



OJI HOLDINGS



Development of pulp composite materials:  
expanding use of biodegradable plastics



# Summary of Financial Business Results

November 18, 2019

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**Beyond the Boundaries**



# **I . 1st-half of FY2019 Result Overview**

# 1. Financial Highlights of 1st-half of FY2019 (consolidated)

(¥ billion)

	1st-half of FY2018	1st-half of FY2019	Increase (Decrease)
<b>Net Sales</b>	761.9	<b>760.2</b>	(1.7)
<b>Operating Profit</b>	54.7	<b>55.6</b>	0.9
[Domestic Companies]	[15.0]	[30.9]	[15.9]
[Overseas Companies]	[39.7]	[24.7]	[(15.0)]
<b>Ordinary Profit</b>	53.4	<b>51.3</b>	(2.1)
<b>Profit Attributable to Owners of Parent</b>	26.8	<b>28.8</b>	2.0
<b>Depreciation</b>	34.3	<b>31.1</b>	(3.2)
<b>Overseas Sales Ratio</b>	32.4%	<b>30.4%</b>	(2.0%)
<b>Average Exchange Rate (¥/US\$)</b>	110.3	<b>108.6</b>	(1.7)
<b>Number of Consolidated Companies</b>			
Domestic	91	<b>91</b>	-
Overseas	95	<b>98</b>	+3
Total	186	<b>189</b>	+3

Domestic : (1) [Logistics], +1 [Energy]

Overseas : +2[Corrugated containers in China], +1[Corrugated containers in Indonesia], +1[Corrugated containers in Cambodia] , +1[Corrugated containers in Malaysia], (1)[Forest plantation in China], (1) [Lumber in Myanmar]

Equity Method Affiliates +2 [Domestic+1, Overseas+1]

## 2. Sales and Operating Profit by Segment

[1st-half of FY2019 Result]



(¥ billion)

	1st-half of FY2018		1st-half of FY2019		Increase (Decrease)	
	Net Sales	Operating Profit	Net Sales	Operating Profit	Net Sales	Operating Profit
Household & Industrial Materials	332.7	10.3	<b>342.2</b>	<b>18.7</b>	9.5	8.4
Functional Materials	110.5	8.9	<b>108.2</b>	<b>6.9</b>	(2.3)	(2.0)
Forest Resources & Environment Marketing	162.8	32.5	<b>152.1</b>	<b>21.9</b>	(10.7)	(10.6)
Printing & Communications Media	147.3	(2.6)	<b>146.9</b>	<b>2.9</b>	(0.4)	5.5
Others	8.7	5.6	<b>10.8</b>	<b>5.2</b>	2.1	(0.4)
<b>Total</b>	<b>761.9</b>	<b>54.7</b>	<b>760.2</b>	<b>55.6</b>	<b>(1.7)</b>	<b>0.9</b>

\*1: Sales include intra-segment sales \*2: Others include adjustment amount

# 3. Analysis of Increase/Decrease in Profit by Segment

## (1) Household and Industrial Materials



1st-half of FY2018			1st-half of FY2019			Increase (Decrease)	
Net Sales	Operating Profit		Net Sales	Operating Profit		Operating Profit	
<b>¥332.7 billion</b>	<b>¥10.3 billion</b>	Domestic <b>¥5.6 billion</b> Overseas <b>¥4.7 billion</b>	<b>¥342.2 billion</b>	<b>¥18.7 billion</b>	Domestic <b>¥14.2 billion</b> Overseas <b>¥4.5 billion</b>	<b>+¥8.4 billion</b>	Domestic <b>+¥8.6 billion</b> Overseas <b>(¥0.2 billion)</b>

### Domestic +¥8.6 billion

Sales & market factor +¥17.2 bil.

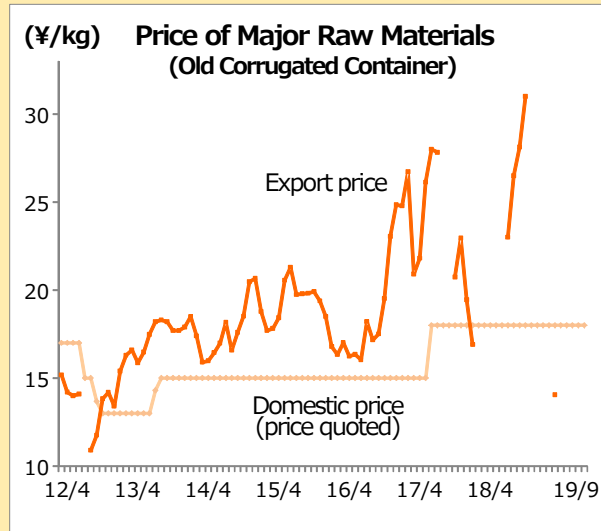
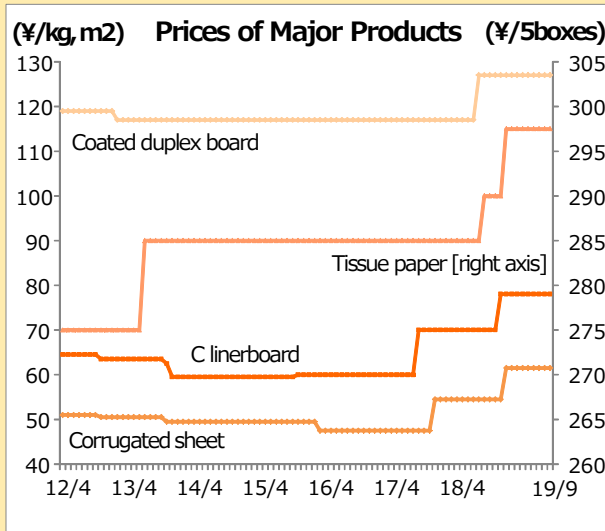
Price difference in raw materials & fuels (¥6.9 bil.)

etc.

### Overseas (¥0.2 billion)

Sales & market factor (¥1.5 bil.)

etc.



Sales of Major Products (*)	1st-half of FY2018			1st-half of FY2019			Increase (Decrease)				
	Sales Volume 1,000 t (or) million m2 (or) million pcs	Unit Price ¥/kg (or) m2	Sales Amount ¥ billion	Sales Volume 1,000 t (or) million m2 (or) million pcs	Unit Price ¥/kg (or) m2	Sales Amount ¥ billion	Sales Volume 1,000 t (or) million m2 (or) million pcs	Year-on Year %	Unit Price ¥/kg (or) m2	Sales Amount ¥ billion	
Paperboard	Domestic & Overseas	1,803	66.60	120.1	<b>1,815</b>	<b>69.52</b>	<b>126.2</b>	12	100.7%	2.91	6.1
Corrugated sheet & container (million m2)	Domestic & Overseas	2,038	65.80	134.1	<b>2,088</b>	<b>67.25</b>	<b>140.4</b>	50	102.4%	1.45	6.3
Baby Disposable diaper (million pcs)	Domestic	238	-	-	<b>244</b>	-	-	6	102.4%	-	-

\*Total of Group's consolidated manufacturing companies, with intra-Group consumption included



# 3. Analysis of Increase/Decrease in Profit by Segment

## (2) Functional Materials



1st-half of FY2018			1st-half of FY2019			Increase (Decrease)	
Net Sales		Operating Profit	Net Sales		Operating Profit	Operating Profit	
<b>¥110.5 billion</b>	<b>¥8.9 billion</b>	Domestic <b>¥5.7 billion</b> Overseas <b>¥3.2 billion</b>	<b>¥108.2 billion</b>	<b>¥6.9 billion</b>	Domestic <b>¥4.7 billion</b> Overseas <b>¥2.2 billion</b>	<b>(¥2.0 billion)</b>	Domestic <b>(¥1.0 billion)</b> Overseas <b>(¥1.0 billion)</b>

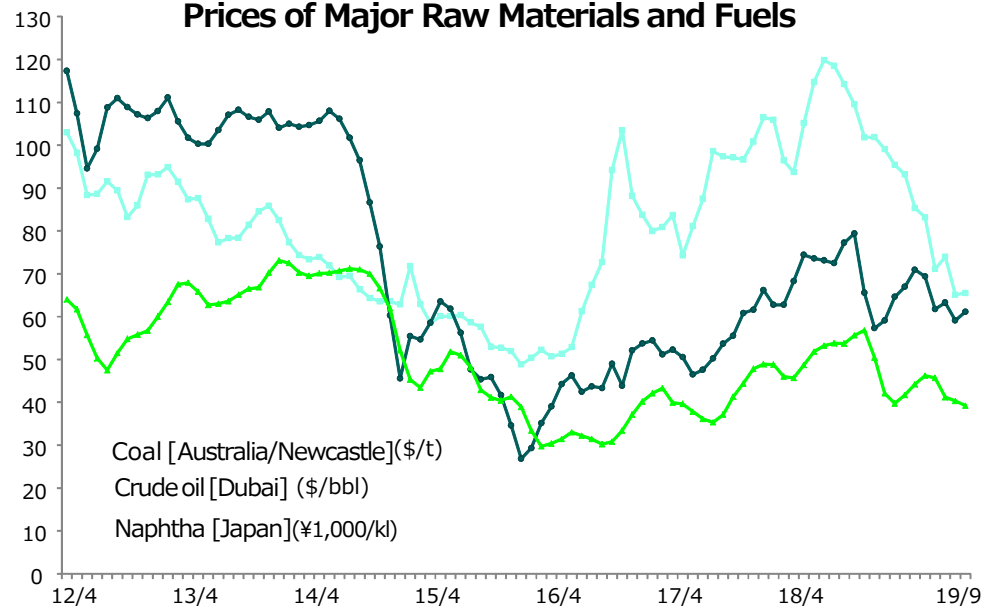
### Domestic (¥1.0 billion)

Sales & market factor (¥0.7 bil.)  
etc.

### Overseas (¥1.0 billion)

Price difference in raw materials & fuels (¥1.4 bil.)  
etc.

Prices of Major Raw Materials and Fuels



Sales of Major Products (*)	1st-half of FY2018			1st-half of FY2019			Increase (Decrease)				
	Sales Volume	Unit Price	Sales Amount	Sales Volume	Unit Price	Sales Amount	Sales Volume	Year-on Year	Unit Price	Sales Amount	
	million m2	¥ / m2	¥ billion	million m2	¥ / m2	¥ billion	million m2	%	¥ / m2	¥ billion	
Thermal paper (million m2)	Domestic & Overseas	1,732	19.09	33.1	<b>1,727</b>	<b>20.18</b>	<b>34.9</b>	(5)	99.7%	1.09	1.8

\*Total of Group's consolidated manufacturing companies, with intra-Group consumption included

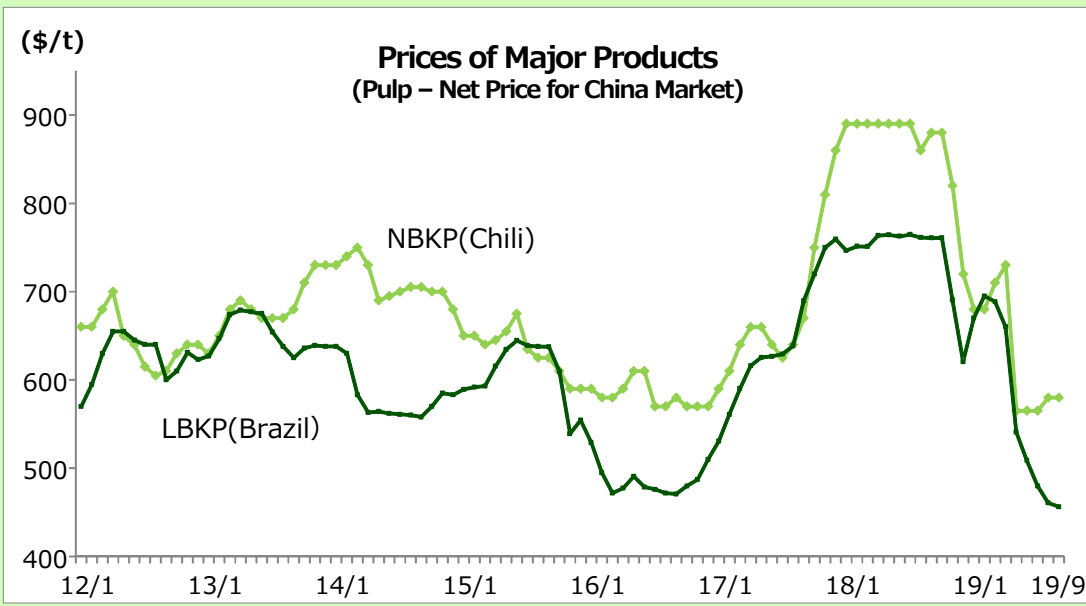


# 3. Analysis of Increase/Decrease in Profit by Segment

## (3) Forest Resources and Environment Marketing



1st-half of FY2018			1st-half of FY2019			Increase (Decrease)	
Net Sales	Operating Profit		Net Sales	Operating Profit		Operating Profit	
<b>¥162.8 billion</b>	<b>¥32.5 billion</b>	Domestic ¥2.3 billion Overseas ¥30.2 billion	<b>¥152.1 billion</b>	<b>¥21.9 billion</b>	Domestic ¥3.3 billion Overseas ¥18.6 billion	<b>(¥10.6 billion)</b>	Domestic +¥1.0 billion Overseas (¥11.6 billion)



**Overseas (¥11.6 billion)**

- Decline in pulp prices (¥10.6 bil.)
- Price difference in raw materials & fuels (¥3.4 bil.) etc.

<b>NBKP</b>	870 \$/t	(255\$/t)	615 \$/t	575 \$/t
<b>LBKP</b>	745 \$/t	(195\$/t)	550 \$/t	470 \$/t
	2018 Result (Jan-Dec)		2019 Forecast (Jan-Dec)	2nd-Half of 2019 Assumption (Jul-Dec)

Sales of Major Products (*)	1st-half of FY2018			1st-half of FY2019			Increase (Decrease)			
	Sales Volume 1,000t (or) GWh	Unit Price ¥/kg	Sales Amount ¥ billion	Sales Volume 1,000t (or) GWh	Unit Price ¥/kg	Sales Amount ¥ billion	Sales Volume 1,000t (or) GWh	Year-on Year %	Unit Price ¥/kg	Sales Amount ¥ billion
Market pulp Domestic & Overseas	1,140	79.91	91.1	<b>1,172</b>	<b>69.05</b>	<b>81.0</b>	33	102.9%	(10.86)	(10.1)
Electric power (GWh) Domestic	503	-	-	<b>522</b>	-	-	19	103.8%	-	-

\*Total of Group's consolidated manufacturing companies, with intra-Group consumption included

# 3. Analysis of Increase/Decrease in Profit by Segment

## (4) Printing and Communications Media



1st-half of FY2018			1st-half of FY2019			Increase (Decrease)		
Net Sales		Operating Profit	Net Sales		Operating Profit	Operating Profit		
¥147.3 billion	¥(2.6 billion)	Domestic ¥(4.1billion) Overseas ¥1.5billion	¥146.9 billion	¥2.9 billion	Domestic ¥3.6billion Overseas ¥(0.7billion)	<b>+¥5.5 billion</b> Domestic +¥7.7 billion Overseas (¥2.2 billion)		

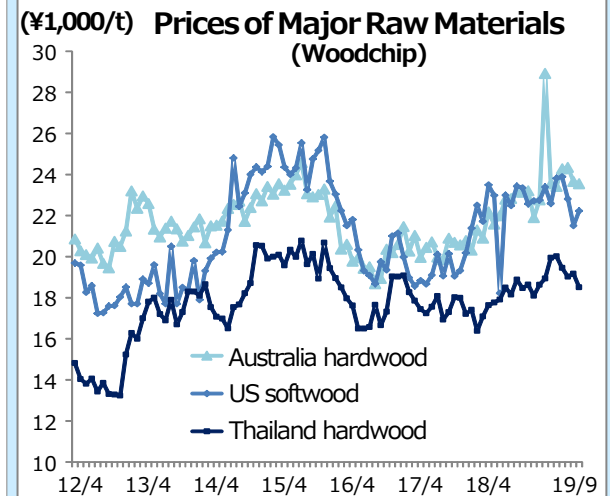
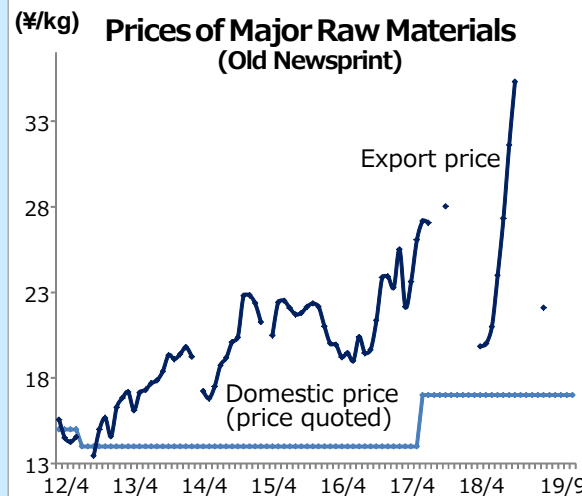
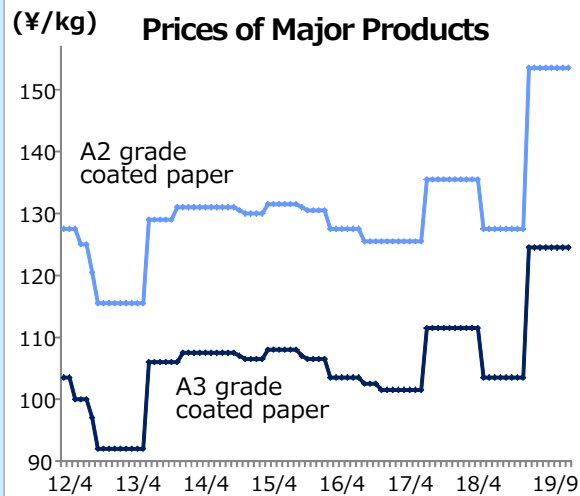
**Domestic +¥7.7 billion**

**Overseas (¥2.2 billion)**

Sales&marketfactor +¥6.0 bil. Cost reduction +¥2.7 bil. etc.

Sales&marketfactor(¥3.2 bil.)

Price difference in raw materials& fuels +¥0.6 bil. etc.



Sales of Major Products (*)	1st-half of FY2018			1st-half of FY2019			Increase (Decrease)			
	Sales Volume 1,000 t	Unit Price ¥/kg	Sales Amount ¥ billion	Sales Volume 1,000 t	Unit Price ¥/kg	Sales Amount ¥ billion	Sales Volume 1,000 t	Year-on Year %	Unit Price ¥/kg	Sales Amount ¥ billion
Newsprint, printing & communication paper Domestic	1,143	103.53	118.4	<b>1,091</b>	<b>111.53</b>	<b>121.7</b>	<b>(52)</b>	<b>95.4%</b>	<b>7.99</b>	<b>3.3</b>

\*Total of Group's consolidated manufacturing companies, with intra-Group consumption included



# **II . FY2019 Financial Forecast**

# 1. Financial Forecast for FY2019 (consolidated)

(¥ billion)

	FY2018	FY2019F	Increase (Decrease)
<b>Net Sales</b>	1,551.0	<b>1,600.0</b>	49.0
<b>Operating Profit</b>	110.2	<b>110.0</b>	(0.2)
[Domestic Companies]	[33.7]	[73.0]	[39.3]
[Overseas Companies]	[76.5]	[37.0]	[(39.5)]
<b>Ordinary Profit</b>	118.4	<b>110.0</b>	(8.4)
<b>Profit Attributable to Owners of Parent</b>	52.0	<b>60.0</b>	8.0
<b>Depreciation</b>	69.5	<b>62.4</b>	(7.1)
<b>Overseas Sales Ratio</b>	32.0%	<b>30.3%</b>	(1.7%)
<b>Average Exchange Rate (¥/US\$)</b>	110.9	<b>109.3</b>	(1.6)

\*The above forecasts are based on the forecasts of economic conditions made at the time of publication.  
As such, actual results may differ from these forecasts due to various unforeseen circumstances.

## Assumptions for FY2019 Financial Forecast

### ◆ Raw Material & Fuel Prices

- Woodchip: based on current contract
- Recovered paper: price to remain static at current level
- Coal: based on current contract
- Heavy oil: price to remain static at current level

### ◆ Effects of Fluctuation on Operating Profit (per annum)

- Exchange rate Japanese Yen : approx. ¥0.54 billion with a fluctuation of US\$ by 1% (strong US\$ -)
- Brazilian Real : approx. ¥0.34 billion with a fluctuation of US\$ by 1% (strong US\$ +)
- New Zealand Dollar : approx. ¥0.83 billion with a fluctuation of US\$ by 1% (strong US\$ +)
- Price of recovered paper : approx. ±¥4.06 billion with a fluctuation of ¥1/kg
- Price of Dubai crude oil : approx. ±¥0.30 billion with a fluctuation of US\$1/bbl (heavy oil, bunker, naphtha and others)
- Price of pulp : approx. ±¥2.40 billion with a fluctuation of US\$10/t (high price +)

## 2. Sales and Operating Profit by Segment

[FY2019 Forecast]



(¥ billion)

	FY2018		FY2019F		Increase (Decrease)	
	Net Sales	Operating Profit	Net Sales	Operating Profit	Net Sales	Operating Profit
Household & Industrial Materials	681.2	22.4	<b>737.0</b>	<b>41.0</b>	55.8	18.6
Functional Materials	224.1	18.4	<b>237.0</b>	<b>17.0</b>	12.9	(1.4)
Forest Resources & Environment Marketing	326.5	64.6	<b>300.0</b>	<b>29.0</b>	(26.5)	(35.6)
Printing & Communications Media	302.9	(4.8)	<b>302.0</b>	<b>14.0</b>	(0.9)	18.8
Others	16.3	9.6	<b>24.0</b>	<b>9.0</b>	7.7	(0.6)
<b>Total</b>	<b>1,551.0</b>	<b>110.2</b>	<b>1,600.0</b>	<b>110.0</b>	<b>49.0</b>	<b>(0.2)</b>

\*1: Sales include intra-segment sales \*2: Others include adjustment amount

### 3. Increase/Decrease in Profit by Segment [FY2019 Forecast]



(¥ billion)

	FY2018	FY2019F
<b>Household &amp; Industrial Materials</b>		
Net Sales	681.2	737.0
Operating Profit	22.4	41.0
[Domestic]	[14.1]	[32.8]
[Overseas]	[8.3]	[8.2]
Operating Profit Margin	3.3%	5.6%

**Operating Profit**  
+¥18.6 billion

- ◆ Domestic +¥18.7 billion
- ◆ Overseas (¥0.1 billion)

	FY2018	FY2019F
<b>Functional Materials</b>		
Net Sales	224.1	237.0
Operating Profit	18.4	17.0
[Domestic]	[11.9]	[11.7]
[Overseas]	[6.5]	[5.3]
Operating Profit Margin	8.2%	7.2%

**Operating Profit**  
(¥1.4 billion)

- ◆ Domestic (¥0.2 billion)
- ◆ Overseas (¥1.2 billion)

	FY2018	FY2019F
<b>Forest Resources &amp; Environment Marketing</b>		
Net Sales	326.5	300.0
Operating Profit	64.6	29.0
[Domestic]	[4.3]	[7.2]
[Overseas]	[60.3]	[21.8]
Operating Profit Margin	19.8%	9.7%

**Operating Profit**  
(¥35.6 billion)

- ◆ Domestic +¥2.9 billion
- ◆ Overseas (¥38.5 billion)

	FY2018	FY2019F
<b>Printing &amp; Communications Media</b>		
Net Sales	302.9	302.0
Operating Profit	(4.8)	14.0
[Domestic]	[(6.2)]	[12.4]
[Overseas]	[1.4]	[1.6]
Operating Profit Margin	-	4.6%

**Operating Profit**  
+¥18.8 billion

- ◆ Domestic +¥18.6 billion
- ◆ Overseas +¥0.2 billion

# 4. Influences of Changes in External Environment



(¥billion/year)

## Impact on operating profit from:

### ◆ Changes in exchange rates

				Household & Industrial Materials	Functional Materials	Forest Resources & Environment Marketing	Printing & Communications Media	Total
Assumed exchange rates for FY2019								
<b>USD-based transactions</b> <i>(USD stronger by 10%)</i>	Japanese Yen (JPY)	110.00 JPY/USD		↓	↓		↓	(6.2)
	Brazilian Real (BRL)	3.80 BRL/USD			↓	↑		+ 3.4
	New Zealand Dollar (NZD)	1.47 NZD/USD		↑		↑		+ 8.3
<b>Conversion of profit in foreign currency to JPY</b> <i>(USD weaker by 10%)</i>	US Dollar (USD)	110.00 JPY/USD		↑	↑	↑		+ 0.8
	Brazilian Real (BRL)	28.95 JPY/BRL			↑			+ 0.4
	New Zealand Dollar (NZD)	74.80 JPY/NZD		↑		↑		+ 0.5

### ◆ Changes in pulp prices

				Household & Industrial Materials	Functional Materials	Forest Resources & Environment Marketing	Printing & Communications Media	Total
<b>Pulp sales &amp; purchase</b> <i>(USD 10/t stronger)</i>				↓	↓	↑	↓	+ 2.4

+ : Improve ( ) : Worsen





# **III. Group Management Targets**

### Management Philosophies

~Desired Future Image of Oji Group~

Creation of Innovative Value

Contribution to the Future and the World

Harmony with Nature and Society

「Beyond the Boundaries」

### Management Strategies

~Group Fundamental Policies and Numerical Management Targets~

#### ~FY2019-21 Group Fundamental Policies~



#### ~Numerical Management Targets FY2021~

Consolidated Operating Profit

**More than ¥150.0 billion**  
(Continue stable profit of more than ¥100.0 billion)

Overseas Sales Ratio

**40 %**  
(Aim for 50% at an early point)

ROE

**10.0 %**

Net D/E Ratio

**Status quo\***

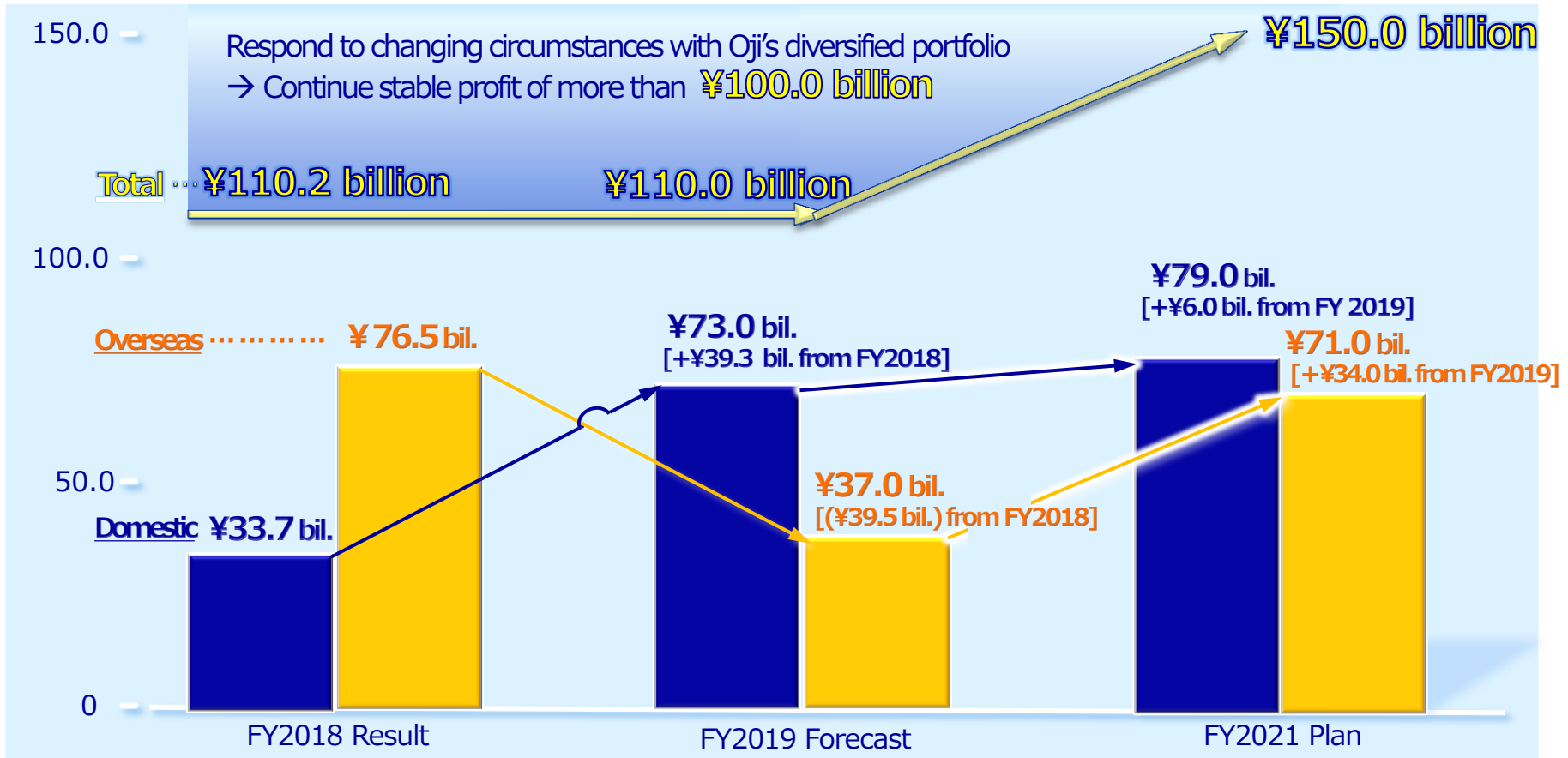
\*FY2018 Result : 0.7

▶▶▶ Market Capitalization: More than ¥1 trillion



## Consolidated Operating Profit

FY2018 → FY2021



**Domestic**

Price recovery measures, manufacturing restructuring, business alliances

Concentrate management resources on promising business

**Overseas**

Increase number of operations, create synergies between businesses/operations

## Strengthen competitiveness through manufacturing restructuring & business alliances

《 Manufacturing restructuring 》	Oji Paper		Oji Materia		Oji F-Tex	
	Tomioka Mill	Tomakomai Mill	Nayoro Mill (Closing)		Ebetsu mill	
	#9 machine	#N-5 machine	#2 machine	#3 machine	#1 machine	#4 machine
Product Variety	Printing & communication paper	Newsprint <b>Remodel to</b>	Special liner, special linerboard	Corrugating medium	Printing & communication paper, specialty paper	Specialty paper
Restructuring Content	Shut down	Containerboard, kraft paper	Relocation to Tomakomai Mill	Shut down	Shut down	Shut down
Capacity Reduction	130,000t/yr	200,000t/yr ※Newsprint	—	163,000t/yr	45,000t/yr	15,000t/yr
Time of Implementation	End of FY2019	Shut down: 1st-half of FY2020 Start up : FY2021	Shutdown: Sept. 2021 Start up : Apr. 2022	Dec. 2021	1st-half of FY2020	1st-half of FY2020

※Impairment loss due to machine shutdown has been already recorded



Cost reduction effects  
**3.8 billion/yr**

### 《Enhancement & expansion of packaging business》



Profit improvement effects  
**1.6 billion/yr**

### 《Business alliances with Mitsubishi Paper Mills (MPM)》



Profit improvement effects (FY2021)  
Oji **3.7 billion or more**  
MPM **2.5 billion or more**

**Organic expansion from existing operations,  
Creation of synergies between businesses as well as operations**

《Organic expansion from existing operations》

			SE Asia & India	China	Oceania	South America	Europe
Industrial Materials	Containerboard	Machine expansion	○ Malaysia/GSPP				
	Corrugated containers	Plant expansion & establishment	○ 7 sites in 6 countries	○ Oji Packaging Technology (Chongqing)	○ NZ/Oji FS		
Household & Consumer Products	Disposable diapers	Own plant establishment, machine expansion	○ Malaysia, Indonesia				
	Household paper	Base paper machine installation		○ Jiangsu Oji Paper			
Functional Materials	Thermal paper	Capacity enhancement				○ Brazil/OPE	○ Germany/KANZAN
	Flexible packing	Expansion	○				
Forest Resources & Environment Marketing Business	Pulp	Capacity & competitiveness enhancement			○ NZ/Oji FS, PANPAC	○ Brazil/Cenibra	
	Lumber processing	Competitiveness enhancement			○ NZ/PANPAC		

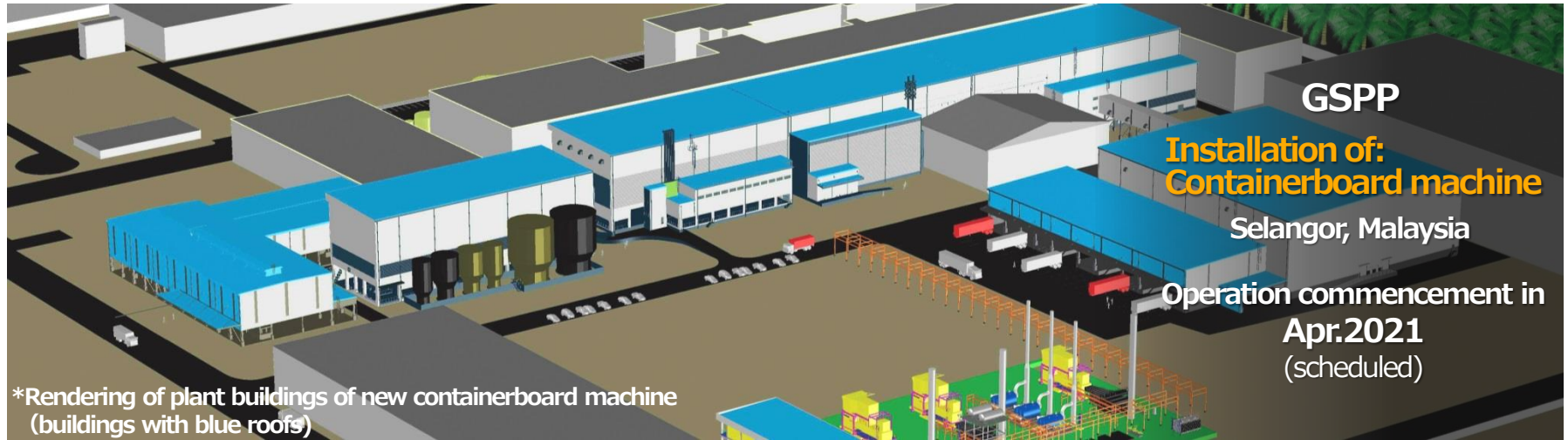
《Investment decisions》

- ◆ Containerboard : [GSPP, Malaysia] Installation of machine with production capacity 450,000t/yr ... in Apr. 2021
- ◆ Corrugated containers : [Oji FS, NZ/Christchurch] Establishment & relocation of a plant ... in Jan. 2021 ←NEW
- ◆ Disposable diaper: [Oji Indofood JV company, Indonesia] Establishment of own plant ... in Mar. 2020
- ◆ Thermal Paper : [OPE, Brazil] 3rd phase of production expansion (+70,000t/yr: double from current production) ... sequentially from Feb. 2021 ←NEW etc.

Scheduled operation commencement



## Ongoing investment project (i) Overseas packaging business





## Ongoing Investment Project (ii) Overseas Packaging Business





## Ongoing Investment Project (iii) Overseas Packaging Business





## Ongoing Investment Project (iv) Overseas Household & Consumer Products Business



## Promotion of Innovation

Cellulose nano-fiber (CNF)



Plastic alternative materials (including biodegradable plastic)



Development of Environmentally friendly businesses/products



Water treatment



Therapeutic agents for arthritis



Therapeutic agents for cystitis



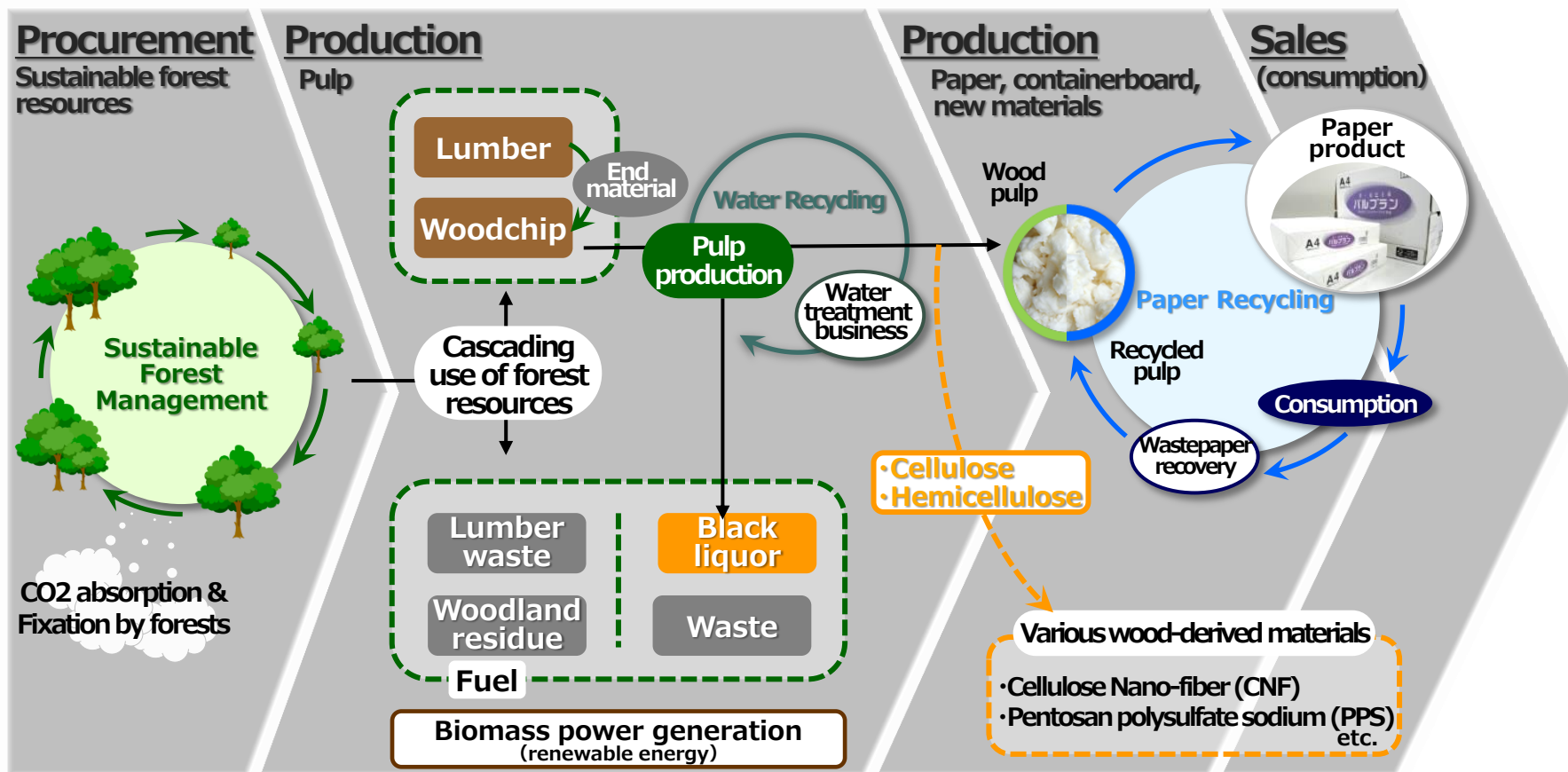
Anticoagulants for artificial dialysis (Halal-addressed)

Hemicellulose-derived pharmaceutical products



## Resource recycling throughout the value chain

Promote businesses that contribute to a sustainable society by working on resource recycling throughout the value chain, from raw material procurement to product sales



\*Detailed information on materiality of our sustainability strategies and ESG efforts is also available in the Integrated Report (published in Nov. 2019)

URL : [https://www.ojiholdings.co.jp/ir/information/group\\_report.html](https://www.ojiholdings.co.jp/ir/information/group_report.html)



# IV. Topics

**Expansion of Corrugated Container Business**

**New plant establishment in Funabashi-shi**

- ▶ Establish a new plant in the Kanto region, where demand is particularly growing
- ▶ Increase supply volume and market share to enhance competitiveness

**Production Capacity**

**20 million m<sup>2</sup>/month**

**Operation Commencement**

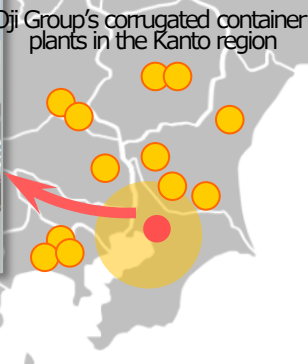
Sequentially from April 2020

Redevelop existing distribution bases (Funabashi-shi, Chiba)  
 → To be the largest plant with leading-edge facilities in Japan



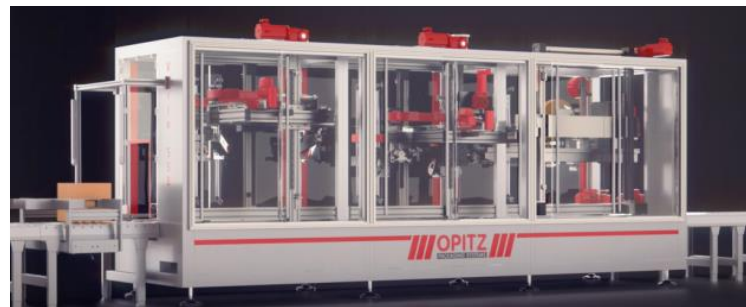
Rendering of the new corrugated container plant

Oji Group's corrugated container plants in the Kanto region



**New Packaging System for Mail-order Sales**

**Sales of new packaging system to mail-order distribution centers**



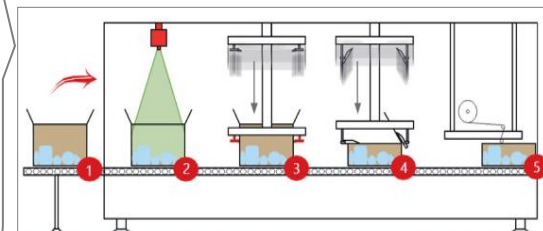
**Features**

Container height is automatically adjusted to the height of the contents, **enabling packaging without any wasted space**

- ▶ **Reduce packaging costs** (of cushioning materials)
- ▶ **Reduce transportation costs**

**< Packing flow >**

- (1) Put products into corrugated containers
- (2) The camera system detects inside the container
- (3) Cut off the corners of the container according to the height of the products
- (4) Fold the cut flap
- (5) Seal with packing tape



# 1. Business Strategies

## (2) Business Alliances between Mitsubishi Paper Mills (MPM)



Beyond the Boundaries



**MITSUBISHI  
PAPER MILLS  
LIMITED**

### Procurement of Raw Materials

MPM takes part in JV company for raw materials procurement [November 2019]

- ▶ Strengthen competitiveness of the three company groups, including Chuetsu Pulp & Paper, through joint procurement of imported woodchip

### Biomass Power Generation Business

Operation commencement of MPM Oji Eco Energy [September 2019]

- ▶ Largest biomass power plant adapted to FIT in Japan



### Household Paper Business

Operation commencement of MPM Oji Home Products [April 2019]

- ▶ Strengthen competitiveness by utilizing infrastructure of MPM Hachinohe Mill & reducing logistics costs through acquiring the first base in the Tohoku region

### Mutual Utilization of Sales Channel

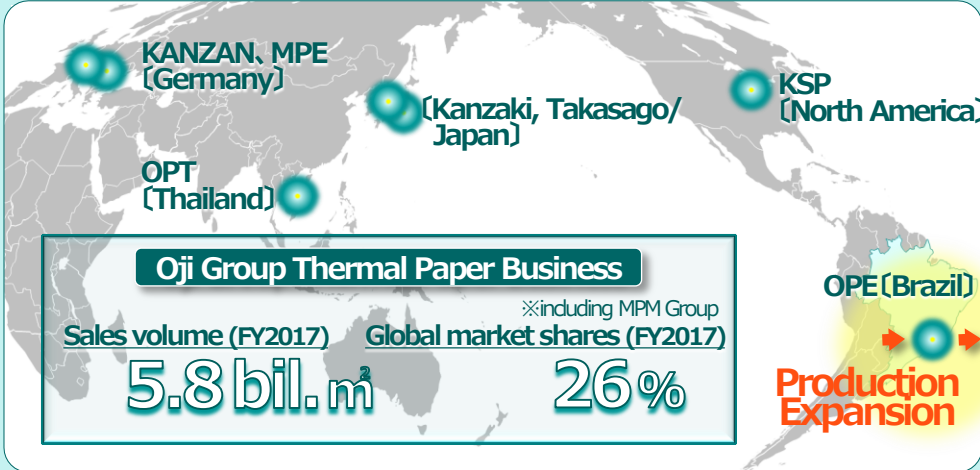
Change of corporate name from Mitsubishi Paper Sales to Mitsubishi Oji Paper Sales [November 2019]

- ▶ Make a shift to an agency with a strong purchasing base by handling the Oji brand products

**In consideration of further actions such as:  
production system restructuring, forming alliances on business in Germany, etc.**



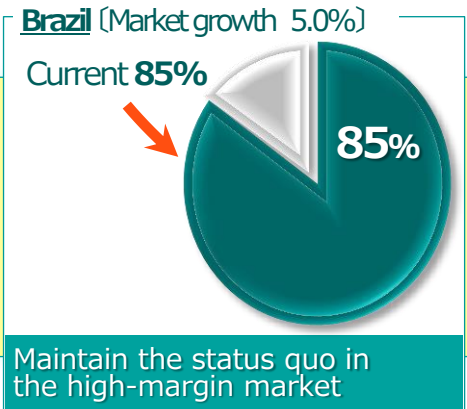
# Expansion of thermal paper business



**Production expansion at OPE (Brazil)**

- ◆ The 3rd phase of production expansion following the 1st (2014) and 2nd (2017)  
→ sequential operation commencement from Feb. 2021
- ◆ Production expansion of:  
P2, PC3 (paper and coating machines)  
Installation of: PC4 (new coating machine)
- ◆ Production volume +70,000t/yr (approx.)  
(total volume after the investment 150,000t/year)

《Target of OPE market shares》



**Doubling production capacity of OPE (Brazil)**

- ▶ Increase sales in and outside Brazil
- ▶ Increase global market shares

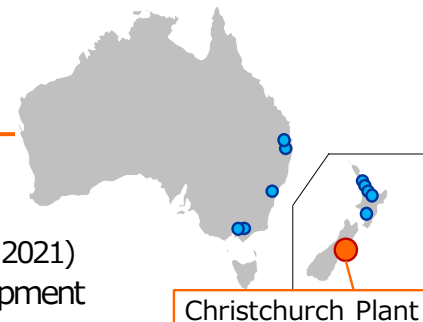
# 1. Business Strategies

## (4) Expansion of Overseas Packaging Business

### Restructuring & expansion of packaging business in Oceania

#### Establish & relocate a corrugated container plant in New Zealand

- Relocate from the existing Christchurch Plant to a new site nearby (scheduled operation commencement in Jan. 2021)
- Develop a structure to stably and efficiently supply higher quality products by installing latest equipment



Christchurch Plant

### Expansion of packaging business in SE Asia & India

#### Foundation Enhancement

Install a containerboard machine in Malaysia

#### Production expansion at GSPP (Malaysia)

- Install a containerboard machine of 450,000t/yr (scheduled operation commencement in Apr. 2021)
- Radically improve energy and drainage costs (Rights of water intake/discharge acquired: 37,000m3/day)

#### Business Expansion

Continue to build new plants and actively expand into countries we haven't tapped into yet

#### Operation commencement

- Vietnam 5<sup>th</sup> base : Jul. 2019
- India 4<sup>th</sup> base : Mar. 2020
- Cambodia 3<sup>rd</sup> base : Jan. 2020
- Indonesia (1st entry) : 2020

➔ **Consider further investment**

#### Number of packaging business operations (including those under construction)

Oceania	12 in 2 countries
SE Asia & India	32 in 7 countries

#### Market shares

- Malaysia 30%
- Cambodia 30%
- Vietnam 10%
- Others 10% or less

➔ **Aim to increase market shares**

### Enhancement of overseas folding cartons & packing paper businesses

New plant of United Packaging in Vietnam commenced operation (Jun. 2019)

**Secure competitiveness by expanding the total packaging business as a whole**

**Expand both production & sales in growth markets in SE Asia & China**

**Indonesia**

«**Manufacturing restructuring**»

Oji Indofood JV company plant :  
Construction steadily progressing toward operation commencement in Mar. 2020



Enhance cost competitiveness & business foundations through production at own plant

«**Enhancing sales promotion**»

Secure sales volume by launching **new package designs** as well as by enhancing sales promotion & advertising; in preparation for the plant operation



**New package design emphasizing product strengths**

[Triple b3bas]

- Leakage-free (water absorbency)
- Motion-free (good fit)
- Irritation-free (smooth texture)

**Malaysia**

«**Manufacturing Optimization**»

Installation of tape-type disposable diaper machine (scheduled completion in 2020)

Capacity expansion in line with sales expansion  
Consider efficiency improvement by further installing machines & integrating of operations

«**Enhancing sales promotion**»

- ◆ Increased participation in baby fairs
- ◆ Key Opinion Leader (KOL) marketing
- ◆ Sample distribution at hospitals



**China**

«**Enhancing EC sales**»

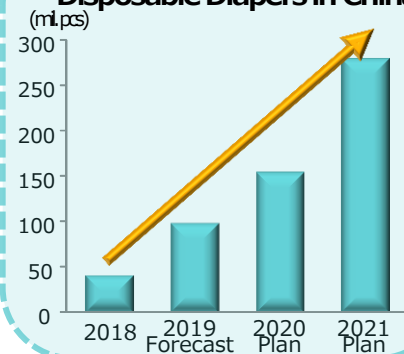
Active listing and sales of quality “nepia” brand products in rapidly growing e-commerce market

- + Expanding sales of luxury “Whito”

«**Manufacturing Optimization**»

Consider: local production

**Sales Volume of Baby Disposable Diapers in China**



**Toward further strengthening of competitiveness**

## Accelerate application development & commercialization of CNF in a wide range of fields

※CNF: Plant fiber (pulp) finely fibrillated to nano-order level that is transparent, light, durable, resistant to deformation, and highly viscous

### [Oji's Unique "Phosphate Esterification"]

◆ Provides higher **functions** more **efficiently**

- High transparency
- High viscosity
- Dispersion stability
- Heat resistance

◆ High transparency feature →

- Continuous transparent sheet
- Composite with polycarbonate resin

→ Oji as "one and only" supplier

### Highly functionalized polycarbonate with CNF

#### Polycarbonate resin

Expected as an alternative material to car windows

- Light
- Highly transparent
- Impact resistance etc.

#### CNF

Complement weakness of polycarbonate resin

- High strength
- High modulus
- Thermal stability etc.

#### Highly-functionalized polycarbonate with CNF

#### Tokyo Motor Show 2019 :

Technology provided to "CNF composite resin glass" exhibited by Toyota Motor East Japan (Oct.-Nov. 2019)



Roof panel part



Rear window part



Nano cellulose vehicle (NCV) exhibited at booth of the Ministry of the Environment

Efficient production method & cost reduction effort  
 → Competitive commercialization

Highly functional & diversified forms of CNF  
 → Wide range of applications

For example...



**Develop & provide water treatment systems contributing to effective use of water resources & reduction of environmental impact; in Japan and overseas**

**Optimal systems with unique chemicals formulation**

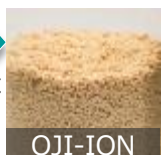
Water treatment systems that combine Oji's unique chemicals and ultrafiltration membranes for water quality that changes depending on the external environment and operations

◆ **Chemicals**



Floculants

- Produce pure water at low cost
- Reduce amount of coagulant
- Reduce moisture content of dehydrated sludge



OJI-ION



OJI-CARBON

Ion exchange resin Activated carbon etc.

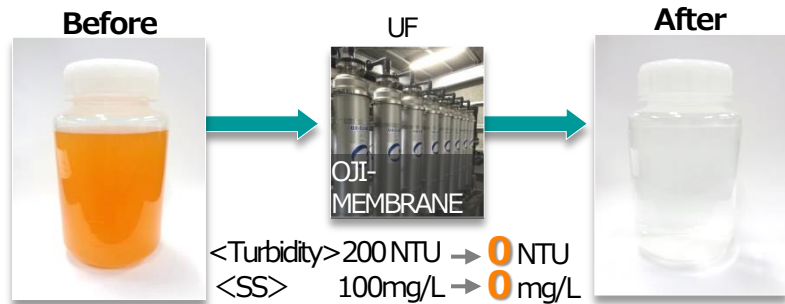


- ← Water production facility for the largest beer company in Myanmar
- ↓ Decision has been made to introduce the system at a large complex in Yangon, Myanmar



**Establishment of water treatment technology**

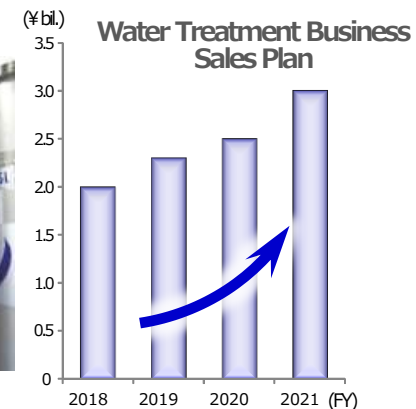
- ◆ **Ultrafiltration membrane (UF)** : improves water quality drastically
- : can be used for domestic water production, in addition to industrial water production



**Strengthen business in Japan and overseas**



↑ Membrane treatment facility for fishermen's cooperatives in Monbetsu, Hokkaido



※SS : Suspended Solids. Solids suspended in water with a particle size of 2mm or less

Promote development of environmentally friendly packaging materials & technologies

Development of alternative materials

as a measure against marine plastic problem

Oji HD participates in the **Clean Ocean Material Alliance (CLOMA)** to help solve the problem in collaboration with other industries

Paper materials

Nestlé has adopted our paper products for product packaging in Thailand

Contributing to Nestlé's goal of "achieving 100% recyclable or reusable packaging by 2025"



Biodegradable plastics

Biodegradable plastics and pulp composites

Increased strength & rigidity by mixing pulp

Contributing to expanding use of biodegradable plastics

Food packaging samples



Bioplastics

Oji HD's pulp-based bioplastic development was adopted as a commissioned project by the Ministry of the Environment

- ▶ Contributing to the prevention of global warming by replacing petroleum-based plastics
- ▶ Production using pulp, a non-edible raw material, avoids competition with edible raw materials such as sugar cane and corn

KAMIWAZA

Use of light weight paper as an alternative for steel and wood for temporary construction materials

- ▶ Reduce the burden on workers
- ▶ Recyclable

"HiPLE-ACE®"  
(3-layered corrugated material)



Tunnel wind gate of about 100m<sup>2</sup> can be constructed only with an aerial vehicle



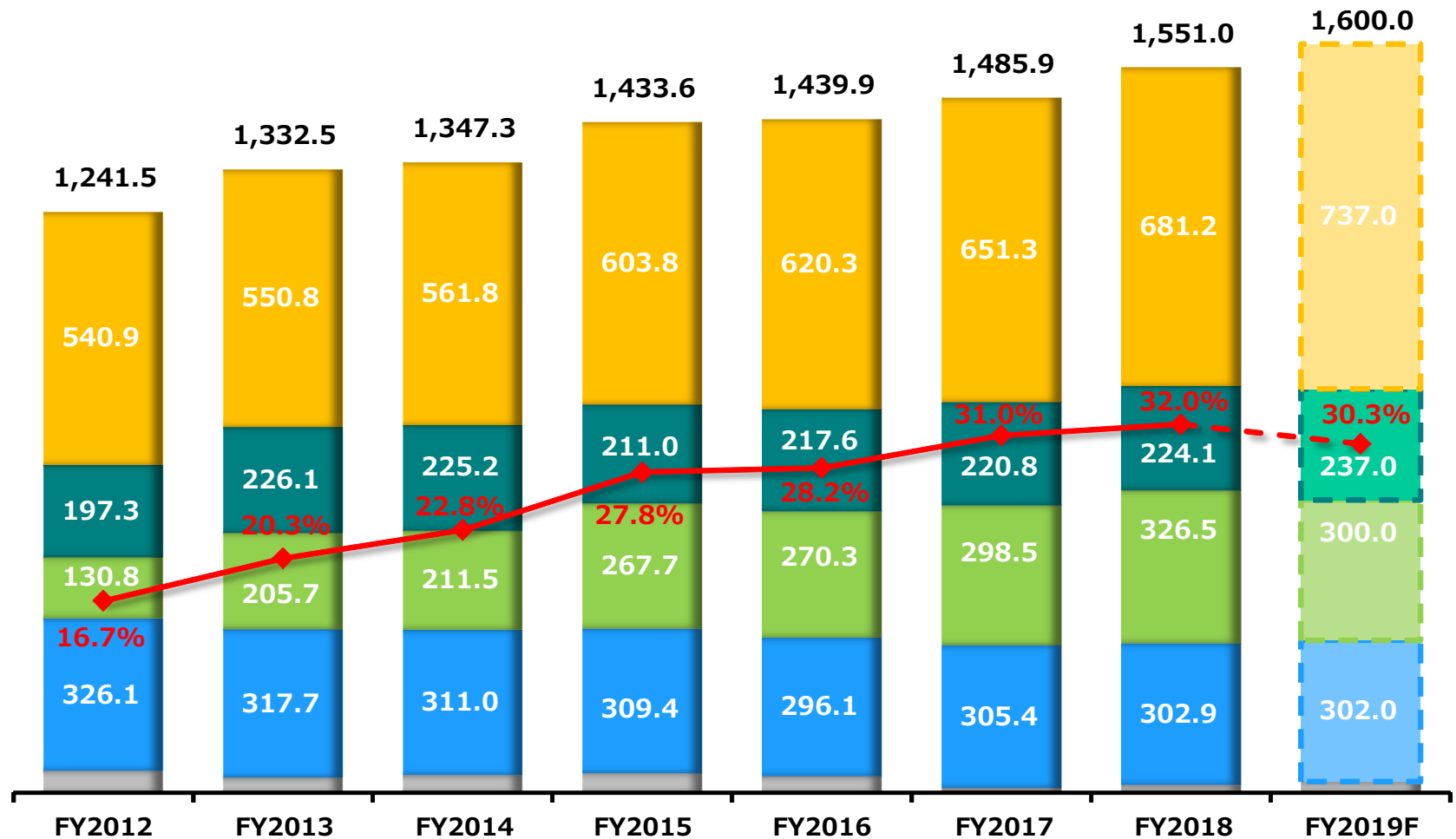


# 《 Reference Materials 》



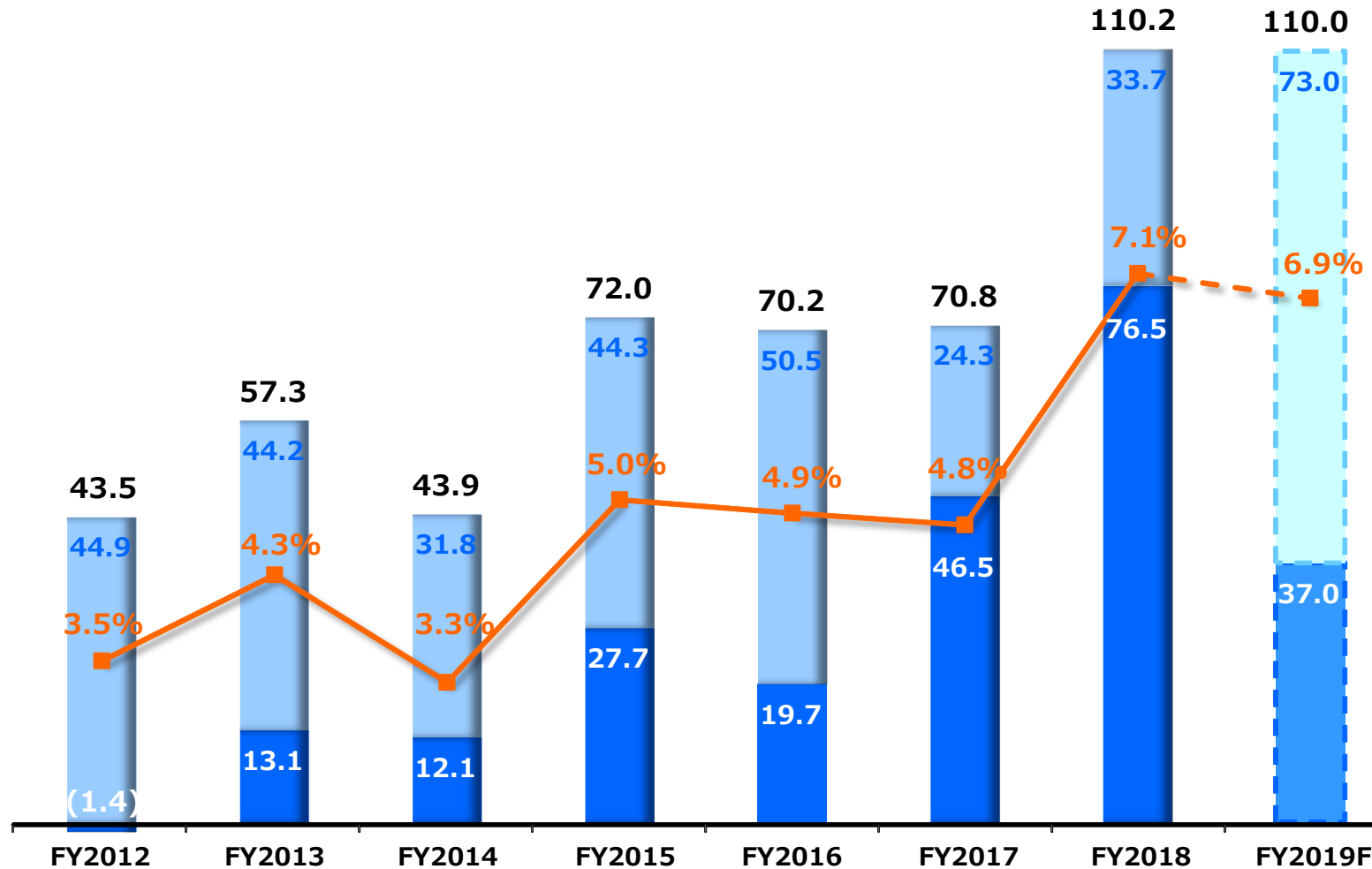
# Trends of Net Sales by Segment (consolidated)

■ Household & Industrial Materials     ■ Functional Materials     ■ Others     ◆ Overseas Sales (¥ billion)  
■ Forest Resources & Environment Marketing     ■ Printing & Communications Media



# Trends of Operating Profit (consolidated)

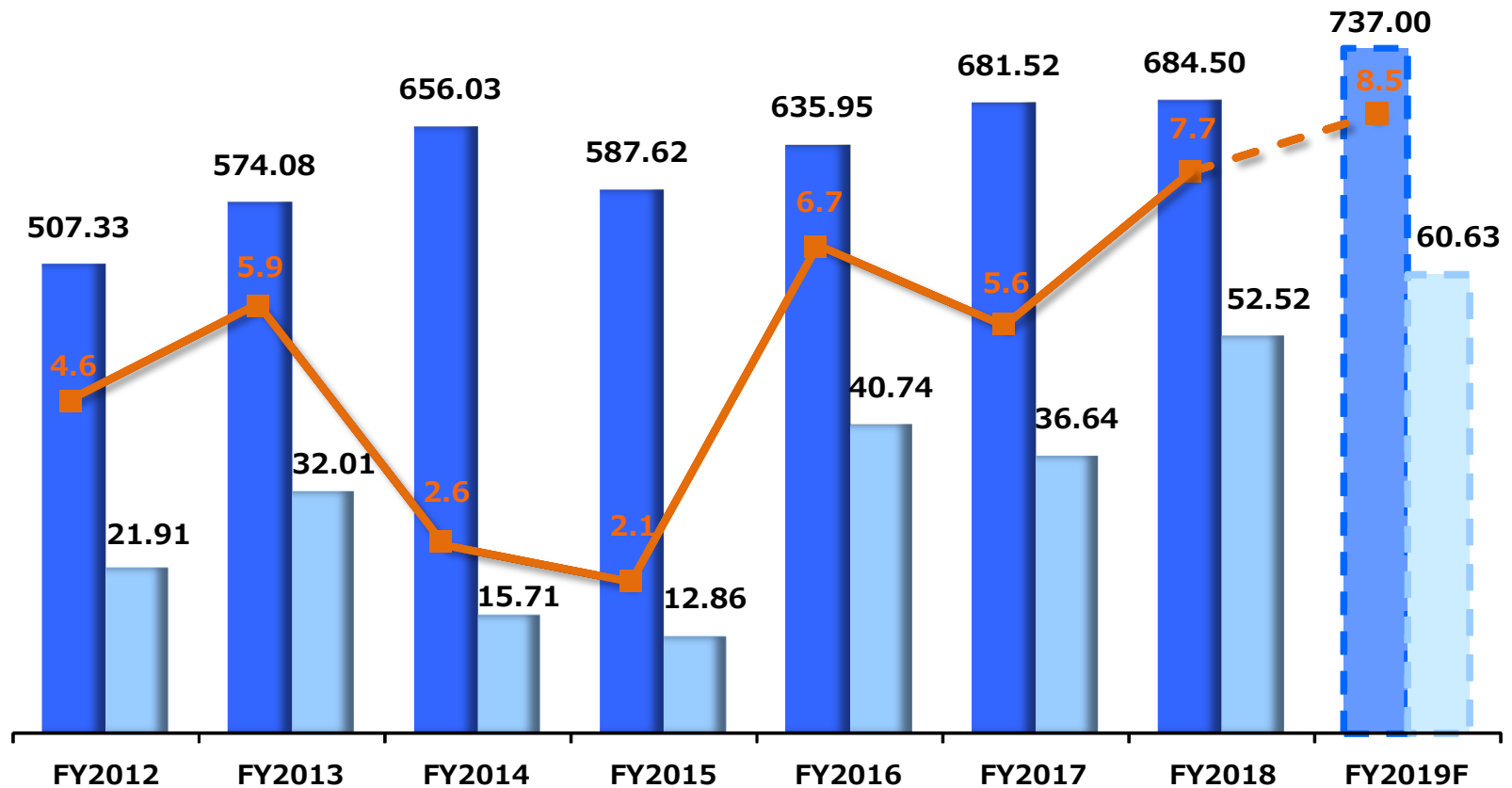
■ Operating profit of domestic companies    
 ■ Operating profit of overseas companies    
 —■— Operating profit margin (¥ billion)



## Trends of Return on Equity (ROE)



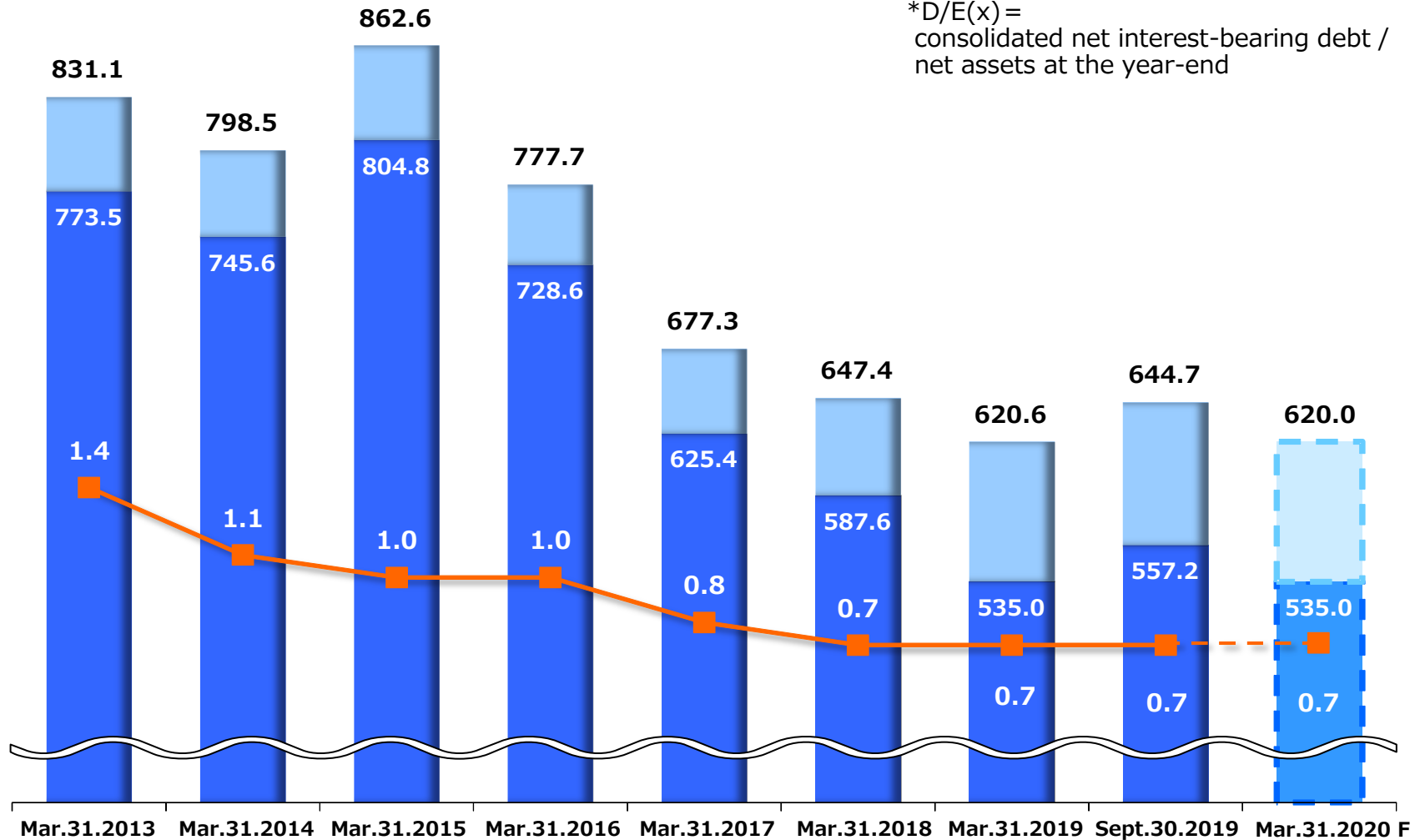
■ Net assets per share (¥)   ■ Net profit per share (¥)   —■— ROE (%)



## Trends of Net Interest-bearing Debt (consolidated)

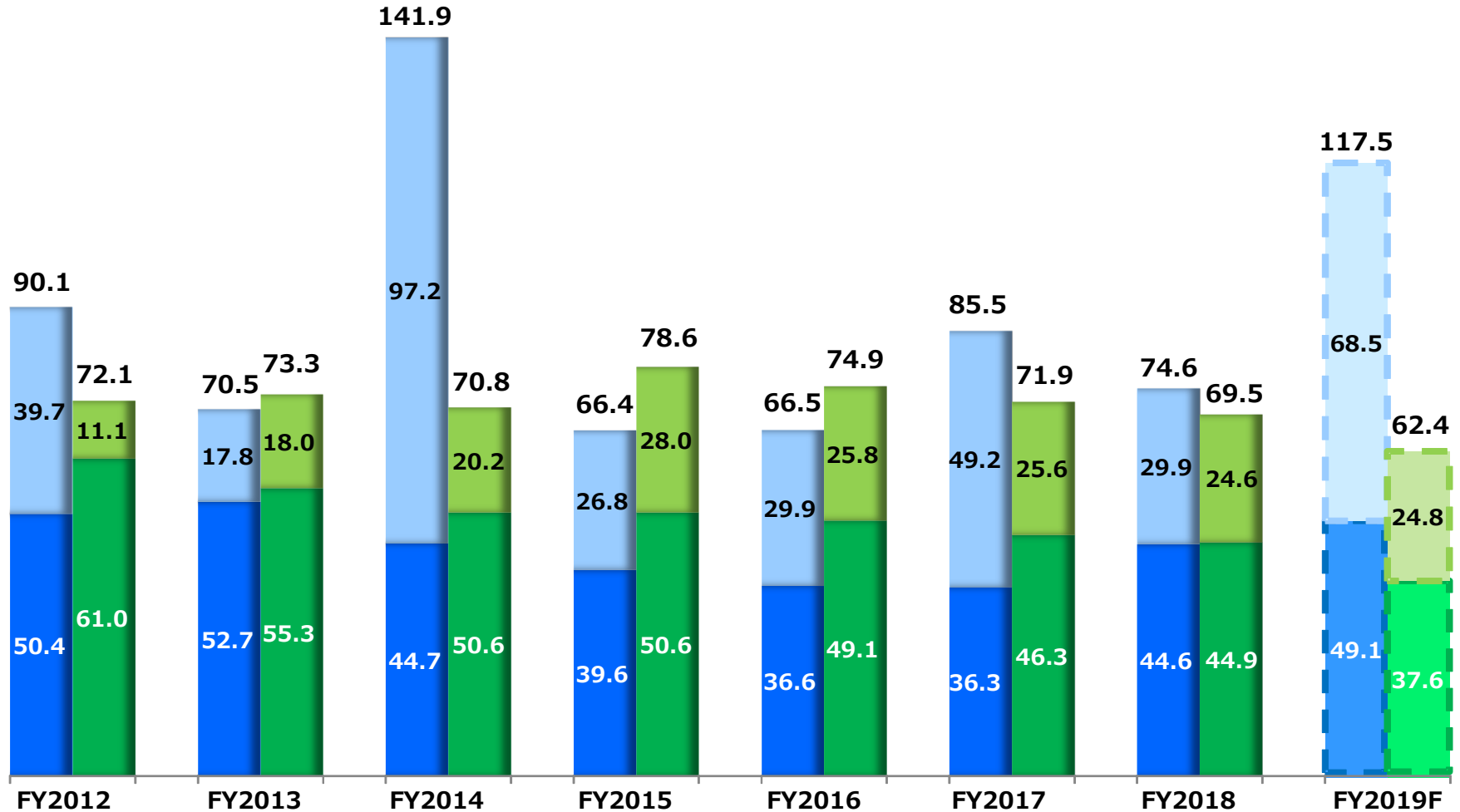
■ Consolidated net interest-bearing debt    
 ■ Consolidated interest-bearing debt    
 —■— D/E(x)    
 (¥ billion)

\*D/E(x) = consolidated net interest-bearing debt / net assets at the year-end



## Trends of CAPEX / Depreciation (consolidated)

■ CAPEX, investment & loan [Domestic]   
 ■ CAPEX, investment & loan [Overseas]   
 ■ Depreciation [Domestic]   
 ■ Depreciation [Overseas]   
 (¥ billion)

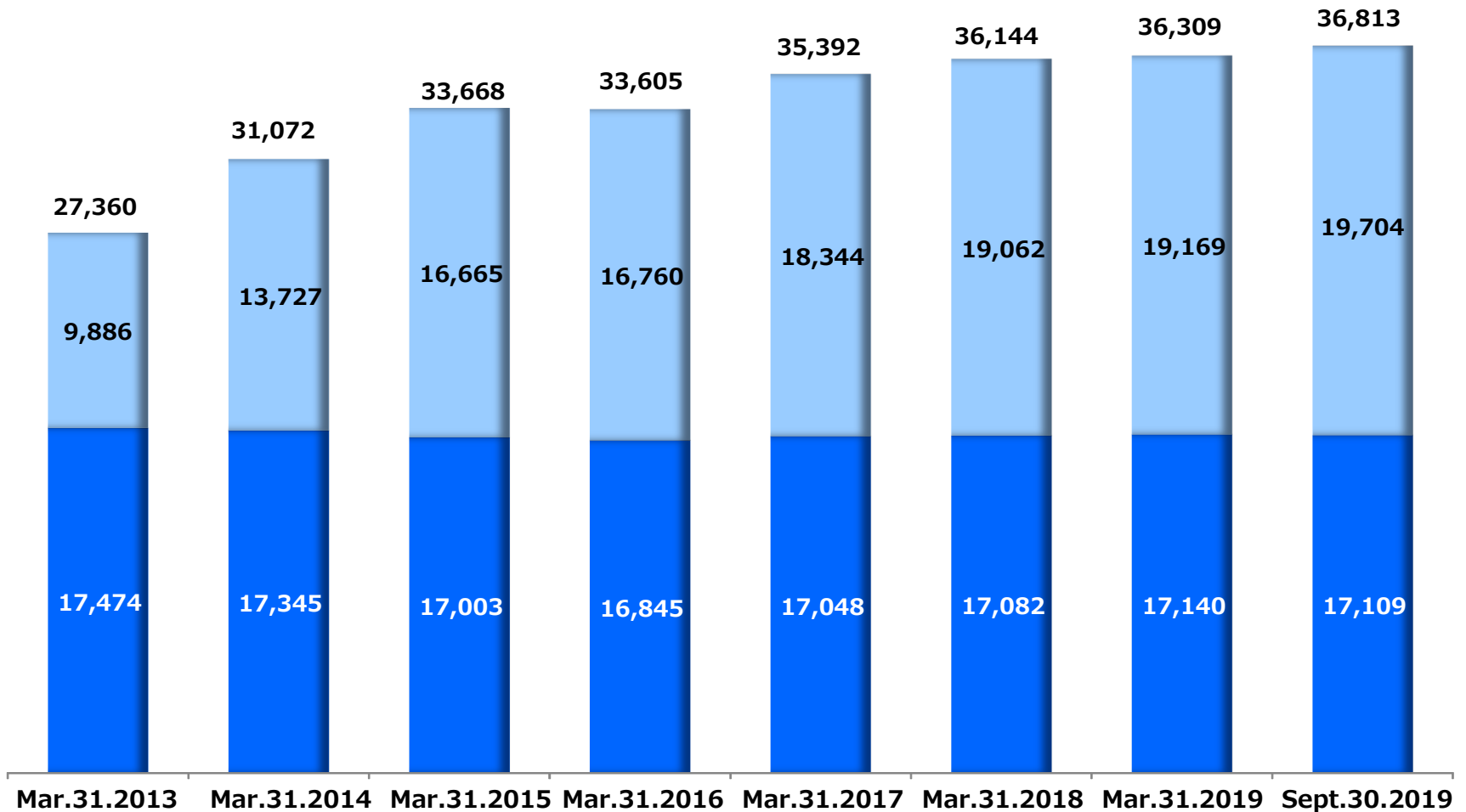


## Trends of Employees (consolidated)



■ **Employees [Domestic] (consolidated)**
■ **Employees [Overseas] (consolidated)**
(person)

\*The figures do not include number of temporary employees



## 1st-half of FY2019 Industry Demand

	Domestic Shipments		Custom Cleared Imports *1		Total	
	Year-on-Year		Year-on-Year		Year-on-Year	
Containerboard	4,548	98.9%	22	92.4%	4,570	98.9%
Boxboard	758	96.4%	129	102.5%	887	97.2%
Other Paperboard	322	98.1%	14	85.4%	335	97.5%
<b>Paperboard Total</b>	<b>5,627</b>	<b>98.5%</b>	<b>165</b>	<b>99.4%</b>	<b>5,792</b>	<b>98.6%</b>
Sanitary Paper	924	106.4%	128	128.5%*2	1,053	108.7%
Packaging Paper	345	97.2%	4	114.9%	349	97.4%
Newsprint	1,186	93.0%	1	36.1%	1,187	92.9%
Printing/Communications Paper	3,384	97.4%	592	173.0%	3,976	104.2%
Miscellaneous Paper	336	94.7%	7	79.1%	343	94.3%
<b>Paper Total</b>	<b>6,176</b>	<b>97.6%</b>	<b>732</b>	<b>160.5%</b>	<b>6,908</b>	<b>101.8%</b>
<b>Paperboard and Paper Total</b>	<b>11,803</b>	<b>98.0%</b>	<b>896</b>	<b>144.2%</b>	<b>12,699</b>	<b>100.3%</b>
<b>Corrugated Containers *3</b>	<b>7,201</b>	<b>100.2%</b>			<b>7,201</b>	<b>100.2%</b>

(1,000t)

(million m<sup>3</sup>)

Source: Japan Paper Association - Statistics on Paper and Paperboard; Trade Statistics of Ministry of Finance, Japan; Japan Corrugated Case Association - Production Volume of Corrugated Case

\*1: Statistics for customs cleared imports of paper: April 2019 - September 2019(preliminary)

\*2: The figure includes secondary products (processed goods)

\*3: The figure represents the production volume of corrugated containers