



OJI HOLDINGS

# Summary of Financial Business Results

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November 16, 2017

December 14, 2017 (Updated)



After-dark CENIBRA (Brazil)



Full view of CENIBRA plant (Brazil)



Oji Holdings Corporation

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# **I . 1st-half of FY2017 Result Overview**

# 1. Financial Highlights of 1st-half of FY2017 (consolidated)

(¥ billion)

	1st-half of FY2016	1st-half of FY2017	Increase (Decrease)
<b>Net Sales</b>	692.9	<b>718.4</b>	25.5
<b>Operating Profit</b>	33.6	<b>26.6</b>	(7.0)
<b>Ordinary Profit</b>	12.6	<b>24.2</b>	11.6
<b>Profit</b> Attributable to Owners of Parent	8.4	<b>16.5</b>	8.1
<b>Depreciation</b>	35.9	<b>35.2</b>	(0.7)
<b>Overseas Sales Ratio</b>	26.4%	<b>29.9%</b>	3.5%
<b>Operating Profit of Overseas Companies</b>	11.9	<b>18.1</b>	6.2
<b>Average Exchange Rate (¥/US\$)</b>	105.3	<b>111.1</b>	5.8
<b>Number of Consolidated Companies</b>			
Domestic	95	<b>92</b>	(3)
Overseas	103	<b>105</b>	+2
Total	198	<b>197</b>	(1)

Domestic (3) : +1[Lumber company], (3)[Paperbag/folding carton companies], (1)[Paper product company]

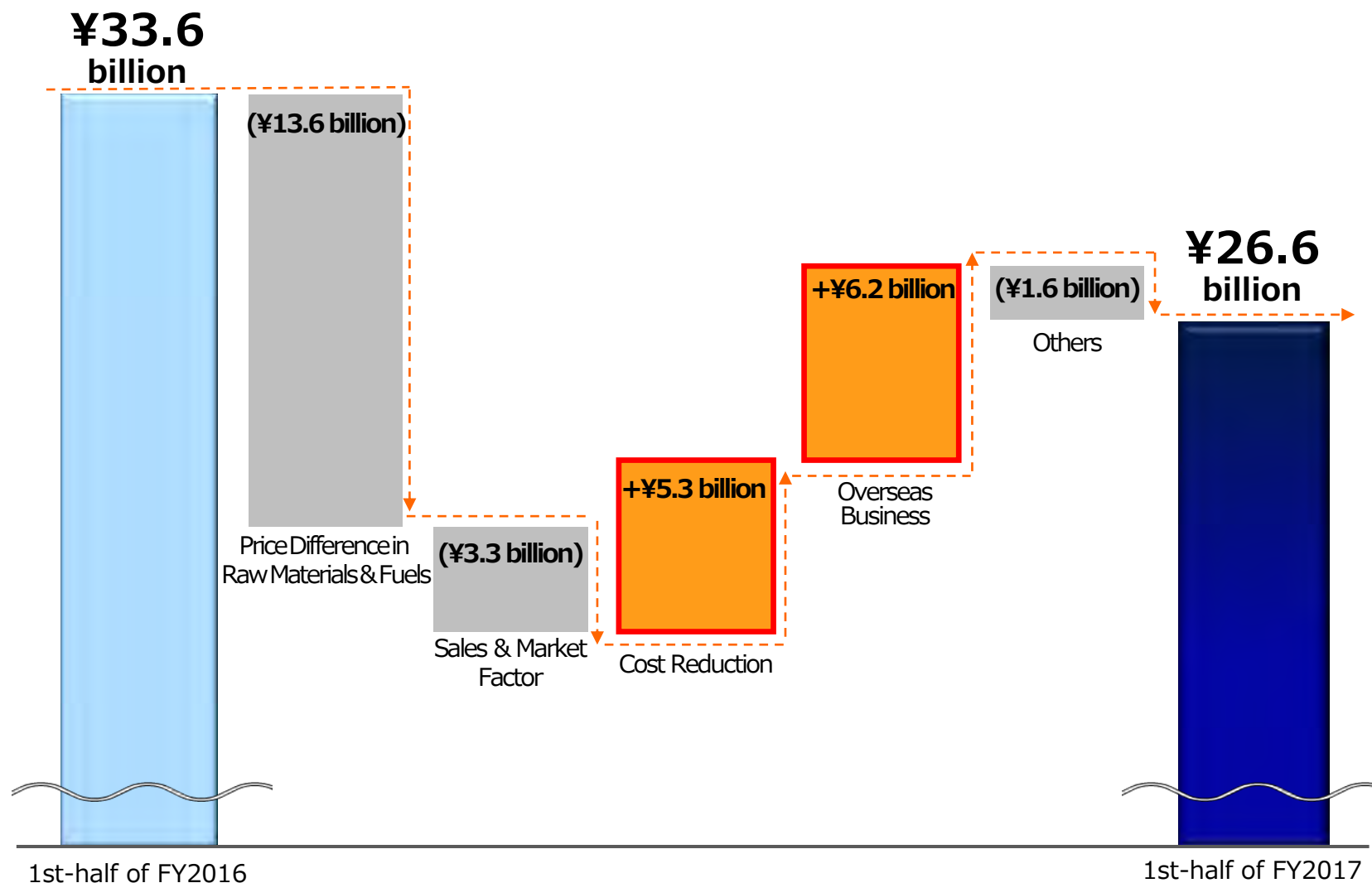
Overseas +2 : +5[Thermal material companies in Malaysia], +3[Corrugated container companies in Australia],

+ 1[Corrugated container company in Singapore], (2)[Forest plantation/lumber companies], (2)[Others]

Equity Method Affiliates +2 (Domestic+1, Overseas+1)

## 2. Breakdown of Increase/Decrease in Operating Profit [1st-half of FY2016 to 1st-half of FY2017] (consolidated)

**Profit Decrease of ¥7.0 billion  
due to rise in raw material & fuel prices, etc.**





### 3. Sales and Operating Profit by Segment

[1st-half of FY2017 Result]

(¥ billion)

	1st-half of FY2016		1st-half of FY2017		Increase (Decrease)	
	Sales	Operating Profit	Sales	Operating Profit	Sales	Operating Profit
Household & Industrial Materials	301.8	9.4	<b>317.2</b>	<b>(0.2)</b>	15.4	(9.6)
Functional Materials	103.1	7.5	<b>106.5</b>	<b>8.9</b>	3.4	1.4
Forest Resources & Environment Marketing	127.7	10.3	<b>142.2</b>	<b>16.3</b>	14.5	6.0
Printing & Communications Media	145.5	1.8	<b>140.8</b>	<b>(2.6)</b>	(4.7)	(4.4)
Others	14.8	4.6	<b>11.7</b>	<b>4.2</b>	(3.1)	(0.4)
<b>Total</b>	<b>692.9</b>	<b>33.6</b>	<b>718.4</b>	<b>26.6</b>	<b>25.5</b>	<b>(7.0)</b>

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

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

### (1) Household and Industrial Materials

## 1st-half of FY2016

Sales

Operating Profit

¥301.8 billion

¥9.4 billion

Domestic ¥6.6 billion  
Overseas ¥2.8 billion

## 1st-half of FY2017

Sales

Operating Profit

¥317.2 billion

¥(0.2 billion)

Domestic ¥(2.5 billion)  
Overseas ¥2.3 billion

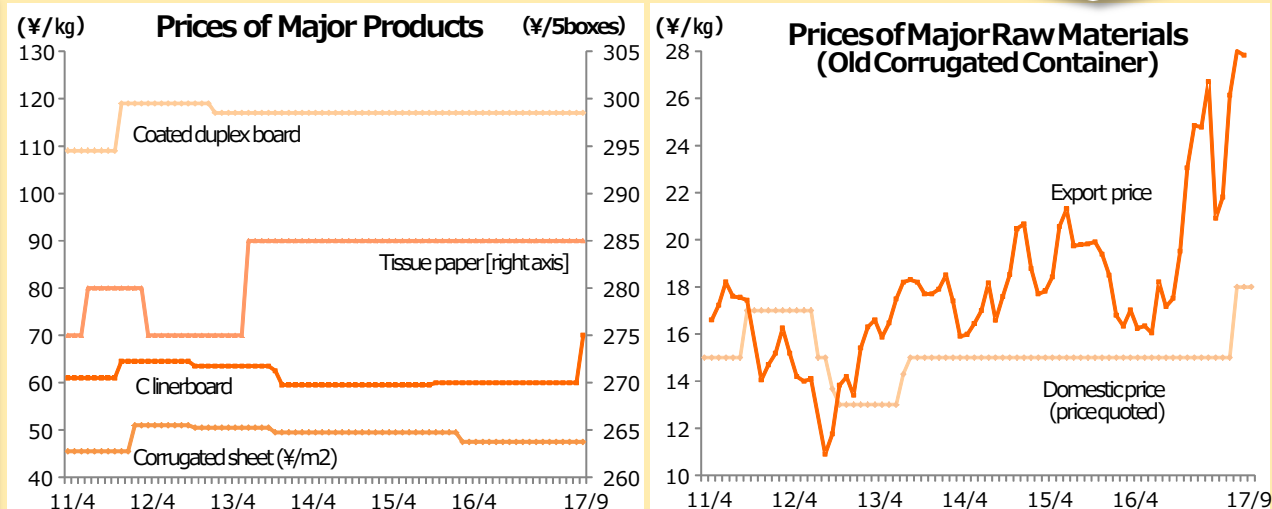
## Increase (Decrease)

Operating Profit

(¥9.6 billion) Domestic (¥9.1 billion)  
Overseas (¥0.5 billion)

#### Factors behind the profit increase(decrease) [(¥9.6 bil.)]

- ◆ Domestic business (¥9.1 bil.)
  - Price difference in raw materials&fuels (¥9.6 bil.)
  - Sales/market factor (¥0.4 bil.)
  - Cost reduction +¥2.0 bil. etc.
- ◆ Overseas business (¥0.5 bil.)
  - Profit decreased due to high raw materials&fuel prices, etc.;
  - despite steady sales of corrugated containers in Southeast Asia



Sales of Major Products (*)		1st-half of FY2016			1st-half of FY2017			Increase (Decrease)			
		Sales Volume 1,000 t (or) million m <sup>2</sup> (or) million pcs	Unit Price ¥/kg (or) m <sup>2</sup> (or) pc	Sales Amount ¥ billion	Sales Volume 1,000 t (or) million m <sup>2</sup> (or) million pcs	Unit Price ¥/kg (or) m <sup>2</sup> (or) pc	Sales Amount ¥ billion	Sales Volume 1,000 t (or) million m <sup>2</sup> (or) million pcs	Year-on Year %	Unit Price ¥/kg (or) m <sup>2</sup> (or) pc	Sales Amount ¥ billion
Paperboard	Domestic	1,493	63.70	95.1	1,547	63.24	97.8	54	103.6%	(0.47)	2.7
Corrugated sheet & container (million m <sup>2</sup> )	Domestic & Overseas	1,938	62.02	120.2	1,978	62.91	124.4	41	102.1%	0.89	4.3
Packaging paper	Domestic	130	100.30	13.0	129	100.27	13.0	(0)	99.6%	(0.04)	(0.1)
Household paper	Domestic	93	227.32	21.2	97	227.99	22.2	4	104.5%	0.66	1.0
Disposable diaper (million pcs)	Domestic & Overseas	436	20.08	8.8	442	19.04	8.4	6	101.4%	(1.04)	(0.3)

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

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

### (2) Functional Materials

## 1st-half of FY2016

Sales

Operating Profit

¥103.1 billion

¥7.5 billion

Domestic ¥5.2 billion  
Overseas ¥2.3 billion

## 1st-half of FY2017

Sales

Operating Profit

¥106.5 billion

¥8.9 billion

Domestic ¥6.3 billion  
Overseas ¥2.6 billion

## Increase (Decrease)

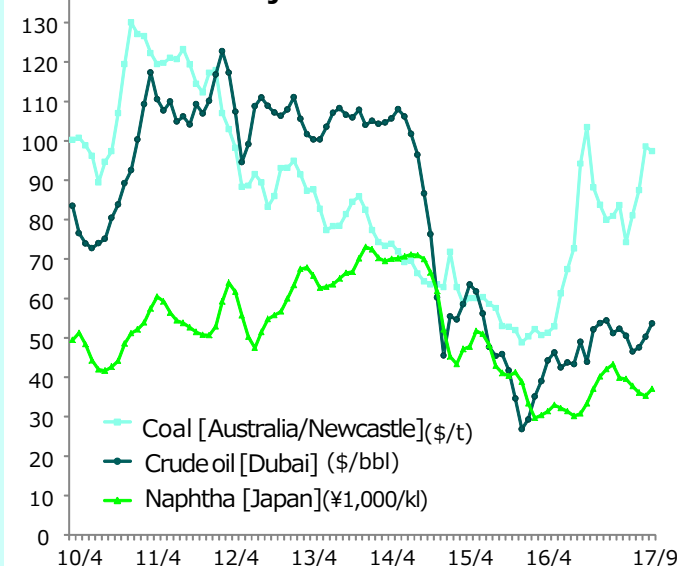
Operating Profit

+¥1.4 billion  
Domestic +¥1.1 billion  
Overseas +¥0.3 billion

## Factors behind the profit increase(decrease) [+¥1.4 billion]

◆ Domestic business	+¥1.1 bil.	◆ Overseas business	+¥0.3 bil.
Cost reduction	+¥1.2 bil.	Price difference in raw materials & fuels (influences from BRL appreciation), etc.	
Sales/market factor	+¥0.2 bil.		
Price difference in raw materials&fuels	(¥0.5 bil.)		
	etc.		

## Prices of Major Raw Materials and Fuels



Sales of Major Products (*)		1st-half of FY2016			1st-half of FY2017			Increase (Decrease)			
		Sales Volume 1,000 t (or) million m <sup>2</sup>	Unit Price ¥ / kg (or) m <sup>2</sup>	Sales Amount ¥ billion	Sales Volume 1,000 t (or) million m <sup>2</sup>	Unit Price ¥ / kg (or) m <sup>2</sup>	Sales Amount ¥ billion	Sales Volume 1,000 t (or) million m <sup>2</sup>	Year-on Year %	Unit Price ¥ / kg (or) m <sup>2</sup>	Sales Amount ¥ billion
Thermal paper (million m <sup>2</sup> )	Domestic & Overseas	1,587	18.64	29.6	1,522	19.46	29.6	(65)	95.9%	0.83	0.1
Specialty paper	Domestic	93	234.47	21.7	95	241.58	23.0	3	102.7%	7.11	1.3

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



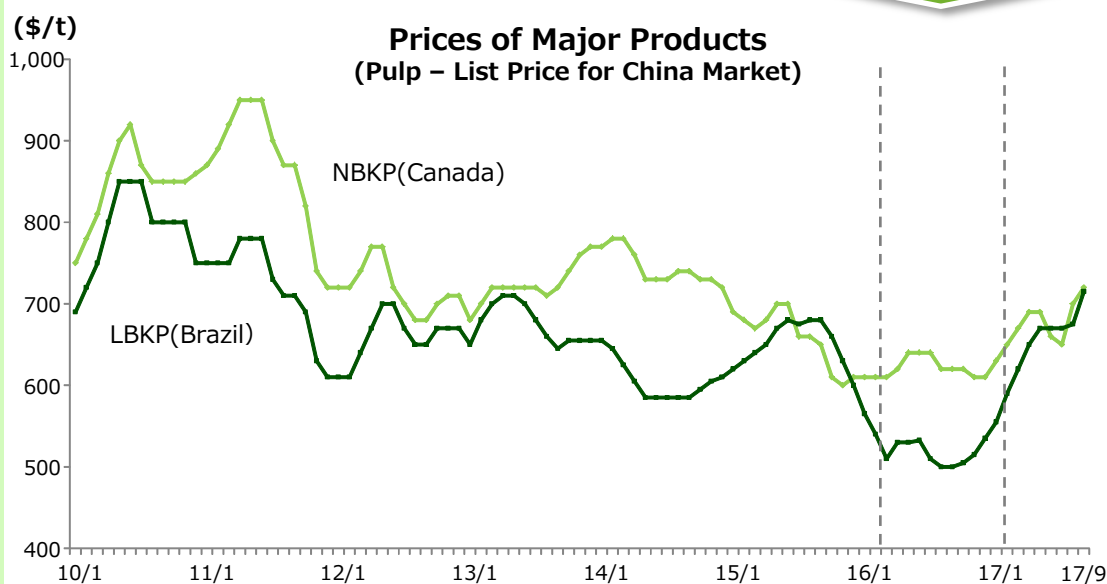
## 4. Analysis of Increase/Decrease in Profit by Segment

### (3) Forest Resources and Environment Marketing

1st-half of FY2016			1st-half of FY2017			Increase (Decrease)
Sales	Operating Profit		Sales	Operating Profit		Operating Profit
<b>¥127.7 billion</b>	<b>¥10.3 billion</b>	Domestic <b>¥3.9 billion</b> Overseas <b>¥6.4 billion</b>	<b>¥142.2 billion</b>	<b>¥16.3 billion</b>	Domestic <b>¥4.3 billion</b> Overseas <b>¥12.0 billion</b>	<b>+¥6.0 billion</b> Domestic <b>+¥0.4 billion</b> Overseas <b>+¥5.6 billion</b>

#### Factors behind the profit increase (decrease) [+¥6.0 billion]

- ◆ Domestic business +¥0.4 bil.
  - Steady sales volume of energy business
  - Profit increase due to strong export sales of dissolving pulp and exchange rates difference caused by yen appreciation
- ◆ Overseas business +¥5.6 bil.
  - Rise in pulp prices +¥6.0 bil.
  - Sales expansion of pulp +¥1.4 bil.
  - Increase in cost due to BRL appreciation (¥2.9 bil.) etc.



Sales of Major Products (*)		1st-half of FY2016			1st-half of FY2017			Increase (Decrease)			
		Sales Volume 1,000t (or) GWh	Unit Price ¥/kg (or) ¥/kWh	Sales Amount ¥ billion	Sales Volume 1,000t (or) GWh	Unit Price ¥/kg (or) ¥/kWh	Sales Amount ¥ billion	Sales Volume 1,000t (or) GWh	Year-on Year %	Unit Price ¥/kg (or) ¥/kWh	Sales Amount ¥ billion
Market pulp	Domestic & Overseas	1,109	53.97	59.9	<b>1,127</b>	<b>63.80</b>	<b>71.9</b>	17	101.6%	9.84	12.0
(Dissolving pulp)	Domestic	43	90.21	3.9	<b>52</b>	<b>97.17</b>	<b>5.0</b>	8	119.2%	6.96	1.1
Electric power (Gwh)	Domestic	514	20.39	10.5	<b>515</b>	<b>21.16</b>	<b>10.9</b>	1	100.2%	0.77	0.4

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

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

## (4) Printing and Communications Media

## 1st-half of FY2016

Sales

Operating Profit

¥145.5 billion

¥1.8 billion

Domestic ¥1.4 billion  
Overseas ¥0.4 billion

## 1st-half of FY2017

Sales

Operating Profit

¥140.8 billion

¥(2.6 billion)

Domestic ¥(3.8 billion)  
Overseas ¥1.2 billion

## Increase (Decrease)

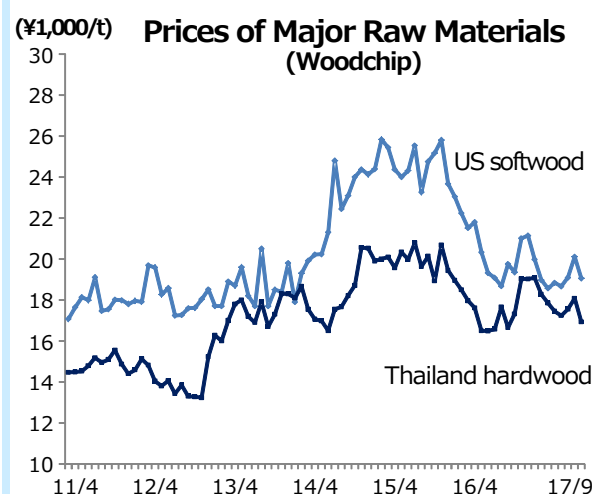
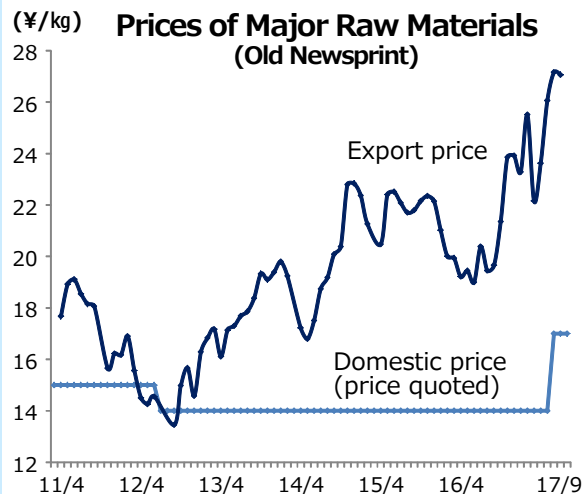
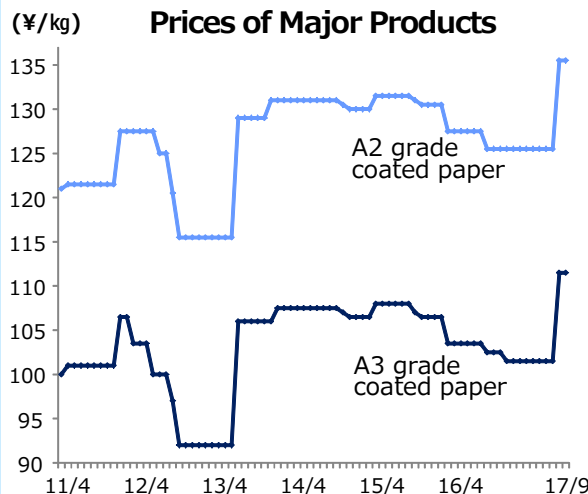
Operating Profit

(¥4.4 billion)

Domestic (¥5.2 billion)  
Overseas +¥0.8 billion

### Factors behind the profit increase (decrease) [(¥4.4 bil.)]

- ◆ Domestic Business (¥5.2 bil.) Price difference in raw materials & fuels (¥3.5 bil.) Sales/market factor (¥3.1 bil.) Cost reduction +¥2.1 bil. etc.
- ◆ Overseas Business +¥0.8 bil. Profit increase due to cost reduction efforts and increased sales/price rise of printing paper



Sales of Major Products (*)	1st-half of FY2016			1st-half of FY2017			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	1,190	107.71	128.2	1,161	105.19	122.1	(29)	97.5%	(2.52)	(6.1)

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

## **II. FY2017 Financial Forecast**

## 1 . Financial Forecast for FY2017



(¥ billion)

	FY2016	FY2017F	Increase (Decrease)
<b>Net Sales</b>	1,439.9	<b>1,500.0</b>	60.1
<b>Operating Profit</b>	70.2	<b>75.0</b>	4.8
<b>Ordinary Profit</b>	52.9	<b>64.0</b>	11.1
<b>Profit</b> Attributable to Owners of Parent	40.3	<b>37.0</b>	(3.3)
<b>Depreciation</b>	74.8	<b>70.7</b>	(4.1)
<b>Overseas Sales Ratio</b>	28.2%	<b>29.7%</b>	1.5%
<b>Operating Profit of Overseas Companies</b>	19.7	<b>43.4</b>	23.7
<b>Average Exchange Rate (¥/US\$)</b>	108.4	<b>110.6</b>	2.2

\*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 FY2017 Financial Forecast

## ◆ Raw Material &amp; Fuel Prices

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

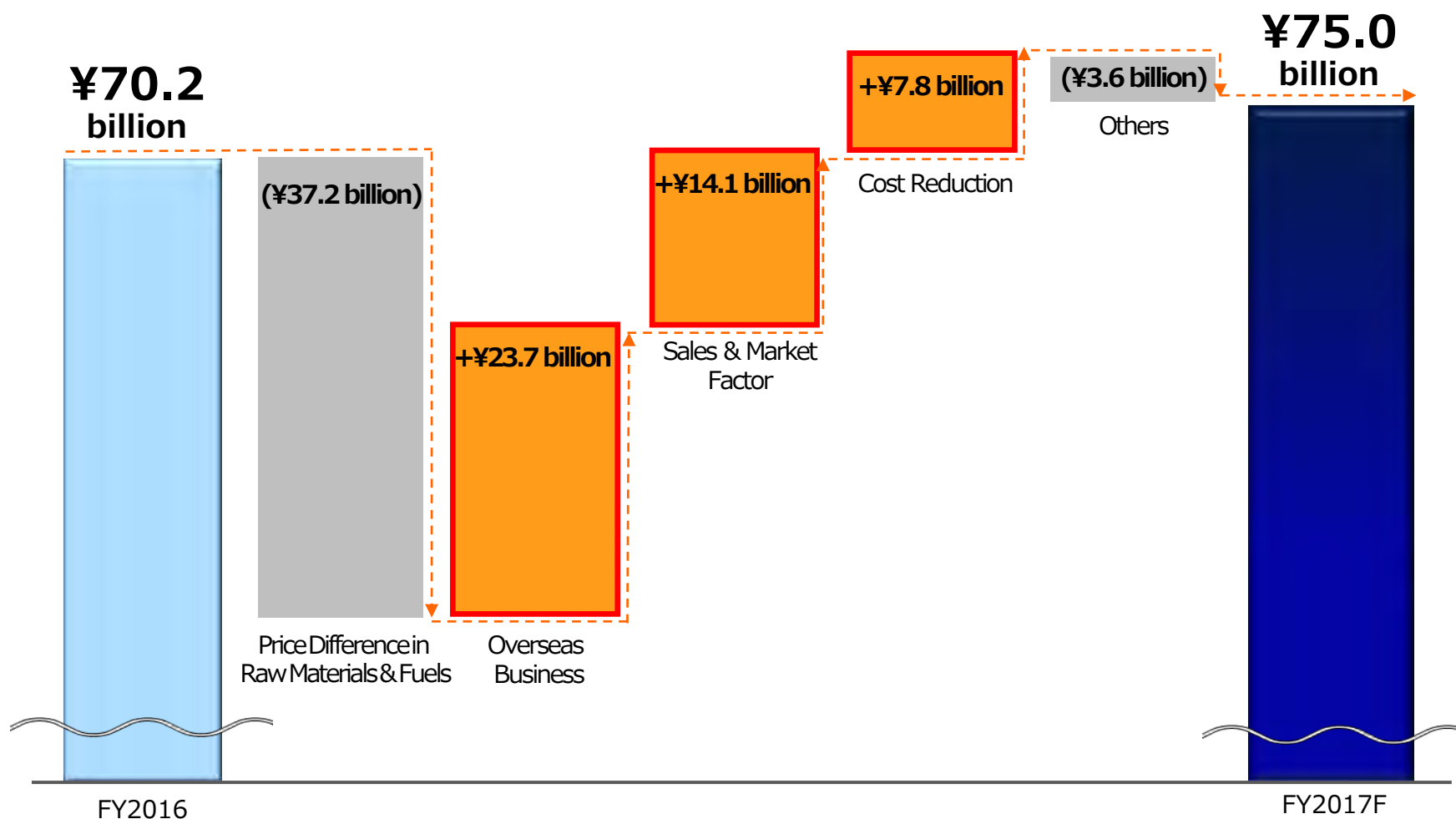
## ◆ Effects of Fluctuation on Operating Profit (per annum)

- Exchange rate Japanese Yen : approx. ¥0.19 billion with a fluctuation of US\$ by 1% (strong US\$ -)
- Brazilian Real : approx. ¥0.42 billion with a fluctuation of US\$ by 1% (strong US\$ +)
- New Zealand Dollar : approx. ¥0.73 billion with a fluctuation of US\$ by 1% (strong US\$ +)
- Price of recovered paper : approx. ±¥4.10 billion with a fluctuation of ¥1/kg
- Price of Dubai crude oil : approx. ±¥0.29 billion with a fluctuation of US\$1/bbl  
(heavy oil, bunker, naphtha and others)
- Price of pulp : approx. ±¥2.30 billion with a fluctuation of US\$10/t (high price +)

## 2. Breakdown of Increase/Decrease in Operating Profit [FY2016 to FY2017 Forecast] (consolidated)

**Profit Increase of ¥4.8 billion**

despite high raw material & fuel prices, due to  
recovery in pulp prices, price adjustment, and cost reduction





### 3. Sales and Operating Profit by Segment

[FY2017 Forecast]

(¥ billion)

	FY2016		FY2017F		Increase (Decrease)	
	Sales	Operating Profit	Sales	Operating Profit	Sales	Operating Profit
Household & Industrial Materials	620.3	18.8	<b>665.0</b>	<b>9.3</b>	44.7	(9.5)
Functional Materials	217.6	17.5	<b>220.5</b>	<b>19.8</b>	2.9	2.3
Forest Resources & Environment Marketing	270.3	19.1	<b>294.0</b>	<b>39.4</b>	23.7	20.3
Printing & Communications Media	296.1	5.5	<b>292.0</b>	<b>(1.8)</b>	(4.1)	(7.3)
Others	35.6	9.3	<b>28.5</b>	<b>8.3</b>	(7.1)	(1.0)
<b>Total</b>	<b>1,439.9</b>	<b>70.2</b>	<b>1,500.0</b>	<b>75.0</b>	<b>60.1</b>	<b>4.8</b>

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

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

### (1) Household and Industrial Materials

FY2016			FY2017			Increase (Decrease)
Sales	Operating Profit		Sales	Operating Profit		Operating Profit
¥620.3billion	¥18.8billion	Domestic ¥15.1billion Overseas ¥3.7billion	→	¥665.0billion	¥9.3billion	Domestic ¥5.3billion Overseas ¥4.0billion
						(¥9.5billion) Domestic (¥9.8billion) Overseas +¥0.3billion

### «FY2017: Factors behind the profit increase / decrease»

#### Domestic (¥9.8 billion)

##### ◆ Household & Consumer Products Business (¥0.8 billion)

Price difference in raw materials & fuels (¥1.0 billion)  
Sales and Market Factor +¥0.4 billion etc.

#### Enhancement of Disposable Diaper Business

Additional installation of baby disposable diaper [tape-type] machine

Sept. 2017 Start of commercial operation

"Whito", new brand for baby disposable diapers

Oct. 2017 Start of nationwide sales



"Whito" 3hours/12hours

##### ◆ Industrial Materials Business (¥9.0 billion)

Price difference in raw materials & fuels (¥26.1 billion)  
Sales & Market Factor +¥14.5 billion etc.

#### High-grade Paperboard Business

• O&C Ivory Board

Sept. 2017

Start of commercial operation



O&C Ivory Board's new machine

#### Overseas +¥0.3 billion

##### ◆ Industrial Materials Business +¥0.2 billion etc.

#### Expansion of Overseas Packaging Business

Oji Cardboard Carton Solutions  
(Melbourne/Australia)

**Business Lineup** Manufacturing/sales of corrugated container products that require decorative printing and special processing, etc.

**Schedule** Sept. 2017 Business acquisition

Oji Fibre Solutions: New Corrugated Container Plant  
(Queensland/Australia)

**Business Lineup** Manufacturing/sales of corrugated containers

**Schedule** Oct. 2017 Start of commercial operation



New plant's corrugator

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

### (2) Functional Materials

FY 2016			FY 2017			Increase (Decrease)
Sales	Operating Profit		Sales	Operating Profit		Operating Profit
¥217.6 billion	¥17.5 billion	Domestic ¥12.8 billion Overseas ¥4.7 billion	¥220.5 billion	¥19.8 billion	Domestic ¥14.3 billion Overseas ¥5.5 billion	+¥2.3 billion Domestic +¥1.5 billion Overseas +¥0.8 billion

### «FY2017: Factors behind the profit increase / decrease»

#### Domestic +¥1.5 billion

- ◆ Sales & Market Factor +¥2.5 billion
- ◆ Cost Reduction +¥1.3 billion
- ◆ Price Difference in Raw Materials & Fuels (¥2.1 billion) etc.

#### Strengthening of R&D-oriented Business

New product <“Seishiki” HOT CLOTH>  
Dry body cleansing sheet with long-lasting warmth



- ➔ Collaborate with R&D div. (Oji Holdings Innovation Promotion Div.) to develop high value-added products

#### Overseas +¥0.8 billion

- ◆ Price Difference in Raw Materials & Fuels +¥1.0 billion etc.

#### [Brazil] Capacity Enhancement of Thermal Paper

Oji Papéis Especiais (OPE)  
July 2017 Installation of multi-layer curtain coater  
... 10% increase in production capability  
➔ Consider further **investment** to keep up with the strong demand



OPE PC3

#### [Southeast Asia] Integration of Functional Material Manufacturing, Expansion of Business Field

Hyper-Region Labels (HRL) (Malaysia)

**Business Lineup** Printing/converting of labels, etc.

**Schedule** May 2016 Share acquisition (60% of issued stocks)

Tele-Paper (TP) (Malaysia)

**Business Lineup** Printing/converting of thermal/carbonless paper, etc.

**Schedule** Aug. 2017 Share acquisition (76% of issued stocks)

Oji Myanmar Packaging (OMPC) (Myanmar)

**Business Lineup** Production/sales of flexible packaging products, etc.

**Schedule** Sept. 2017 Start of commercial operation



Tele-Paper

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

### (3) Forest Resources and Environment Marketing

FY 2016			FY 2017			Increase (Decrease)
Sales	Operating Profit		Sales	Operating Profit		Operating Profit
¥270.3 billion	¥19.1 billion	Domestic ¥8.7 billion Overseas ¥10.4 billion	¥294.0 billion	¥39.4 billion	Domestic ¥8.6 billion Overseas ¥30.8 billion	+¥20.3 billion Domestic (¥0.1 billion) Overseas +¥20.4 billion

### «FY2017: Factors behind the profit increase / decrease»

#### Overseas +¥20.4 billion

#### ◆ Rise in Pulp Prices +¥26.9 billion

CENIBRA	+¥12.0 billion
Jiangsu Oji Paper	+¥8.3 billion
Oji Fibre Solutions	+¥3.9 billion
PAN PAC	+¥2.7 billion
etc.	

List Price for China Market	2016 (Average of Jan.-Dec.)	2017 (Estimate)	2nd-half of FY2017 (Assumption)	Reference (Recent price)
<b>LBKP</b> (Eucalyptus)	520 US\$/t	150US\$/t Rise 670 US\$/t	710 US\$/t	790 US\$/t
<b>NBKP</b> (Pinus radiata)	590 US\$/t	70US\$/t Rise 660 US\$/t	680 US\$/t	810 US\$/t

Recovery trend after hitting the bottom in Sept. 2016

#### ◆ Increase in Cost due to BRL Appreciation (¥5.8 billion)

#### ◆ Price Difference in Raw Materials & Fuels (¥4.0 billion) etc.



New dry pulp machine at Jiangsu Oji Paper (China)



PAN PAC (New Zealand)



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

## (4) Printing and Communications Media

FY 2016

Sales

Operating Profit

¥296.1 billion

¥5.5 billion

Domestic ¥4.5 billion  
Overseas ¥1.0 billion

FY 2017

Sales

Operating Profit

¥292.0 billion

¥(1.8 billion)

Domestic ¥(4.9 billion)  
Overseas ¥3.1 billion

Increase (Decrease)

Operating Profit

(¥7.3 billion)

Domestic (¥9.4 billion)  
Overseas +¥2.1 billion

### «FY2017: Factors behind the profit increase / decrease»

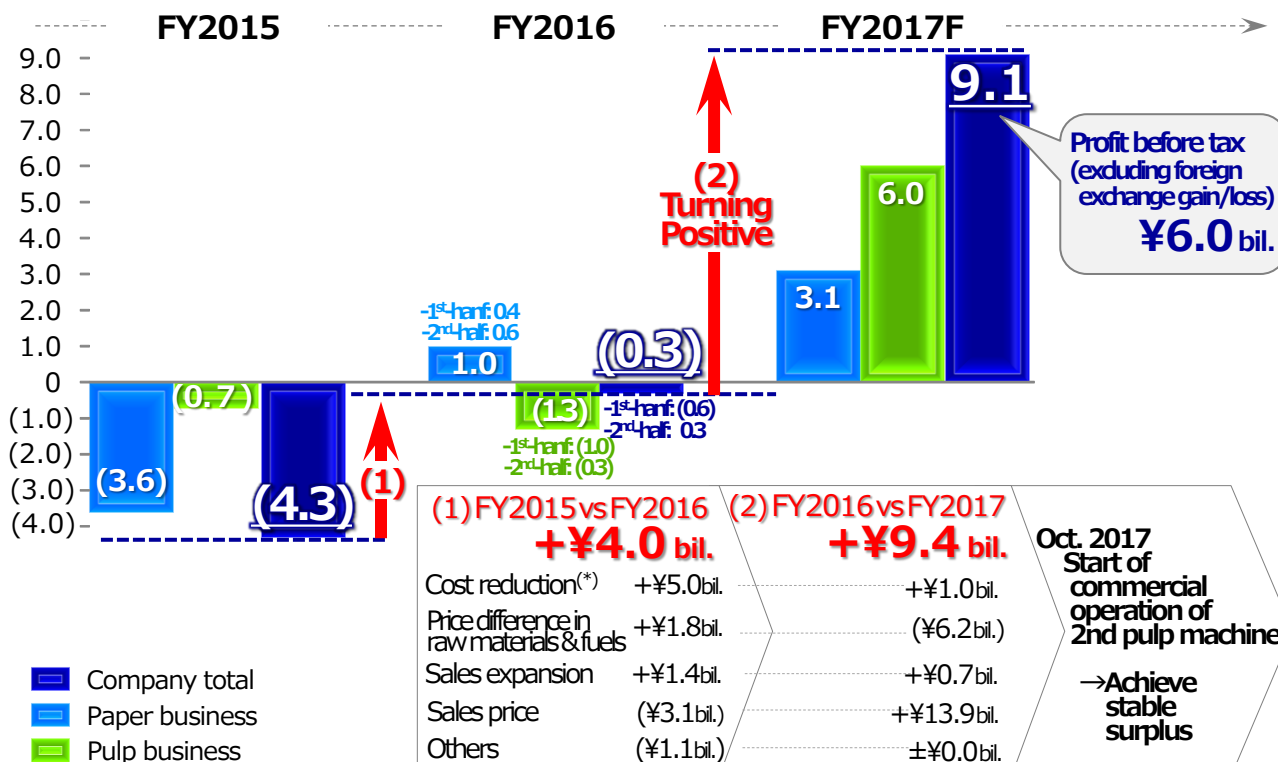
#### Domestic (¥9.4 billion)

- ◆ Price Difference in Raw Materials& Fuels (¥8.0bil.)
- ◆ Sales & Market Factor (¥3.5bil.)
- ◆ Cost Reduction +¥3.0bil.  
etc.

#### Overseas +¥2.1 billion

- ◆ Price Difference in Raw Materials& Fuels (¥4.8bil.)
- ◆ Sales & Market Factor +¥6.0bil.
- ◆ Cost Reduction +¥1.0bil.  
etc.

#### Jiangsu Oji Paper Nantong Mill (China): Operating Profit



\* Decrease in depreciation is included in "cost reduction"



# 5. Influences of Changes in External Environment

(¥billion/year)

	Household & Industrial Materials	Functional Materials	Forest Resources & Environment Marketing	Printing & Communications Media	Total
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## Impact on operating income from:

### Changes in exchange rates

Assumed exchange rates for  
2nd-half of FY2017

US\$-based transactions (US\$ stronger by 10%)	Japanese Yen (JPY)	110.00 JPY/USD	↓	→	→	↓	(4.2)
	Brazilian Real (BRL)	3.10 BRL/USD	→	→	↑	→	+4.2
	New Zealand Dollar (NZD)	1.41 NZD/USD	↑	→	↑	→	+7.3
Conversion of income in foreign currency to ¥ (¥ weaker by 10%)	US Dollar (USD)	110.00 JPY/USD	↑	↑	↑	→	+2.3
	Brazilian Real (BRL)	35.50 JPY/BRL	→	↑	→	→	+0.3
	New Zealand Dollar (NZD)	78.00 JPY/NZD	↑	→	↑	→	+0.6

Changes in pulp prices (US\$10/t stronger)	↓	↓	↑	↓	+2.3
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+ : Improve  
(-) : Worsen

**Cope with changes in exchange rates and pulp prices by leveraging on the Group's globalized and diversified collective strengths**

## **III. Group Management Targets**

# 1. Business Plans

## (1) Management Philosophy/Management Strategies



### Management Philosophy

~Desired Future Image of Oji Group~

Creation of  
Innovative Values

Contribution to  
Future and the World

Harmony with  
Nature and Society

「Beyond  
the Boundaries」

### Management Strategies

~Group Fundamental Policies and Numerical Management Targets~

~FY2016-18 Group Fundamental Policies~

**Expansion of Overseas Businesses**

**Concentration /  
Advancement of Domestic Businesses**

**Enhancement of Financial Foundation**

~Numerical Management Targets FY2018~

<Operating Profit> **¥100.0 billion**  
(consolidated)

<Overseas Sales Ratio> **35%** (Future target 50%)

<Interest-bearing Debt> **¥700.0 billion**

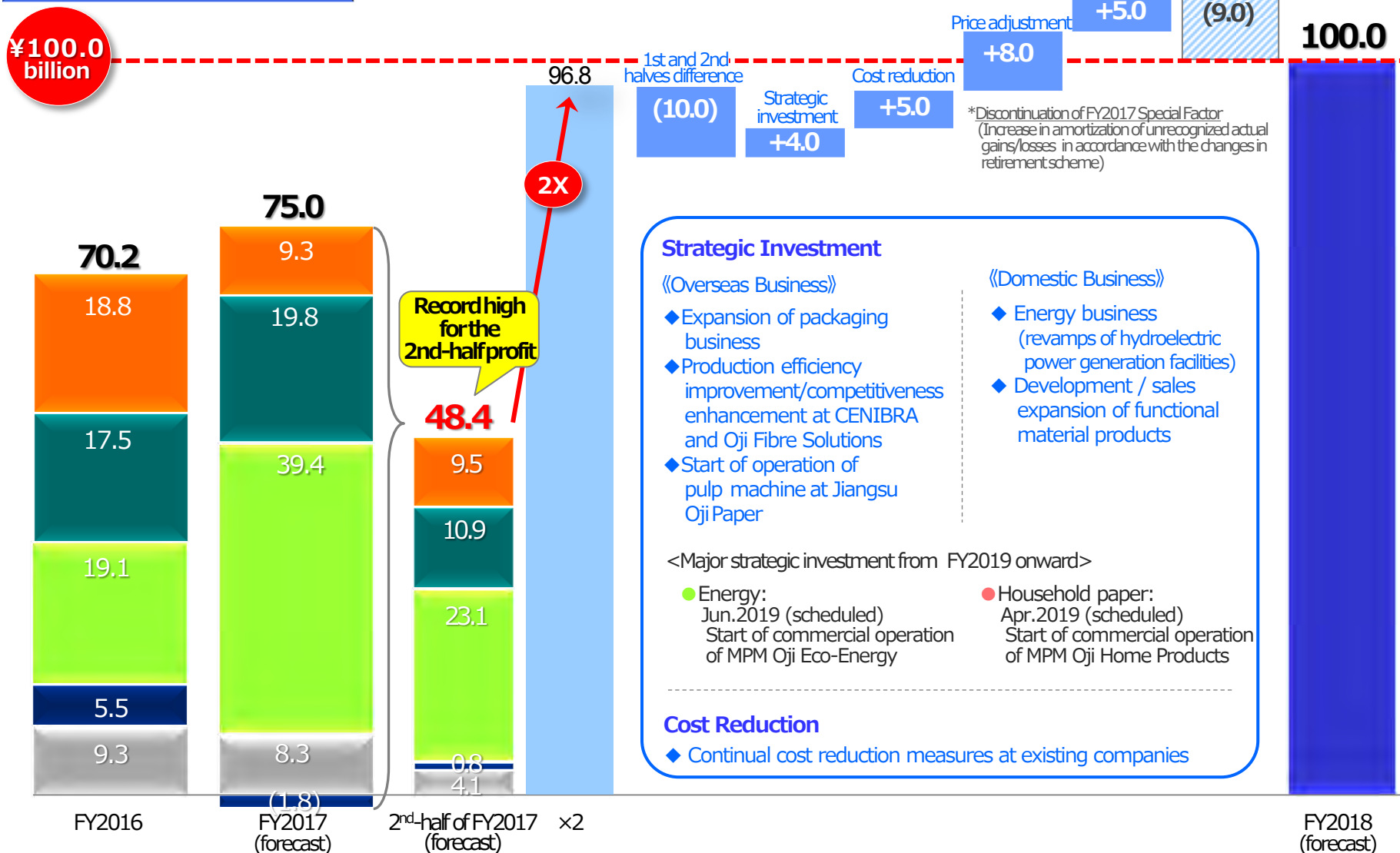
# 1. Business Plans

## (2) Progress of FY2018 Mid-term Management Plan



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### FY2018 Operating Profit Forecast



# **IV. Topics**



# 1. Business Strategies

## (1) Southeast Asia / Oceania: Corrugated Container Business

### New Corrugated Container Plants

Take in the increasing demand in the entire regions of SE Asia and Oceania

**Oct. 2017** Oji Fibre Solutions (Queensland/Australia)

**Apr. 2018** Harta Packaging Industries (Perak/Malaysia)

**Mar. 2019** United Packaging (Ho Chi Minh City/Vietnam) \*

\*Major business excluding corrugated container:  
food packaging container such as paper cup, etc.

### Future Plans

#### Malaysia

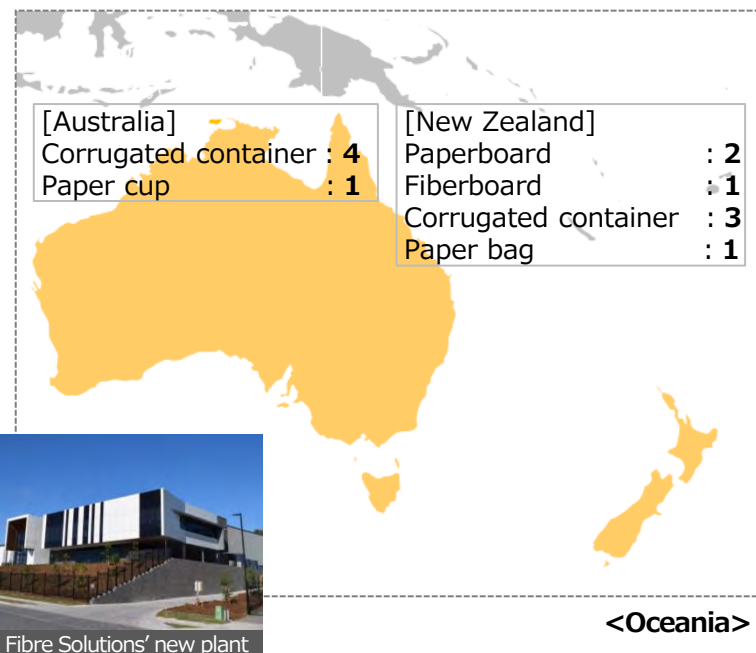
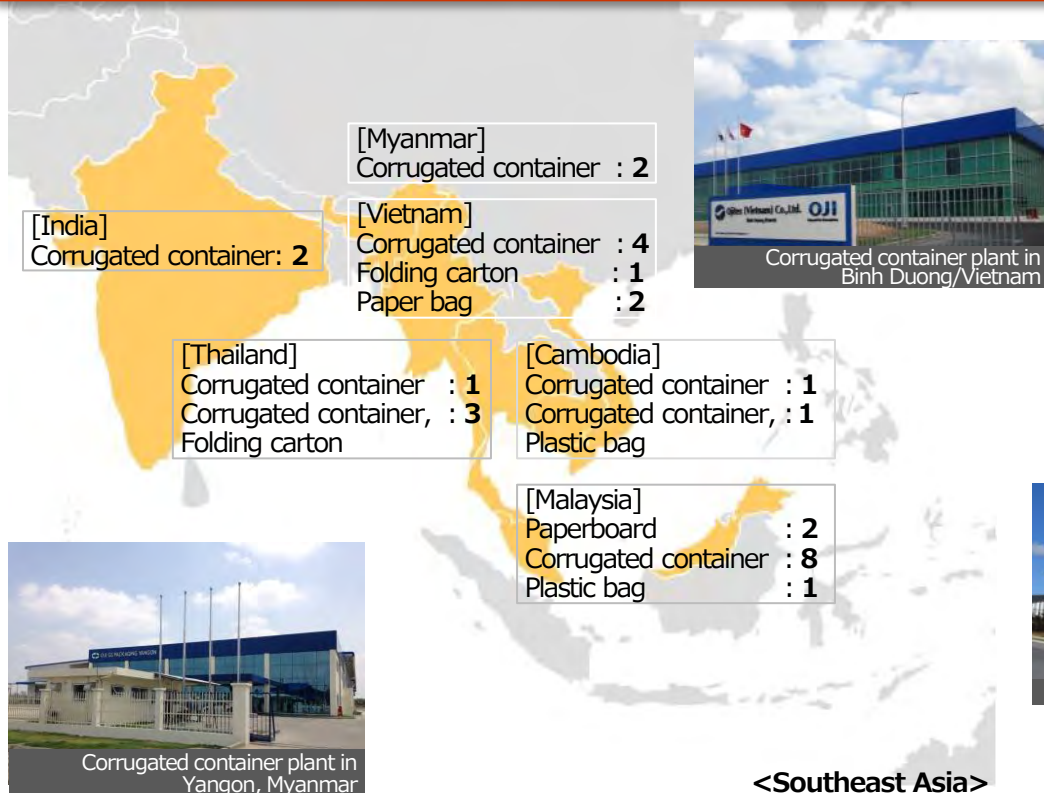
- Installation of a containerboard machine
- Expansion and capacity enhancement of corrugated container plants

#### Vietnam, India etc.

- Establishment of corrugated container plants

#### Others

- Acquisition of corrugated container company
- Entries into new countries



# 1. Business Strategies

## (2) Overseas Disposable Diaper Business

### Continue Business Enhancement in SE Asia and Expansion of Export from Japan

#### Strategic Business Enhancement in Southeast Asia

##### «Malaysia»

Manufacturing/sales of disposable diapers at 2 companies

April 2017 Start of sales of **Baby [tape-type] diapers**, in addition to the existing **Baby [Pants-type] diapers**

➡ Expand sales within Malaysia  
 -Establish customer loyalty by penetrating newborn babies market  
 -Enhance product competitiveness etc.

➡ Expand export to neighboring countries  
 -Proceed entries into new countries, in addition to the existing exports to Vietnam, Cambodia, Myanmar and UAE



Manufacturing of pants-type disposable diaper (Malaysia)



Local supermarket (Indonesia)

##### «Indonesia»

Oji Indo JV Companies

November 2016  
Start of sales in Indonesia

November 2017  
Start of sales at mini markets\*

\*Small supermarkets developing throughout Indonesia

Leveraging on Indofood's distribution channels, expand sales through Indomaret (the leading mini market with 13,000 stores in Indonesia) as the most important sales channel



Mini market (Indonesia)

#### Export to/Production & Sales in China

Export from Japan to China

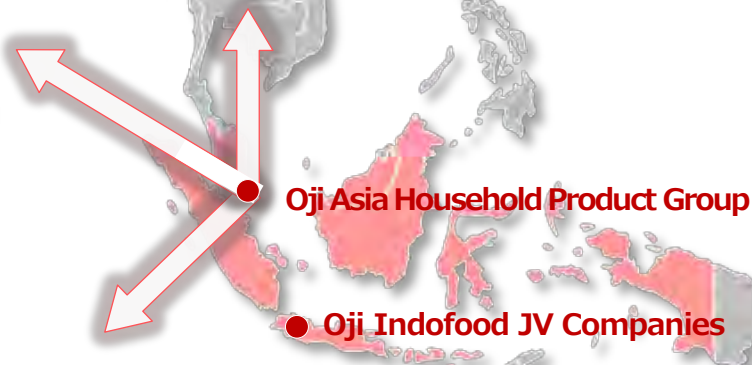
Seeing a strong preference for "made-in-Japan" products in China, increase sales and market shares with a main focus in Shanghai / East China regions

Production & Sales in China

Consider capital investment at Nantong Mill after increasing the market shares through expansion of export



Baby product store in Juangsu





# 1. Business Strategies

## (3) Southeast Asia: Thermal Paper Business

### Manufacturing Integration in Southeast Asia Region

#### Thailand

Converting paper manufacturing at 2 companies

- **Thermal paper**
- Carbonless paper
- Adhesive / release paper etc.



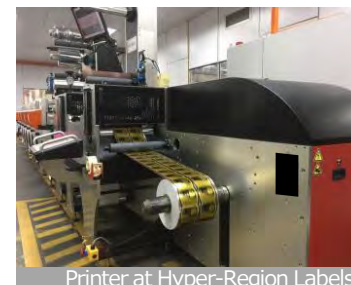
Coater at Oji Paper (Thailand)

#### Malaysia

Printing/converting at 2 companies

- Thermal paper **printing**, cutting and other **converting**
- **Label** manufacturing etc.

e.g. Register rolls, flight tickets, etc.



Printer at Hyper-Region Labels

Flexible Packaging Product : 1

**Oji Myanmar Packaging**

Converting paper : 2

**Oji Paper (Thailand)**

**Oji Label (Thailand)**

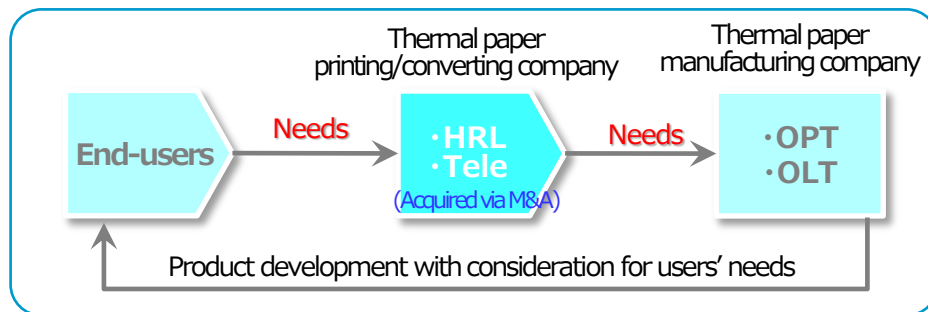
Printing/converting : 2

**Hyper-Region Labels** (acquired in May 2016)

**Tele-Paper Malaysia** (acquired in August 2017)

### Strengthening Product Development through Acquiring Downstream Business

Promote competitiveness enhancement/sales expansion by developing thermal paper/adhesive products that reflect end-users' needs



### Future Plans

Collaborate with corrugated container and flexible packaging businesses to develop **Total Solution Packaging** in Southeast Asia

## 2. Research and Development

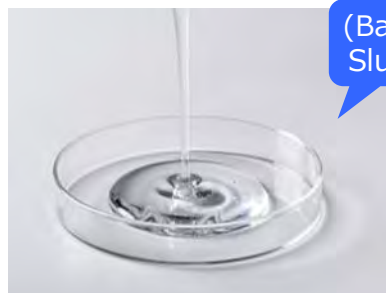
### (1) Cellulose Nano-fiber (CNF)



#### « NEW MATERIAL: Cellulose Nano-fiber\* »

Wide Variety of CNF Produced by Oji's Unique Technology,  
"Phosphate Esterification"

\*CNF is a plant fiber (pulp) that is finely fibrillated to nano-order level. Being transparent, light and strong, moldable and with its excellent thickening effect, its application in various fields is highly anticipated.



(Basic)  
Slurry

"AUROVISCO": viscosity, etc.



Oji's unique  
Continuous Transparent Sheet

"AUROVEIL"

"AUROVEILWP"

\*WP: Waterproof

Waterproof, in addition to  
its gas barrier property



Excellent  
moldability

"AUROVEIL 3D"



Easy-handling

CNF Wet Powder



Can be dissolved in  
organic solvents

CNF Hydrophobic Powder

#### Development Progress

	Dec. 2016	May 2017	Jun. 2017	Oct. 2017	2nd-half of FY2017
Slurry	<b>AUROVISCO</b> Start of operation of : Demonstration Facility ( Production capability :40t/yr )	<b>AUROVISCO</b> Product launch			
Powder			Powder that can be Dissolved in organic solvents Product launch		
Sheet		<b>AUROVEIL 3D</b> Sample distribution		<b>AUROVEIL WP</b> Sample Distribution	<b>Variety of AUROVEIL</b> Start of operation of : Demonstration Facility (scheduled) ( Production capability :250,000m <sup>2</sup> /yr )

#### Expected Applications

- Thickener/disperser
- Reinforcing plastic (i.e. air planes)
- Organic EL/solar electric power generation panels
- Flexible display panels

# << **NEW TECHNOLOGY** : Cultivation of Medicinal Plant "Licorice(\*)" >>

\*Medicinal plant used in 70% of Chinese medicine as well as wide range of applications such as cosmetics, food, toiletries, etc. It is regulated in China, the supply source to Japan, due to the concern for resource exhaustion.

Nov.2016

Establishment of **Short-term Cultivation Technology of Licorice in Japan**

→ cultivation period has been shortened to approx. 1/3

Apr.2017

(press release)

**Practical use expected as the raw material for cosmetic products of ALBION Co., Ltd.**

2017

Start of **Mass Cultivation**

→ Harvesting scheduled in 2019



Seedling just before root-taking



Mass cultivation place of licorice

# << Exploration of **EXISTING TECHNOLOGY** : Water Treatment Business >>

We offer water treatment system for any kinds of water environment, including sewage, factory sewage, industrial wastewater, animal husbandry wastewater, industrial water, etc.; based on the technologies of water production and water treatment that are accumulated over many years of pulp & paper production

<b>水処理用高分子凝集剤</b> <b>OJI-FLOCK™</b> 産業排水の凝集沈降や浮上処理、また灌漑用等の排水処理に優れた効果を発揮します。	
<b>ボイラー・冷却水処理剤</b> <b>OJI-GUARD™</b> スケールの付着防止や設備の腐食防止に優れた効果を発揮します。	
<b>イオン交換樹脂</b> <b>OJI-ION™</b> 純水製造や工業用水の純化、食品工業の脱色・脱臭などに効果を発揮します。	
<b>活性炭</b> <b>OJI-CARBON™</b> おもむきと用途の別々・水の脱色、脱臭に適合します。	
<b>水処理用生物剤</b> <b>OJI-BIO™</b> 微生物に働きかけ、水中の有機汚濁物質を分解します。	

Product ex. of water treatment services

**Activities So Far**  
 <case examples>

- Water Conversion System at Sinsakhon Industrial Estate/Thailand
- Technological assistance at Mingaladon Industrial Park/Myanmar
- Water treatment system for commercial facility (hotel)/Myanmar
- Water treatment equipment for marine product business/Japan
- Water treatment equipment for paper mills/Japan

**Future Activities**

- Expand Service Business via sales of water treatment products, etc.
- Develop **Maintenance Service** by utilizing IoT technologies (i.e. efficient service using remote monitoring, etc.)



Industrial water production facility

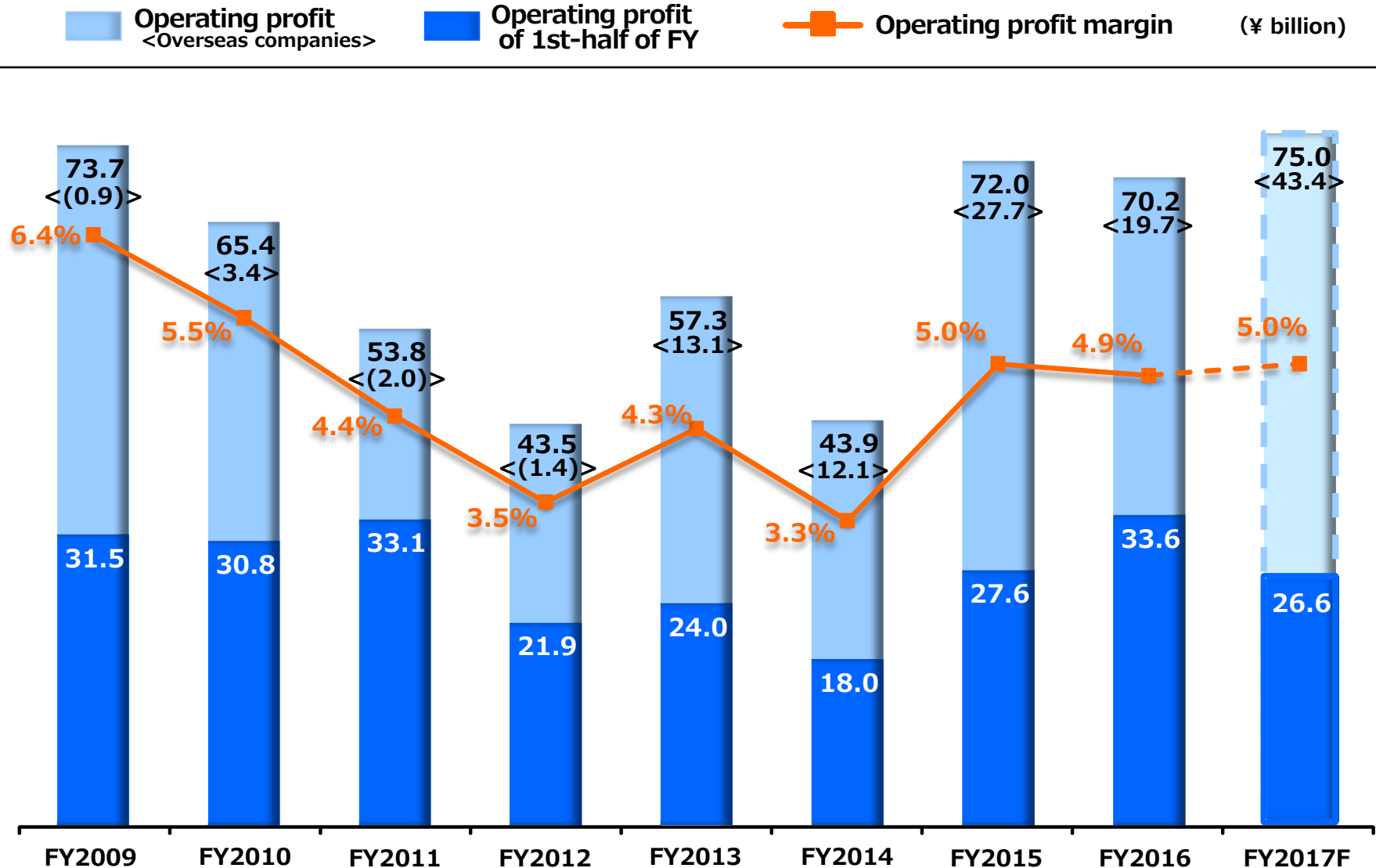


# 《Reference Materials》

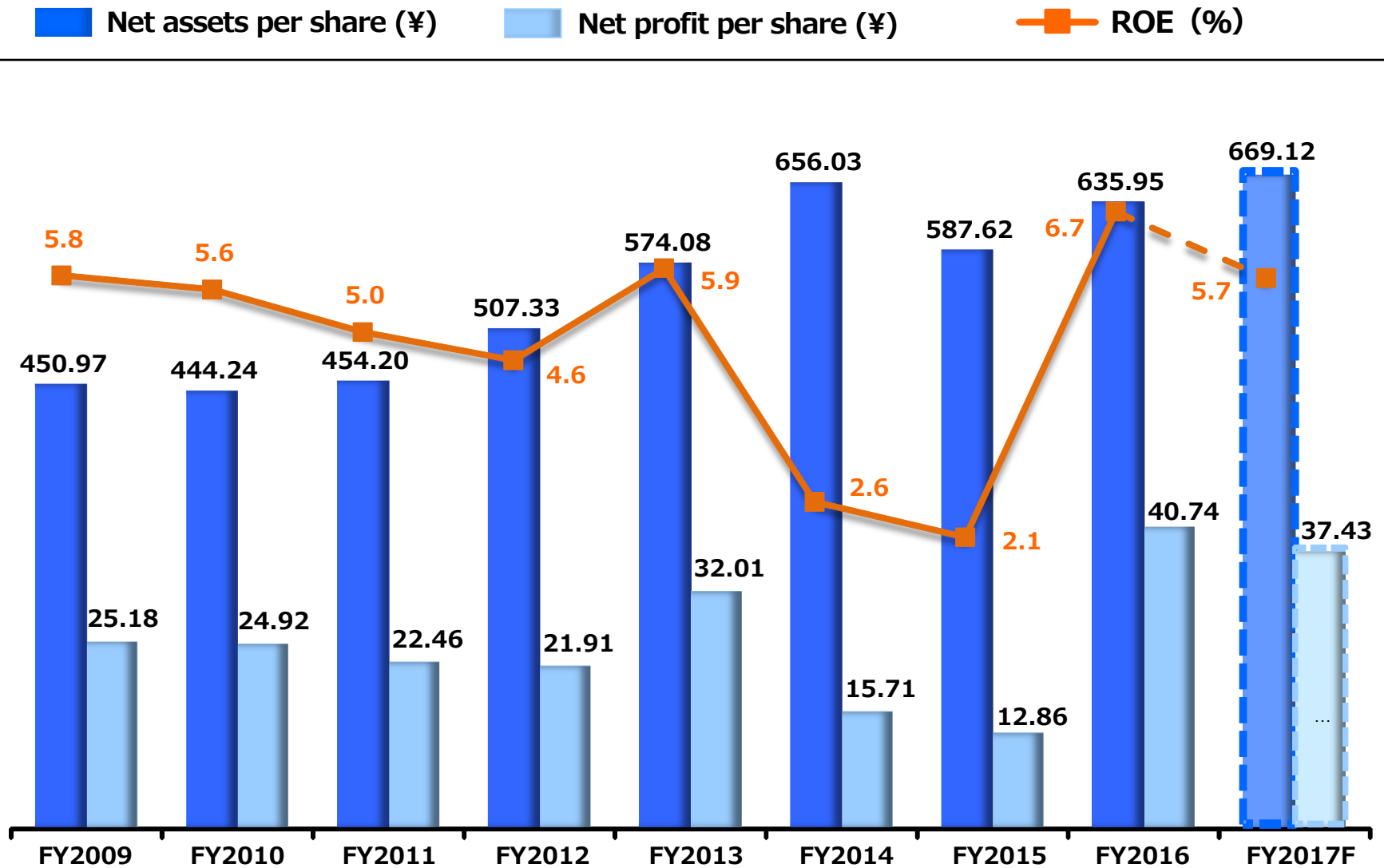
## Trends of Operating Profit (consolidated)



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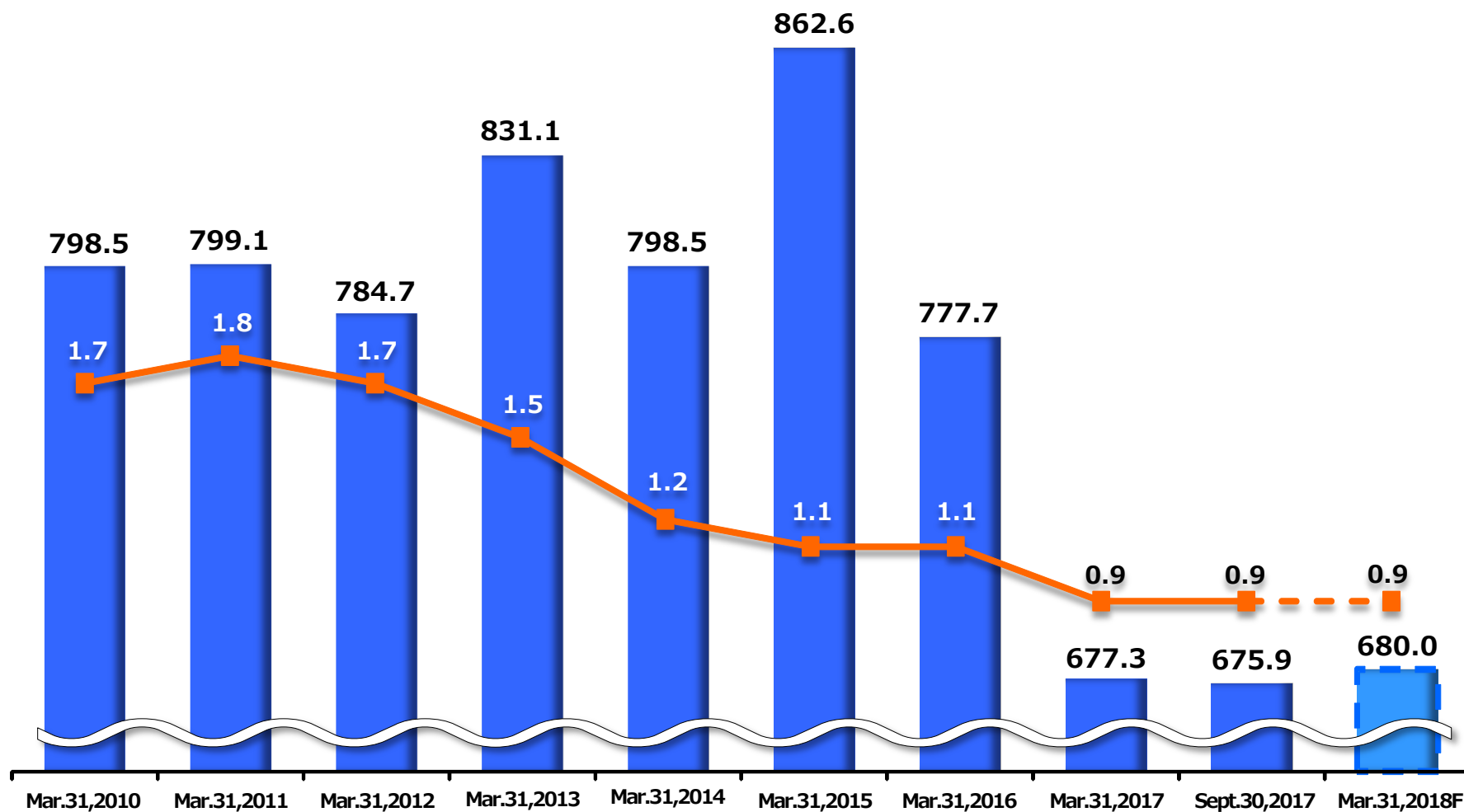
# Trends of Return on Equity (ROE)



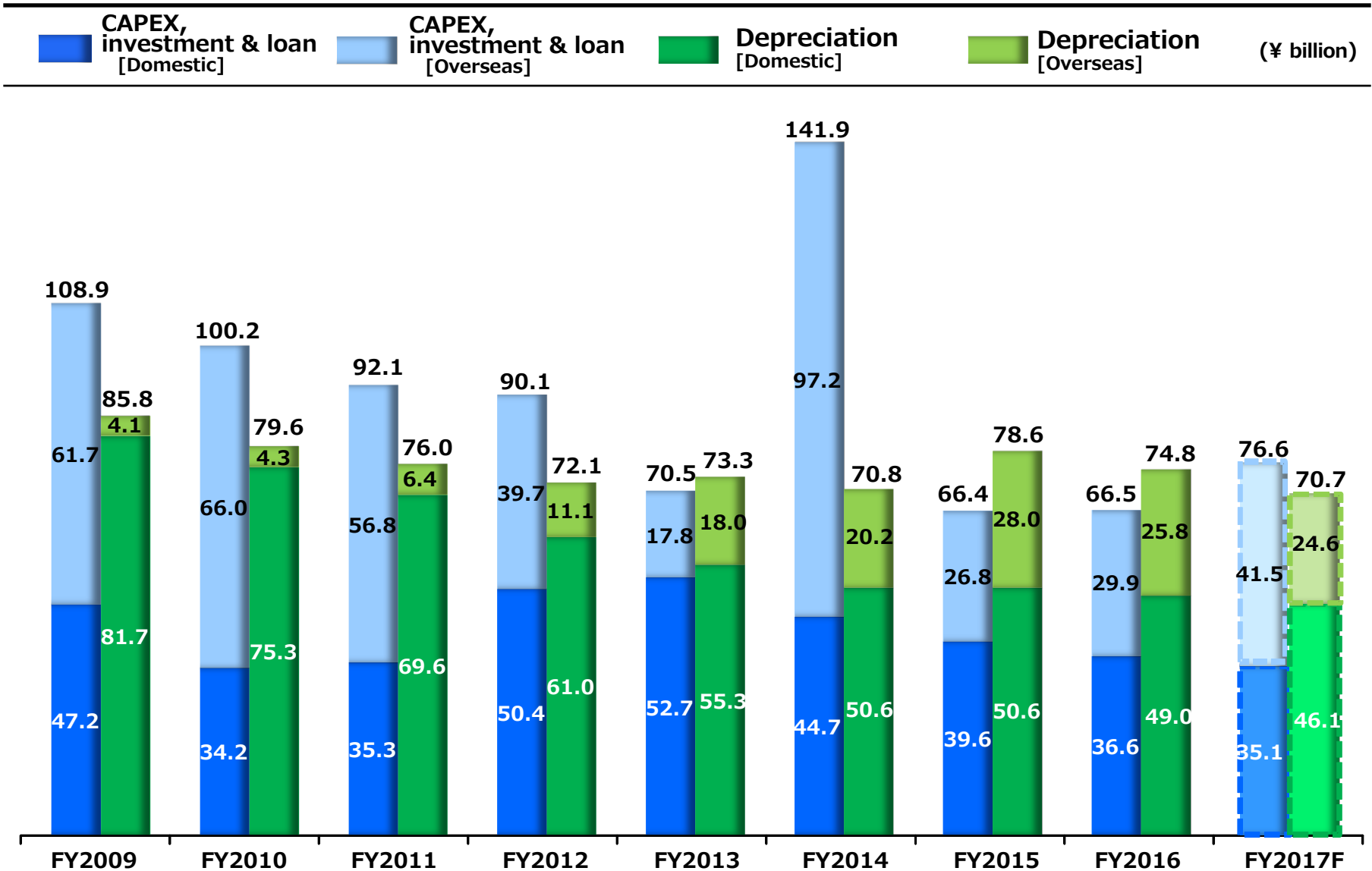
# Trends of Interest-bearing Debt (consolidated)

Consolidated interest-bearing debts (¥billion)

D/E (x)



# Trends of CAPEX / Depreciation (consolidated)



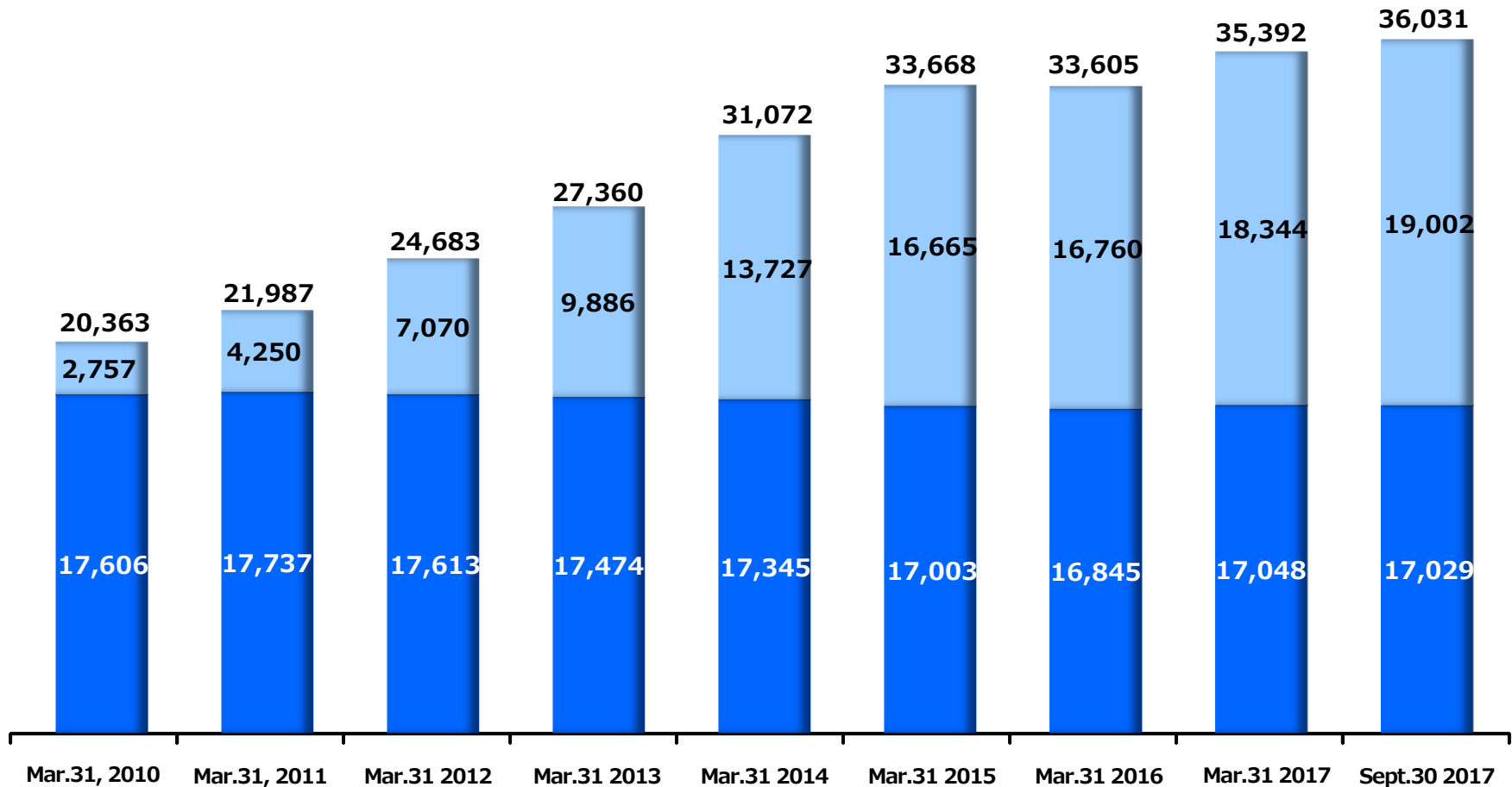
# Trends of Employees (consolidated)



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

\*The figures do not include number of temporary employees





# Industry Demand for 1st-half of FY2017

	Domestic Shipments		Custom Cleared Imports*1		Total	(1,000t)
	Year-on-Year		Year-on-Year		Year-on-Year	
Containerboard	4,611	102.5%	23	106.2%	4,634	102.5%
Boxboard	769	100.9%	126	99.8%	895	100.8%
Other Paperboard	321	102.8%	14	120.9%	335	103.5%
<b>Paperboard Total</b>	<b>5,701</b>	<b>102.3%</b>	<b>163</b>	<b>102.2%</b>	<b>5,865</b>	<b>102.3%</b>
Sanitary Paper	887	99.8%	100	106.1%*2	987	100.4%
Packaging Paper	350	99.9%	4	142.0%	355	100.3%
Newsprint	1,355	94.4%	5	74.4%	1,360	94.3%
Printing/Communications Paper	3,655	98.8%	509	102.2%	4,164	99.2%
Miscellaneous Paper	377	108.1%	9	89.9%	385	107.6%
<b>Paper Total</b>	<b>6,623</b>	<b>98.5%</b>	<b>627</b>	<b>102.5%</b>	<b>7,250</b>	<b>98.9%</b>
<b>Paperboard and Paper Total</b>	<b>12,325</b>	<b>100.3%</b>	<b>790</b>	<b>102.4%</b>	<b>13,115</b>	<b>100.4%</b>
(million m <sup>3</sup> )						
<b>Corrugated Containers *3</b>	<b>7,128</b>	<b>101.4%</b>			<b>7,128</b>	<b>101.4%</b>

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 2017 - September 2017(preliminary)

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

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



## Beyond the Boundaries

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