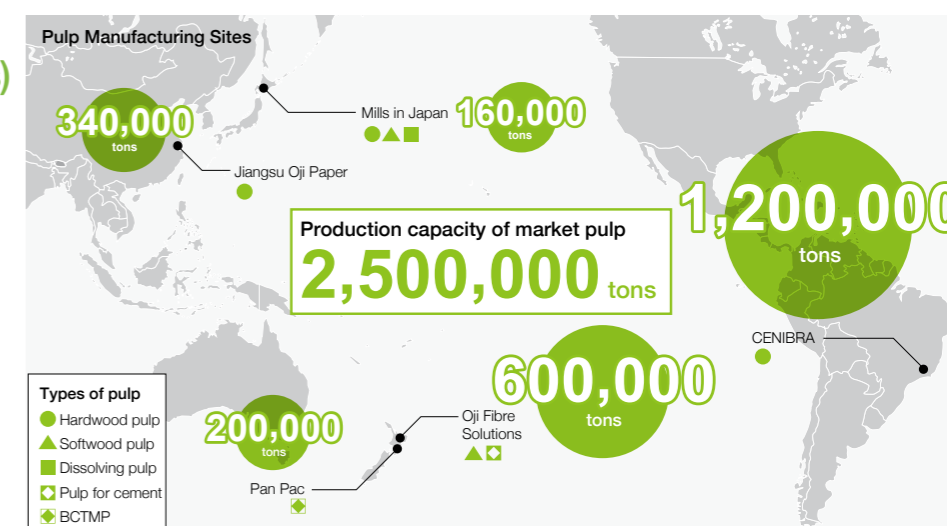


Overall view of the CENIBRA Mill (Belo Oriente, Minas Gerais, Brazil)

Forest plantation at CENIBRA  
Photo by João Rabelo



### Main Overseas Sites (Pulp Production Sites)



## Profitability Improvement of Domestic Business

### Electric Power Generation Business: Expansion of the renewable energy business with a focus on establishing new biomass power plants

The Forest Resources and Environment Marketing Business is pursuing further expansion of the energy business, and a joint venture biomass power generation facility established with Mitsubishi Paper Mills commenced operation in 2019. Additionally, a decision was made to construct a biomass power generation facility in Tokushima Prefecture as a joint venture with ITOCHU ENEX, and preparations are underway for the start of operations in 2022. To reinforce the biomass fuel business in conjunction with expansion of the energy business, a new fuel woodchip production company was established in Hokkaido in November 2018 to expand production of fuel woodchips by making use of unused domestic forest resources. Overseas, efforts to increase procurement of palm kernel shells (PKS) for use as fuel continue in Indonesia and Malaysia.



One of the Group's strengths is its ability to procure PKS through the networks developed for procuring raw materials for paper and through the development of overseas business. PKS is used in the Group's biomass energy business and is sold externally.



MPM Oji Eco-Energy's biomass electric power generation facility

#### MPM Oji Eco-Energy

Operation commenced in 2019  
(on the site of Mitsubishi Paper Mills Hachinohe Mill)

Generating capacity: 75,000 kW

Joint venture with Mitsubishi Paper Mills

#### Oji Green Energy Tokushima

Operation to commence in 2022  
(On the site of the Oji Paper Tomioka Mill)

Generating capacity: 75,000 kW

Joint venture with ITOCHU ENEX

#### Other

Undertakings that seek to contribute to the development of a low-carbon society including the fuel procurement business for biomass power generation, hydroelectric power business, and other businesses

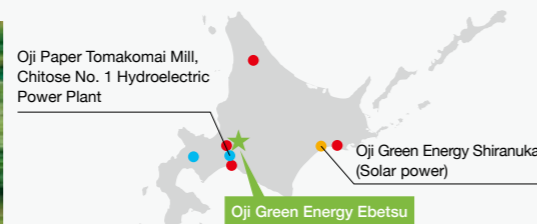
### Oji Group's Power Generation Sites



Oji Paper Tomakomai Mill, Chitose No. 1 Hydroelectric Power Plant (Inside)



Oji Paper Tomakomai Mill, Chitose No. 1 Hydroelectric Power Plant



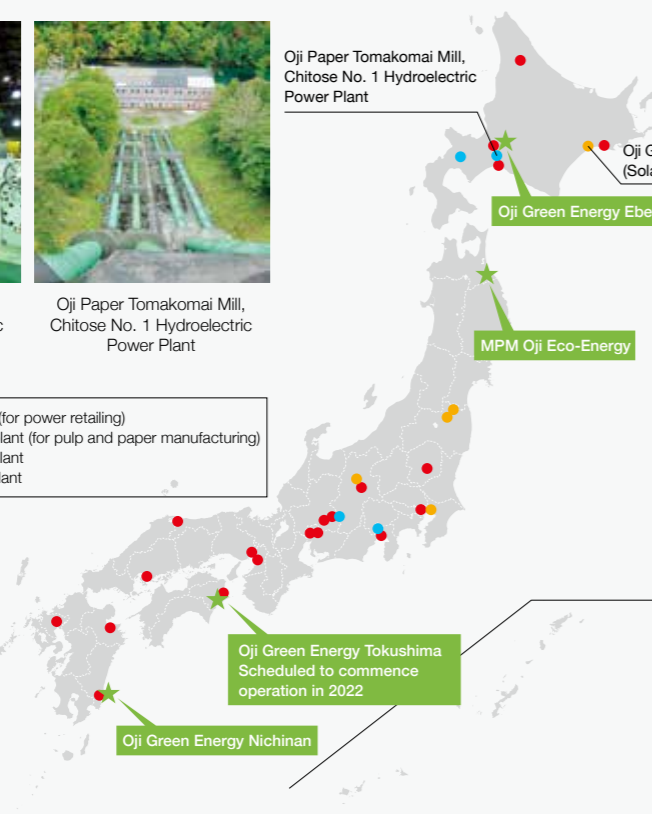
Oji Green Energy Shiranuka (Solar power)



Oji Green Energy Ebetsu



Oji Green Energy Nichinan



## Development of New Business and New Products

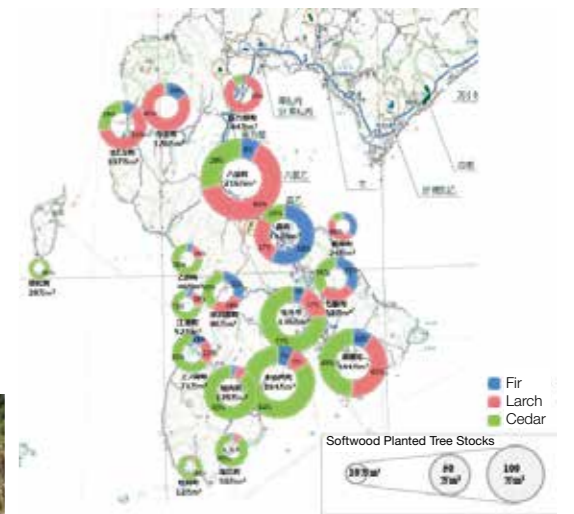
Hakodate-Hokuto Oji Forest & Products was established in Hokuto City in the southern region of Hokkaido in 2018 to produce woodchips for biomass power generation and as a raw material for paper manufacturing. The plant was completed and production commenced in 2019.

Abundant fir, larch, and cedar resources are found in the southern region, but their use has not progressed. To make effective use of these unused forest resources, the new company will use logs harvested from forests in the region to produce woodchips using stationary wood chippers at the mill in Hokuto City. Forest debris including materials remaining after logging (remaining branches, treetops, etc.) will also be used.

Annual production targets are 30,000 GMT of woodchips for biomass fuel use and 6,000 GMT of woodchips for paper manufacturing materials (GMT (green metric ton) is the tonnage with moisture content of approximately 50 percent). The materials will be supplied to the MPM Oji Eco-Energy biomass electric power generation facility (in Hachinohe City, Aomori Prefecture) and the Oji Paper Tomakomai Mill (in Tomakomai City, Hokkaido), respectively.



Cedar trees in a forest owned by Hokkaido Prefecture



Softwood Planted Tree Stocks in Donan

## ESG and SDG Topics

### Eco-and Society-Friendly CSR Procurement

In order to fulfill its social responsibilities when procuring raw materials, the Oji Group conducts CSR (Corporate Social Responsibility) procurement that takes environmental and social factors into consideration in cooperation with business partners throughout its supply chain. The Oji Group's CSR procurement activities are based on such principles as the United Nations Global Compact, the Oji Group Corporate Code of Conduct, and the Oji Group Environmental Charter. By implementing CSR procurement, we seek to contribute to a truly enriched and sustainable society.

The Oji Group shares the Oji Group Procurement Policy with all its divisions involved in procurement, not only requesting new suppliers for their understanding before starting transactions, but also informing all existing suppliers through the procurement divisions of the revised content at the time of revision. In February 2019, we notified about 1,200 suppliers of wood raw materials, materials, wastepaper, and purchased pulp about the details of the revision, and asked them to comply with CSR procurement again. In addition, our procurement personnel and suppliers promote good communication to expand CSR procurement that takes into consideration the environment and society throughout our supply chain.

The procurement of wood raw materials is covered by the Wood Raw Material Procurement Guidelines, which are subordinate to this procurement policy because more aspects, such as illegal logging and biodiversity, need to be checked than for other procured materials. The Oji Group Partnership Procurement Policy and the Wood Raw Material Procurement Guidelines have been translated into English for suppliers all over the world.



Integrated Report p. 76  
Wood Raw Material Procurement Guidelines

### Oji Group Partnership Procurement Policy (Overview)

- 1 Ensure stable supply**
  1. Offer competitive prices
  2. Ensure quality and delivery
- 2 Comply with laws and social standards, and engage in fair trade**
  1. Comply with relevant laws and international conventions
  2. Maintain sincere and healthy relations with business partners
- 3 Consider the environment**
  1. Reinforce environment management systems
  2. Reduce waste and effectively use resource
  3. Address climate change (reduce greenhouse gas emissions mainly through energy conservation, and promote carbon dioxide absorption as well as carbon fixation mainly through forest conservation)
  4. Protect biodiversity
  5. Reduce environmental impact
  6. Manage chemical substances
  7. Manage water resources
- 4 Demonstrate social concern**
  1. Protect human rights (prohibit child labor, forced labor, discrimination, and harassment)
  2. Protect labor rights (maintain good labor relations, avoid long working hours, ensure payment of above-minimum wage, and respect freedom of association as well as right to collective bargaining)
  3. Ensure worksite safety and health
  4. Contribute to society and the local community
- 5 Communicate with society**
  1. Build relations of trust with stakeholders through communication
  2. Respect the culture and customs of other countries
  3. Appropriately disclose and protect information

Revised: December, 2018

# Printing and Communications Media Business

The Printing and Communications Media Business will build optimal production structures to reinforce domestic business foundations while providing globally-competitive products to raise earnings capacity even further.



**Ryuichi Kisaka**

President, Printing and Communications Media COMPANY

## Business Overview

### [Newsprint Business]

Newsprint must have the strength to withstand high-speed rotary press printing and printability for a beautiful finish in color printing. The Oji Group holds approximately 30% share of the Japanese market for newsprint and makes ongoing efforts to enhance quality in response to the needs of newspaper companies throughout the country.



### [Printing and Publication Paper Business]

Publication paper used in books and magazines and printing paper used in catalogs and leaflets requires varied levels of quality according to the planning and particulars of the final product and the characteristics of the printing equipment.

We continuously develop products to meet the needs of the times and supply the high-quality products demanded by customers.



### [Communications Paper Business]

In addition to conventional forms and Copier paper (PPC), we are developing various new products such as highly functional printing paper for print on-demand (POD) printing. These products are used for diverse tasks in a wide range of industries as information processing system input media.



## Business Strategies (1)

### Profitability Improvement of Domestic Business

We are taking various measures including concentration of production facilities through shutdown and transfer of operations in order to improve profitability in domestic business and increase international competitiveness, thereby eliminating urgent issues.



The #N-5 machine at the Oji Paper Tomakomai Mill

#### <Overview of Equipment Shutdown and Retrofitting>

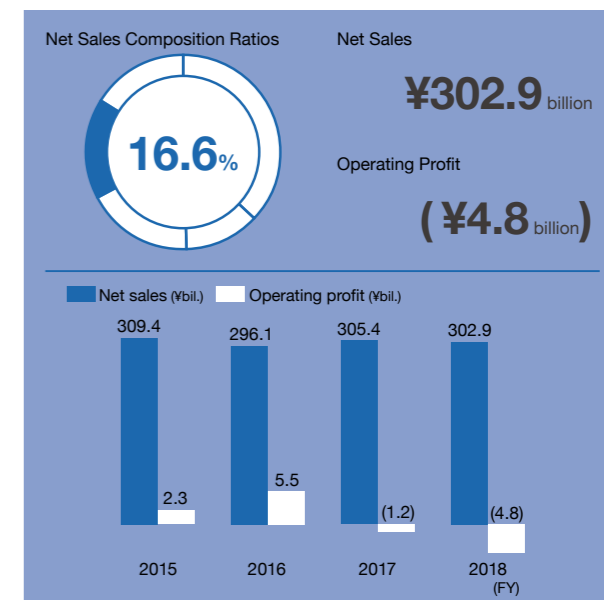
- Retrofitting of the #N-5 machine at the Tomakomai Mill (FY2021)
- Modification from newsprint manufacturing equipment to containerboard and kraft paper manufacturing equipment
- Shutdown of the Tomioka Mill #9 machine and #9 coater (end of FY2019)

#### <Closer Business Partnership with Mitsubishi Paper Mills>

- Cost cutting by eliminating mixed transportation
- Sharing operating technologies
- Integration of brands through complementation of products

## Changes in Net Sales and Operating Profit

In FY2018, the Printing and Communications Media Business reported net sales of 302.9 billion yen (down 2.5 billion yen from FY2017) and an operating loss of 4.8 billion yen (down 3.6 billion yen from FY2017). Net sales decreased owing to a slight decline in demand and a slump in both newsprint and printing/communication paper markets. Operating losses had increased despite progress made in cost cutting and price correction because of the effects of higher prices for raw materials and fuel.



## Business Strategies (2)

### Expansion of Overseas Business

As a result of strong market conditions for both paper and pulp, Jiangsu Oji Paper Co., Ltd. achieved substantially higher sales and profit in 2018. The company will continue to make efforts to strengthen sales capabilities and reduce costs, but due to the effects of advances in information and communications technologies, the business environment is not grounds for optimism in the future. Accordingly, the company has decided to invest in household paper base paper production facilities as a growth field in order to secure new sources of profit.



Diagram of the completed household paper base paper machine

### Promotion of Innovation

In the Japanese markets for newsprint and printing paper, a shift has been made over the past several years from gravure printing suitable for large-lot printing to general offset printing in conjunction with declines in the numbers of copies of newspapers, books, and magazines issued, and it is expected that the introduction of inkjet printing suitable for extremely small lots will also be explored. To flexibly respond to these emerging needs. We are developing papers with unique characteristics such as offset printing paper that has strong gloss approaching that of gravure printing and paper suitable for inkjet printing.

## ESG and SDG Topics

### Oji Charitable Education Fund

Jiangsu Oji Paper Co., Ltd., (Nantong City, China) engages in manufacturing and sales of pulp, printing paper, publication paper, and other products. Oji Holdings has established the Oji Charitable Education Fund jointly with the Nantongshi Charity Federation and Nantongshi Development Zone Charity Federation to help improve the local educational environment.



Annual scholarship granting ceremony

### Hydroelectric Power Business

The Hokkaido Eastern Iburi Earthquake that occurred in September 2018 caused an approximately 11-hour blackout throughout Hokkaido, but power to the Shikotsuko hot spring resort Onsen area was restored after only one and a half hours.

Hydroelectric power is supplied to Shikotsuko hot spring resort (Onsen) from the Chitose No. 1 and No. 4



Hydroelectric Power Plants, which are owned and managed by the Tomakomai Mill. From this earthquake, hydroelectric power is being re-examined.

# Main Businesses of Corporate Management Group and Shared Service Companies

## Kyokuyo and Ginpo Pack

Kyokuyo Co., Ltd. is a specialized trading company that performs business functions for the Oji Group, buying and selling products of Oji Group and other companies. These products include pulp and paper, synthetic resin materials and products, packaging materials, chemicals, and machinery. With the change of its name in January 2018, Kyokuyo has been expanding its business activities to a more diverse range of fields to respond to customer needs in the most suitable and optimal ways.

Ginpo Pack Co., Ltd, a subsidiary of Kyokuyo that conducts planning, manufacture, and sales of plastic containers for food packing with focus on "Pulfine," heat-resistant polypropylene foam containers.



Plastic cups made from used PET bottles (CO<sub>2</sub> reduction)



Pulfine, highly-expanded polypropylene containers feature excellent heat resistance and heat retention properties

## ESG and SDG Topics

### Eco-friendly Products (Kyokuyo)

This new type of foldable plastic tray is made from eco-mark certified recycled materials. It reduces waste in response to calls from consumers for trays that are not cumbersome and have easily-discardable shapes. The trays have uneven grooves and can be folded along the grooves into a compact form. They are used for food delivery, but are suitable not only for food but can also be used to transport miscellaneous items, stationery goods, cosmetics, and so on.



A foldable tray made from eco-mark certified recycled materials (waste reduction)

## Oji Engineering

Oji Engineering, a company that supports Oji Group's technology, leverages its technologies accumulated through paper manufacturing to offer one-stop engineering services ranging from facility design to operations. The company actively spearheads entries into greenfields, such as proposals for practical water treatment and other systems in its water environment business and fuel handling facilities in its biomass power generation business.



Waste water treatment system

## Oji Real Estate

Oji Real Estate Co., Ltd. is as a general developer active nationwide in the development and sale of condominiums and single-family homes, lease and management of office buildings, condominiums, and commercial facilities, and the renovation business. It is a comprehensive real estate firm with a construction division that conducts design, supervision, and consultation in a wide range of areas including factories and plants as well as public and private facilities.



Oji Homes Aoyama (located in Minamiaoyama, Minato-ku, Tokyo) is a vintage condominium that provides support for fulfilling lifestyles through a highly-detailed concierge service



## Hotel New Oji

Hotel New Oji, engages in the hotel and flight catering businesses. In addition to the Grand Hotel New Oji, which marked 20 years of business in May 2019, a 16-story city hotel located in Tomakomai City, Hokkaido, the company prepares inflight meals for domestic and overseas flights in the catering building at the New Chitose Airport and loads the meals onto aircraft using large, specialized vehicles.



Rooftop crown lighting was used to mark 20 years of business by the Grand Hotel New Oji



A food loader supplies meals to an aircraft

## Oji Logistics

Oji Logistics offers a variety of services, mainly to Oji Group companies to transport paper products to be shipped out of mills and consumption area warehouses. These services include warehousing, land transportation, marine transportation, port logistics, international logistics, etc. It offers total logistics service solutions, along with incorporating eco-friendliness into its operations such as implementing a modal shift toward railroads and ships rather than trucks.



A roll-on roll-off (RORO) ship that can transport vehicles carrying goods (placed in service in June 2019)