



"Performance" Through Chemistry

**A Statement of Accounts**  
**For the Fiscal Year Ended March 31, 2019**  
**Fiscal Year 2018**  
**(FY2018)**

**SANYO CHEMICAL INDUSTRIES, LTD.**

<https://www.sanyo-chemical.co.jp/>  
Code: 4471



<Notice>

Yen amounts described in this presentation material are rounded down.  
Ratios described in this presentation material are rounded off.

<Cautionary Statement with Respect to Forward-Looking Statement>

This presentation material contains projections based on the assumptions, forward-looking statements and plans about the future of SANYO CHEMICAL INDUSTRIES, LTD. as of May 15, 2019. Actual performance results may vary significantly due to a variety of factors affecting the sphere of business that include but are not limited to: the world economy, competitive position, and fluctuations in the exchange rate, raw material costs, and others.

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## Corporate Data

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Date of Establishment: November 1, 1949

Head Office: Higashiyama-ku, Kyoto

Capital: ¥13,051 million

Domestic Sales & Marketing Offices:

Tokyo, Osaka, Nagoya, Hiroshima, Fukuoka

Domestic Factories:

Nagoya, Kinuura, Kashima, Kyoto, Kawasaki (San Chemical)

Consolidated Number of Employees:

2,078 (as of March. 31, 2019)

Line of Business:

Manufacture & sales of approx. 3,000 types of performance chemicals



## Sanyo Chemical Group

● Consolidated Subsidiaries (13 companies)

○ Subsidiaries and Affiliates

Accounted for by Equity Method (5 companies)

Domestic subsidiaries  
(5 companies)

- SDP Global Co., Ltd.
- SAN NOPCO LIMITED
- San Chemical Co., Ltd.

- San-Apro Ltd.
- San-Petrochemicals Co., Ltd.

Overseas subsidiaries  
(9 companies)



- Sanyo Kasei (Nantong) Co., Ltd.
- San-Dia Polymers (Nantong) Co., Ltd.
- Sanyo Chemical (Shanghai) Trading Co., Ltd.



- Sanyo Kasei (Thailand) Ltd.



- SANAM Corp.
- Sanyo Chemical & Resins, LLC
- Sanyo Chemical Texas Industries, LLC
- Sunrise Chemical LLC



- SDP GLOBAL (MALAYSIA) SDN.BHD.

Logistics/Service subsidiaries  
(4 companies)

- Sanyo Transport Co., Ltd.
- Nagoya Sanyo Warehouse Co., Ltd.

- Shiohama Chemicals Warehouse Co., Ltd.
- Sanliving Ltd.

### Other Subsidiaries and Affiliates:

Sanyo Kasei Korea, Ltd.  
SANYO KASEI (TAIWAN) LTD.  
SAN NOPCO (KOREA) LIMITED

Sanyo Chemical Manufacturing Korea, Ltd.  
SAN NOPCO (SHANGHAI) TRADING Co., Ltd.  
DAXIANG INTERNATIONAL TRADING (SHANGHAI) Co., Ltd.

APB Corporation

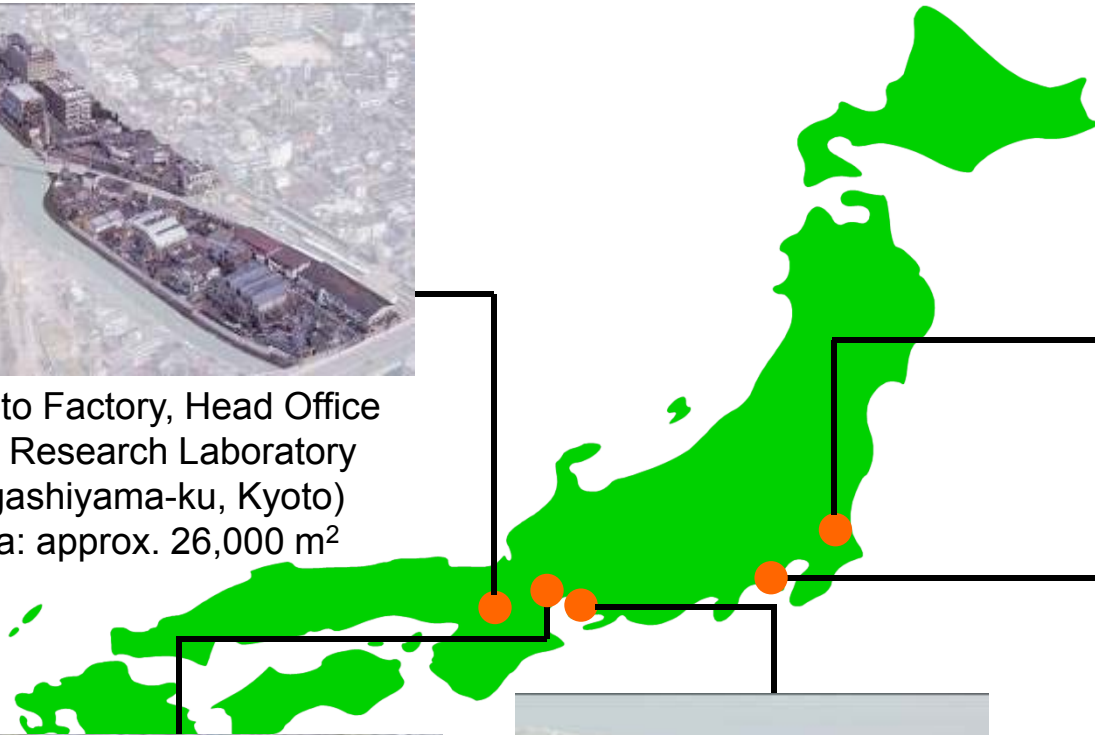
# Domestic Production Bases



Kyoto Factory, Head Office and Research Laboratory (Higashiyama-ku, Kyoto)  
Area: approx. 26,000 m<sup>2</sup>



Kashima Factory (Kamisu, Ibaraki)  
Area: approx. 130,000 m<sup>2</sup>



Nagoya Factory (Tokai, Aichi)  
Area: approx. 100,000 m<sup>2</sup>




Kinuura Factory (Handa, Aichi)  
Area: approx. 140,000 m<sup>2</sup>



San Chemical Co., Ltd. Kawasaki Factory (Kawasaki, Kanagawa)  
Area: approx. 11,000 m<sup>2</sup>

# Overseas Production Bases



 Sanyo Kasei (Nantong) Co., Ltd.



 Sanyo Chemical & Resins, LLC



 San-Dia Polymers (Nantong) Co., Ltd.



Sanyo Chemical Manufacturing Korea, Ltd.



 Sanyo Kasei (Thailand) Ltd.



SDP GLOBAL(MALAYSIA)SDN.BHD.



Sanyo Chemical Texas Industries, LLC



# Overseas Sales Office



-  Sanyo Chemical (Shanghai) Trading Co., Ltd.
-  SAN NOPCO (SHANGHAI) TRADING Co., Ltd.
-  DaXiang International Trading (SHANGHAI) Co., Ltd.

-  Sanyo Kasei Korea, Ltd.
-  SAN NOPCO (KOREA) LTD.



 Sanyo Kasei (Thailand) Ltd.



 SANYO KASEI (TAIWAN) LTD.



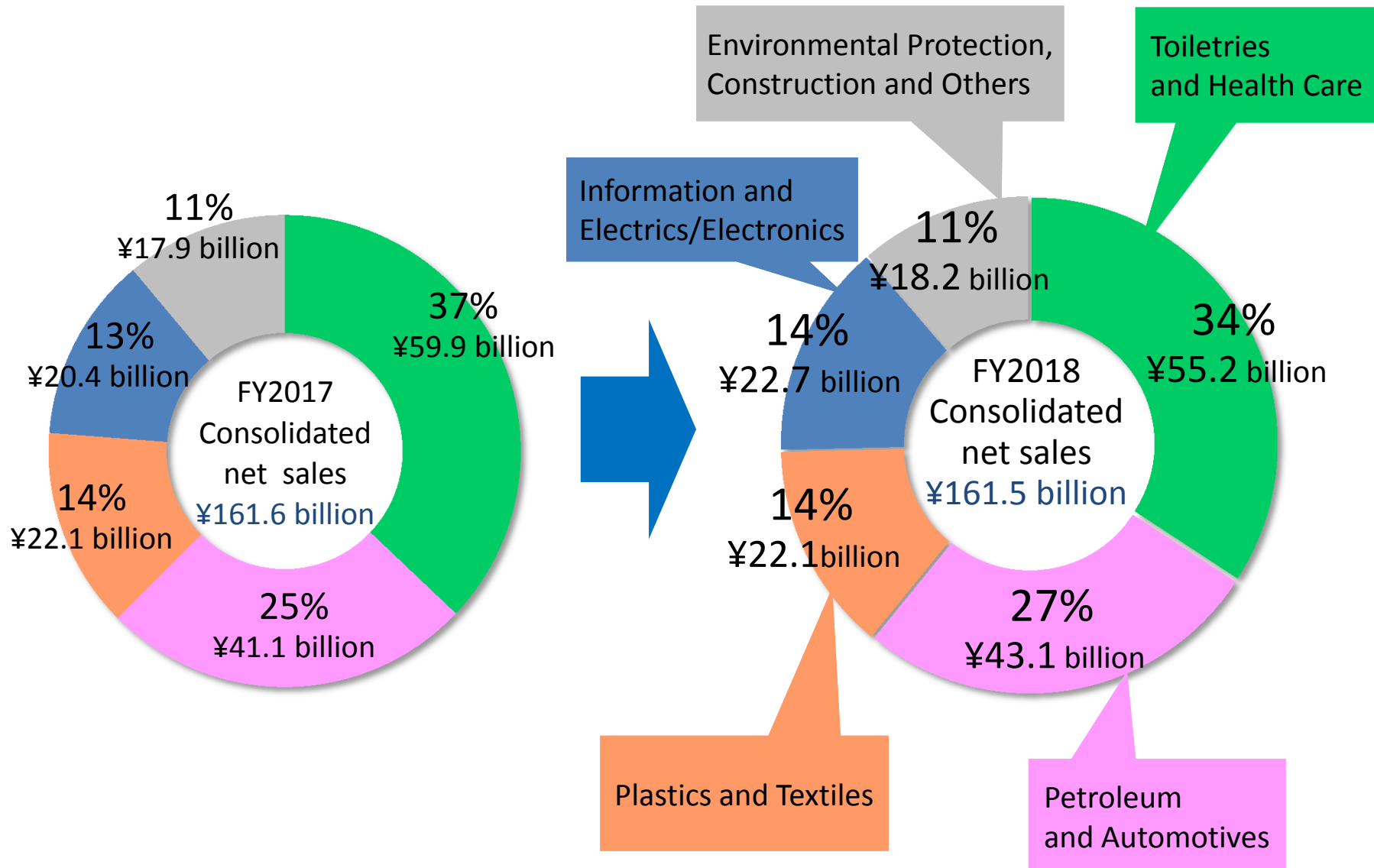
 SANAM Corp.

## Principal Products by Product Group (Segment)

Segment		Principal Products
Toiletries and Health Care	Toiletries	Surfactants for Detergents, Surfactants for Hair Care Products, Agents for Papermaking
	Health Care	Superabsorbent Polymers (SAP), Base Materials for Pharmaceuticals, Germicides/Disinfectants, Surgical Hemostatic Agent, Enzyme immunoassay (EIA) Diagnostic Reagents, Potting Resins for Artificial Kidneys
Petroleum and Automotives		Thermoplastic Polyurethane Beads for the Interior Parts of Automobiles (TUB), Raw Materials for Polyurethane Foams (PPG), Lubricating Oil Additives, Additives for Fuel Oil, Water-Soluble Cutting Fluids, Halogen-Free Cleaning Agents, Base Materials for Synthetic Lubricants, Paste Resins for Design Models, Resins for Automobile Paints
Plastics and Textiles	Plastics	Permanent Antistatic Agents, Pigment Dispersants, Resin Modifiers, Paint Resins, Defoaming Agent, Base Materials for Polyurethane Elastomers, Chemical Boards for Models
	Textiles	Agents for Textile Manufacturing, Chemicals for Carbon Fibers, Agents for Fiberglass, Polyurethane Resins for Synthetic Leather
Information and Electrics /Electronics	Information	Polyester Beads (PEB) Used as a Core Component of Polymerization Toners, Toner Resins
	Electrics /Electronics	Electrolytes for Aluminum Electrolytic Capacitors, Electrolytes for Electric Double-Layer Capacitors, Adhesive for Electronic Parts, Agents for Use in Electronic Parts Manufacturing, UV/EB Curing Resins
Environmental Protection, Construction and Others		Polymer Flocculants for Wastewater Treatment, Cationic Monomer, PPG for Furniture and Heat Insulating Materials, Slurry Agents, Reactive Hot-Melt Adhesives, Raw materials for Building Sealants, Cement Agents



# Net Sales by Segment



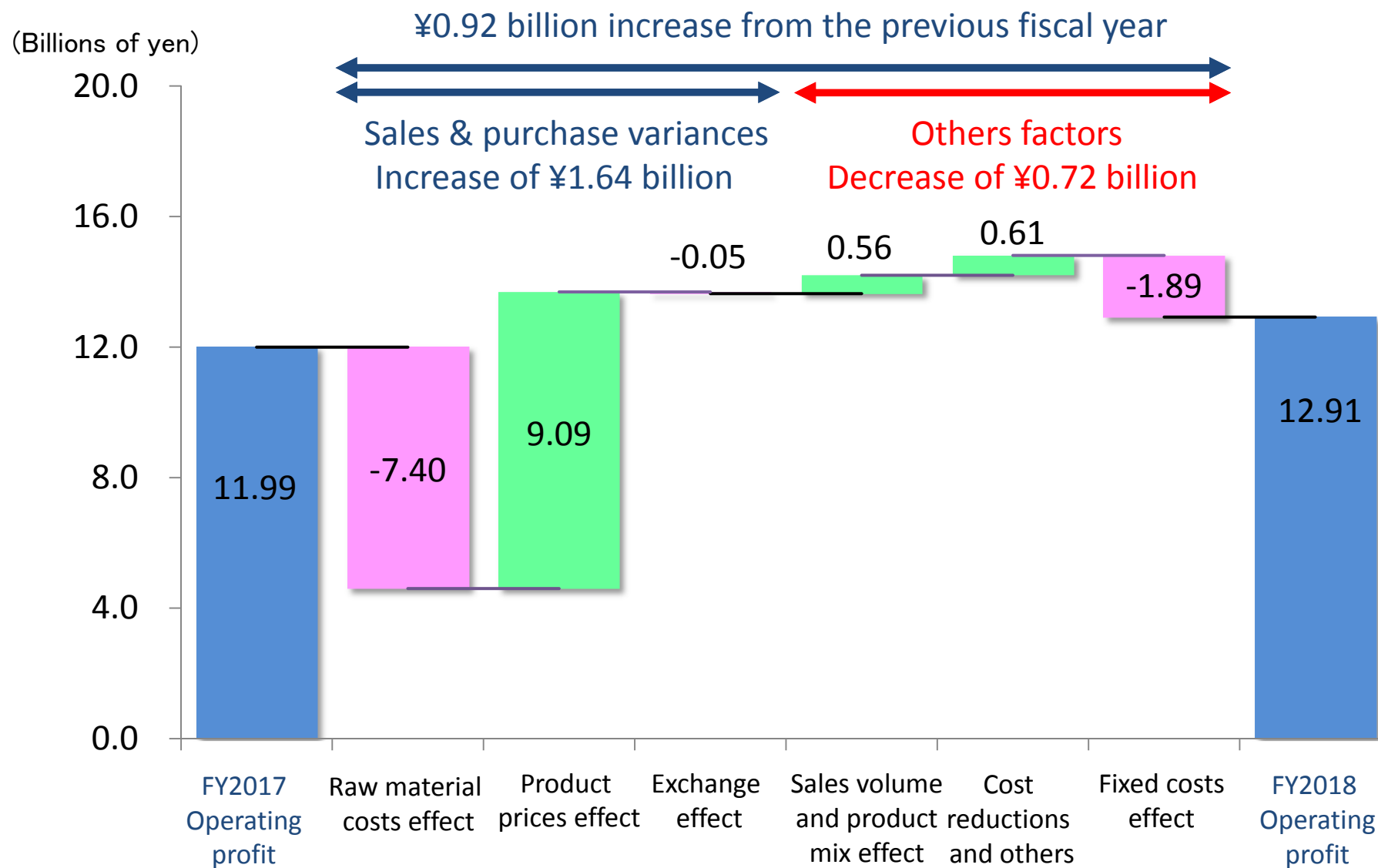
# Results of Operations for FY2018



(Billions of yen)

Consolidated	FY2017	FY2018	Year on Year Change	
			Amount	Ratio (%)
Net sales	161.69	161.59	(0.09)	(0)
Operating profit	11.99	12.91	0.92	8
Ordinary profit	13.86	15.20	1.33	10
Profit attributable to owners of parent	9.27	5.34	(3.92)	(42)
Comprehensive income	11.35	(0.76)	(12.11)	—

# Change in Consolidated Operating Profit by Factor



# Change in Consolidated Net Income



(Billions of yen)

	FY2017	FY2018	Year on Year Change
Operating profit	11.99	12.91	0.92
Share of profit of entities accounted for using equity method	0.83	1.30	0.47
Gain or loss on foreign exchange	0.22	0.24	0.02
Other non-operating income and loss	0.81	0.72	(0.08)
Ordinary profit	13.86	15.20	1.33
Gain and loss on sales of non-current assets, Loss on retirement of non-current assets	(1.04)	(0.82)	0.21
Gain and loss on sales of investment securities	—	2.41	2.41
Impairment loss	—	(8.79)	(8.79)
Other extraordinary income or loss	(0.67)	0.45	0.22
Profit before income taxes	12.14	7.54	(4.60)
Income taxes paid, etc.	(2.77)	(4.75)	(1.97)
Profit attributable to non-controlling interests	(0.09)	2.56	2.65
Profit attributable to owners of parent	9.27	5.34	(3.92)

# Consolidated Balance Sheet



(Billions of yen)

	Mar. 31 2018	Mar. 31 2019	Year on Year Change	Main Change Factor
Current assets	88.9	95.0	6.1	Cash and deposits: 1.7, Notes and accounts receivable-trade, Electronically recorded monetary claims-operating: 0.5, Inventories: 4.2
Non-current assets	110.2	98.5	(11.6)	Property, plant and equipment: (7.5), Investment securities: (4.7)
<b>Total assets</b>	<b>199.1</b>	<b>193.6</b>	<b>(5.5)</b>	
Current liabilities	50.1	52.5	2.3	Accounts payable-trade, Electronically recorded obligations-operating: (2.6), Short-term loans: 3.5
Non-current liabilities	12.7	8.4	(4.2)	Long-term debt: (1.9), Deferred tax liabilities: (1.5)
<b>Total liabilities</b>	<b>62.9</b>	<b>61.0</b>	<b>(1.9)</b>	
Shareholder's equity	115.0	117.8	2.7	Profit attributable to owners of parent: 5.3, Cash dividends paid: (2.5)
Accumulated other comprehensive income	15.0	11.5	(3.5)	Valuation difference on available-for-sale securities : (3.3)
Non-controlling interests	6.1	3.2	(2.9)	
<b>Total net assets</b>	<b>136.2</b>	<b>132.6</b>	<b>(3.6)</b>	
<b>Total liabilities and net assets</b>	<b>199.1</b>	<b>193.6</b>	<b>(5.5)</b>	

Our Group applied Partial Amendments to Accounting Standard for Tax Effect Accounting from the first quarter for fiscal year 2018. Therefore the previous fiscal year is applied retroactively.

# Consolidated Cash Flows



(Billions of yen)

	FY2017	FY2018	Changed amount	Special instruction on FY2017
Operating activities	15.7	14.6	(1.1)	
Profit before income taxes	12.1	7.5	(4.6)	
Depreciation and amortization	8.3	9.1	0.7	
Impairment loss	—	8.7	8.7	
Equity in earning of unconsolidated subsidiaries and affiliates	(0.8)	(1.3)	(0.4)	
(Increase) decrease in operating capital	(1.5)	(7.3)	(5.8)	
Income taxes	(3.1)	(2.8)	0.2	
Others	0.6	0.6	0.0	
Investing activities	(14.1)	(11.3)	2.8	Purchase of non-current assets FY2017: (13.0), FY2018: (11.5)
Free cash flows	1.5	3.2	1.7	
Financing activities	(7.3)	(1.4)	5.8	Loans, Repayment FY2017: (4.5), FY2018: 1.3
Effect of exchange rate changes on cash and cash equivalents	0.0	(0.0)	(0.0)	
Increase (decrease) in cash and cash equivalents	(5.7)	1.7	7.5	
Cash and cash equivalents at beginning of period	23.1	17.3	(5.7)	
Cash and cash equivalents at end of period	17.3	19.1	1.7	

# Forecast for FY2019



<Precondition for the forecast>

Price of naphtha produced in Japan: 48 thousand of Yen/kl, Exchange rate: 110 Yen/US\$

(Billions of Yen)

Consolidated	Annual			1H: April-September		
	FY2019 forecast	FY2018	Rate of change(%)	FY2019 forecast	FY2018	Rate of change(%)
Net sales	170.0	161.59	5.2	83.00	81.95	1.3
Operating profit	14.5	12.91	12.2	7.10	6.79	4.6
Ordinary profit	16.0	15.20	5.2	7.90	8.57	(7.9)
Profit attributable to owners of parent	10.5	5.34	96.4	5.20	5.94	(12.6)
ROE	7.8	4.1	+3.7pt			

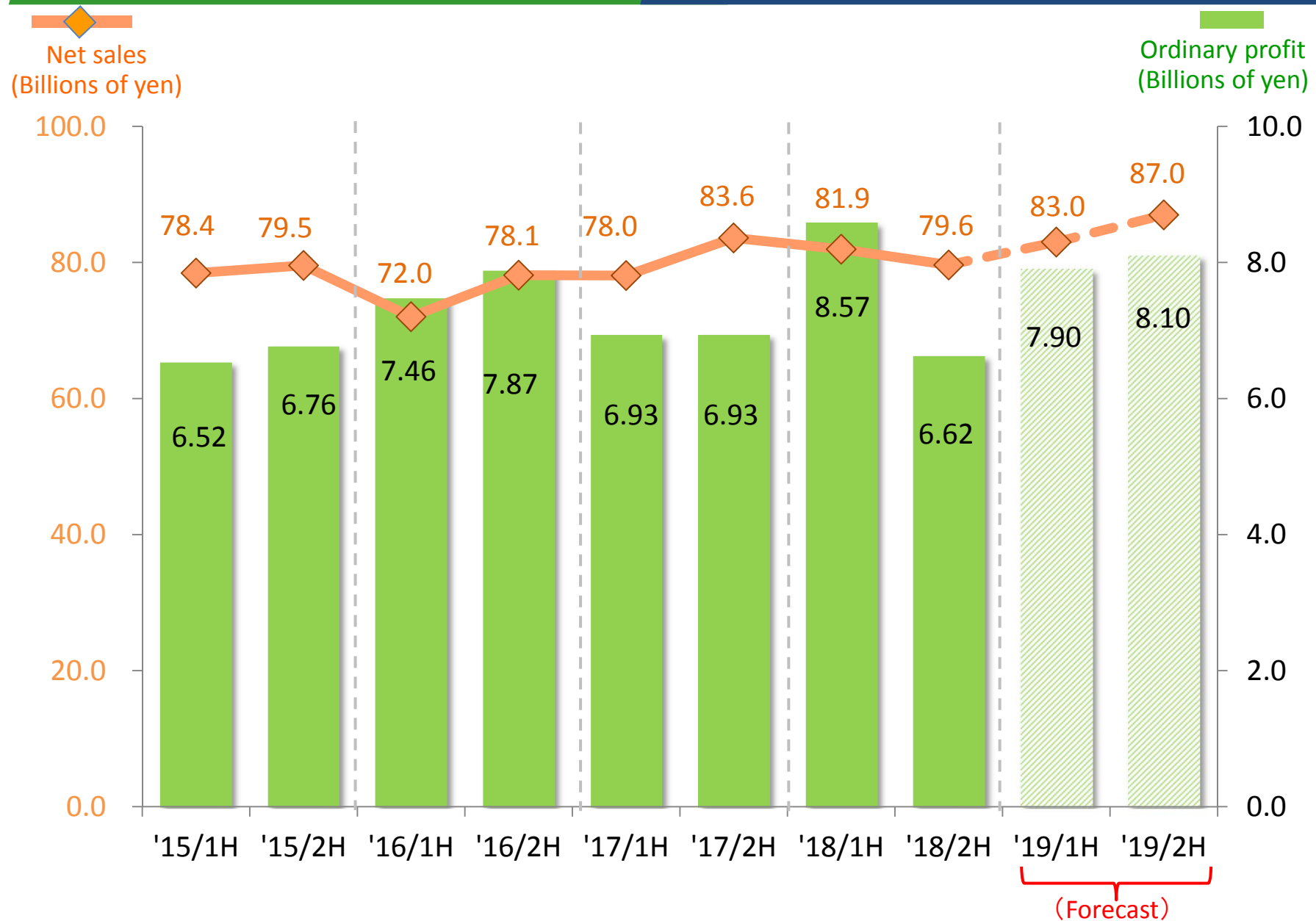
# Financial Highlights



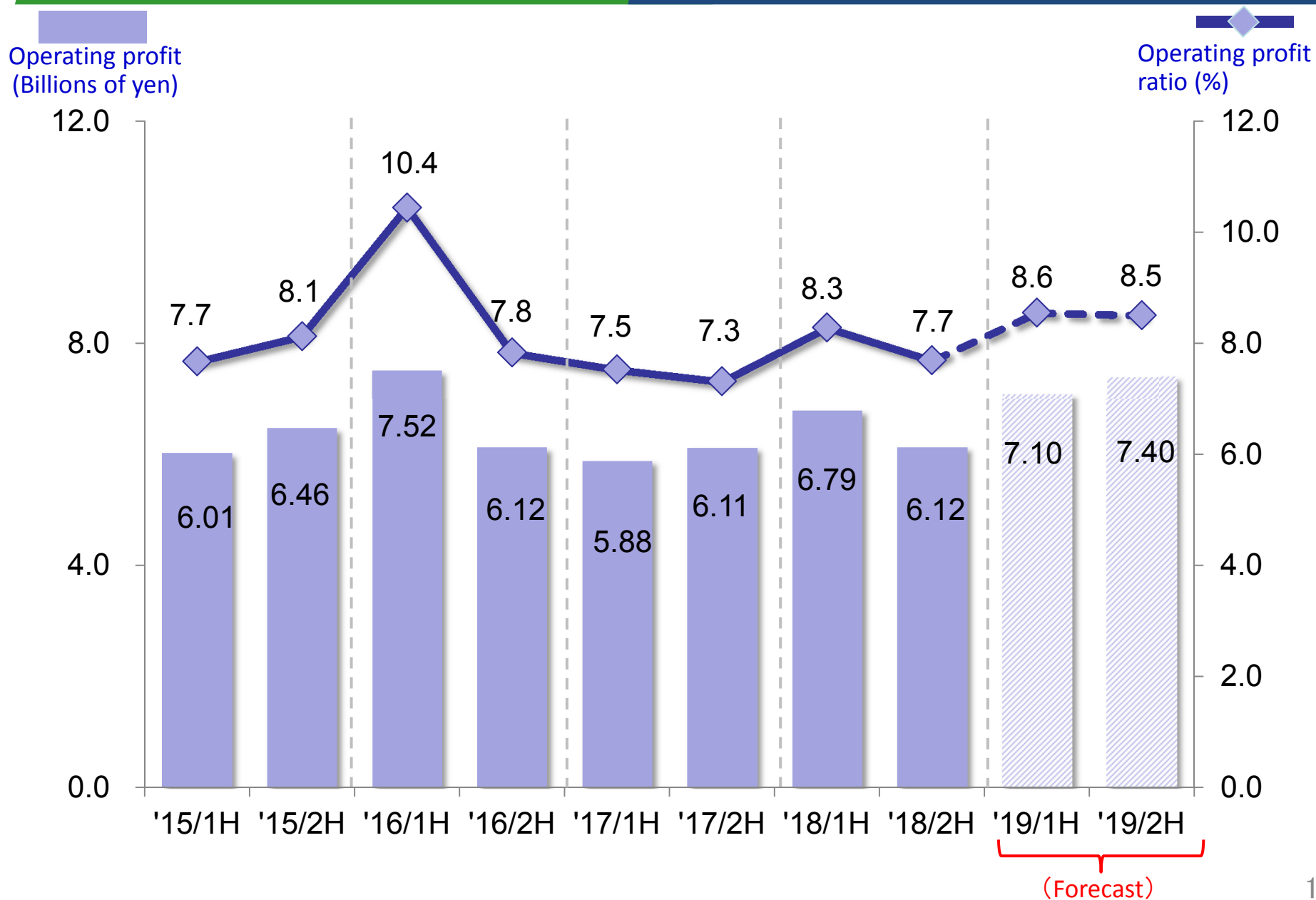
	Unit	FY2017	FY2018	Year on Year Change
Total assets	Billions of yen	199.1	193.6	(5.5)
Total assets ordinary profit ratio	%	7.2	7.7	+0.5pt
Shareholder's equity	Billions of yen	130.0	129.3	(0.7)
Shareholder's equity ratio	%	65.3	66.8	+1.5pt
Return on equity	%	7.4	4.1	(3.3)
Interest-bearing debt	Billions of yen	10.5	11.9	1.3
Debt/equity ratio	Times	0.08	0.09	+0.01pt



# Consolidated Business Result Trend



# Consolidated Operating Profit Trend



# Business Results by Segment

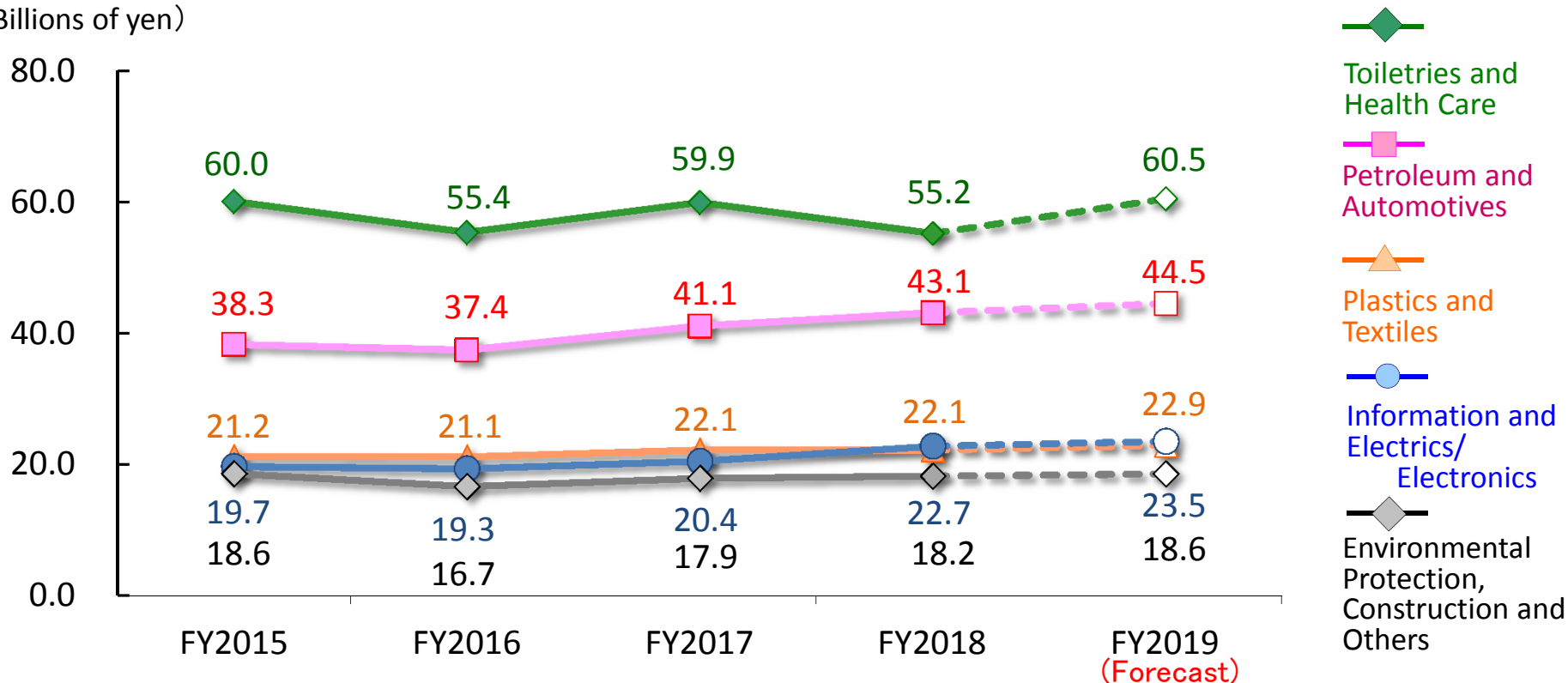


(Billions of yen)

Segment	Net Sales			Operating Profit		
	FY2017	FY2018	Year on Year Change	FY2017	FY2018	Year on Year Change
Toiletries and Health Care	59.95	55.29	(4.65)	1.13	1.17	0.04
Toiletries	13.23	14.54	1.30			
Health Care	46.71	40.75	(5.96)			
Petroleum and Automotives	41.11	43.10	1.99	2.71	3.05	0.33
Plastics and Textiles	22.19	22.16	(0.02)	3.96	3.38	(0.57)
Plastics	15.12	15.38	0.25			
Textiles	7.06	6.78	(0.27)			
Information and Electrics/Electronics	20.48	22.76	2.27	3.20	4.00	0.79
Information	13.44	15.25	1.81			
Electrics/Electronics	7.04	7.50	0.46			
Environmental Protection, Construction and Others	17.94	18.26	0.31	0.97	1.29	0.31
Total	161.69	161.59	(0.09)	11.99	12.91	0.92

# Consolidated Sales Trend by Segment

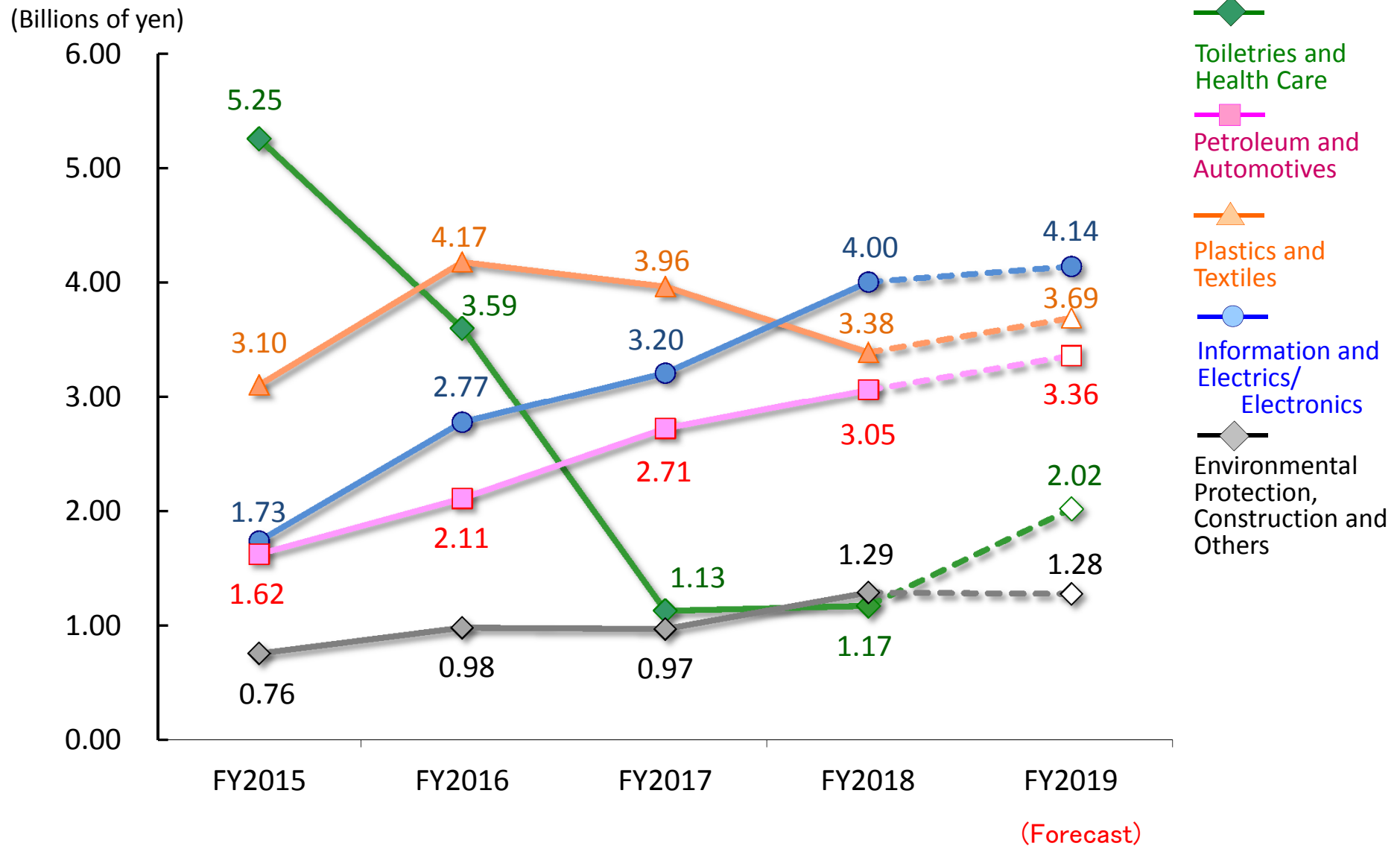
(Billions of yen)



## The Main Factor of Change in FY2018 Business Results by Segment (Compared with the Previous Fiscal Year)

- Toiletries and Health Care** : Sales decreased because sales of superabsorbent polymers decreased substantially, though sales of polyethyleneglycol and liquid laundry detergents increased briskly.
- Petroleum and Automotives** : Sales increased because varieties of vehicle mounted high function products of thermoplastic polyurethane beads were expanded, and sales of lubricating oil additives and raw materials for polyurethane foams were brisk.
- Plastics and Textiles** : Sales were flat. While sales of resin modifiers and spin finish oil used in the manufacturing process of tire cord yarns was weak, sales of permanent antistatic agents and surfactants used for rubber and plastics was steady.
- Information and Electrics / Electronics** : Sales increased due to steady sales of polyester beads and brisk sales of UV/EB curing resins and adhesives for electronic parts.
- Environmental Protection, Construction and Others** : Sales increased because domestic sales of raw materials for polyurethane foams used in furniture and heat insulating materials increased briskly.

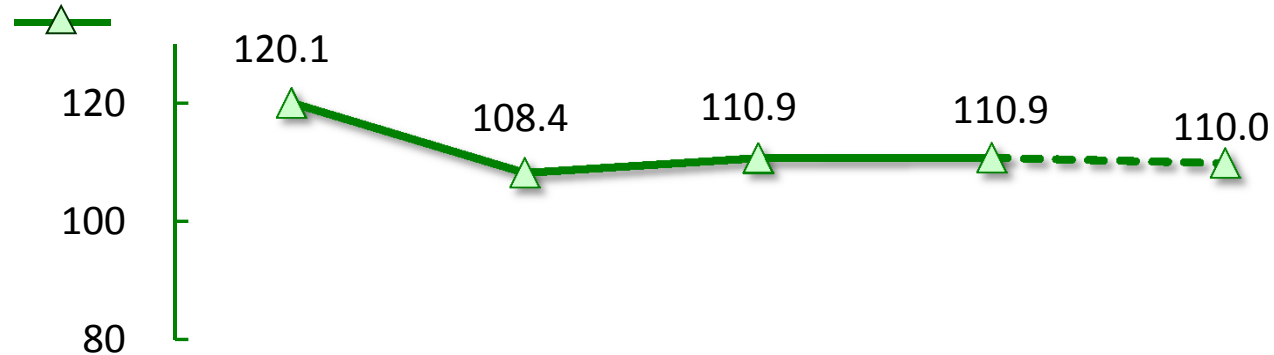
# Consolidated Operating Profit Trend by Segment



# Consolidated Overseas Sales Trend



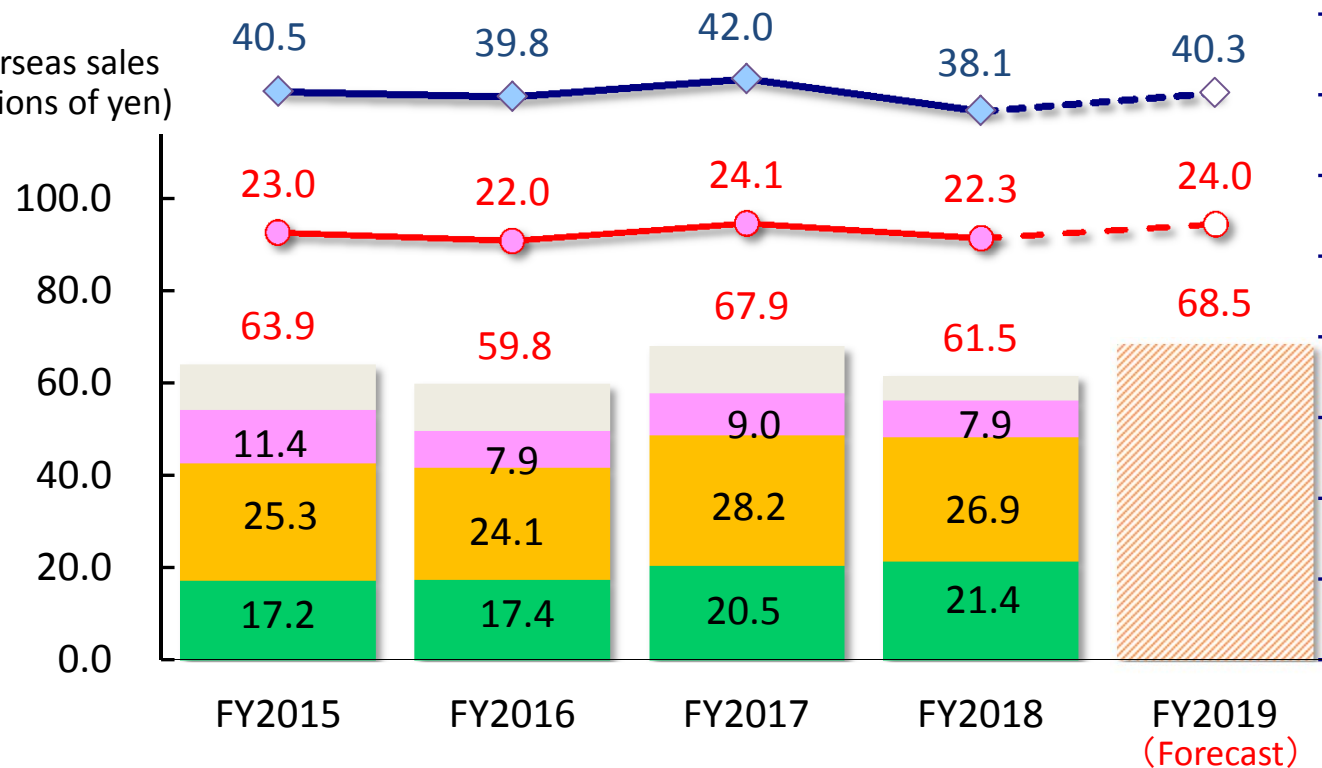
Average exchange rate  
(Yen/US\$)



Overseas sales ratio (%)

Overseas production ratio (%)

Overseas sales  
(Billions of yen)



50.0  
40.0  
30.0  
20.0  
10.0  
0.0

Total

Others

Americas

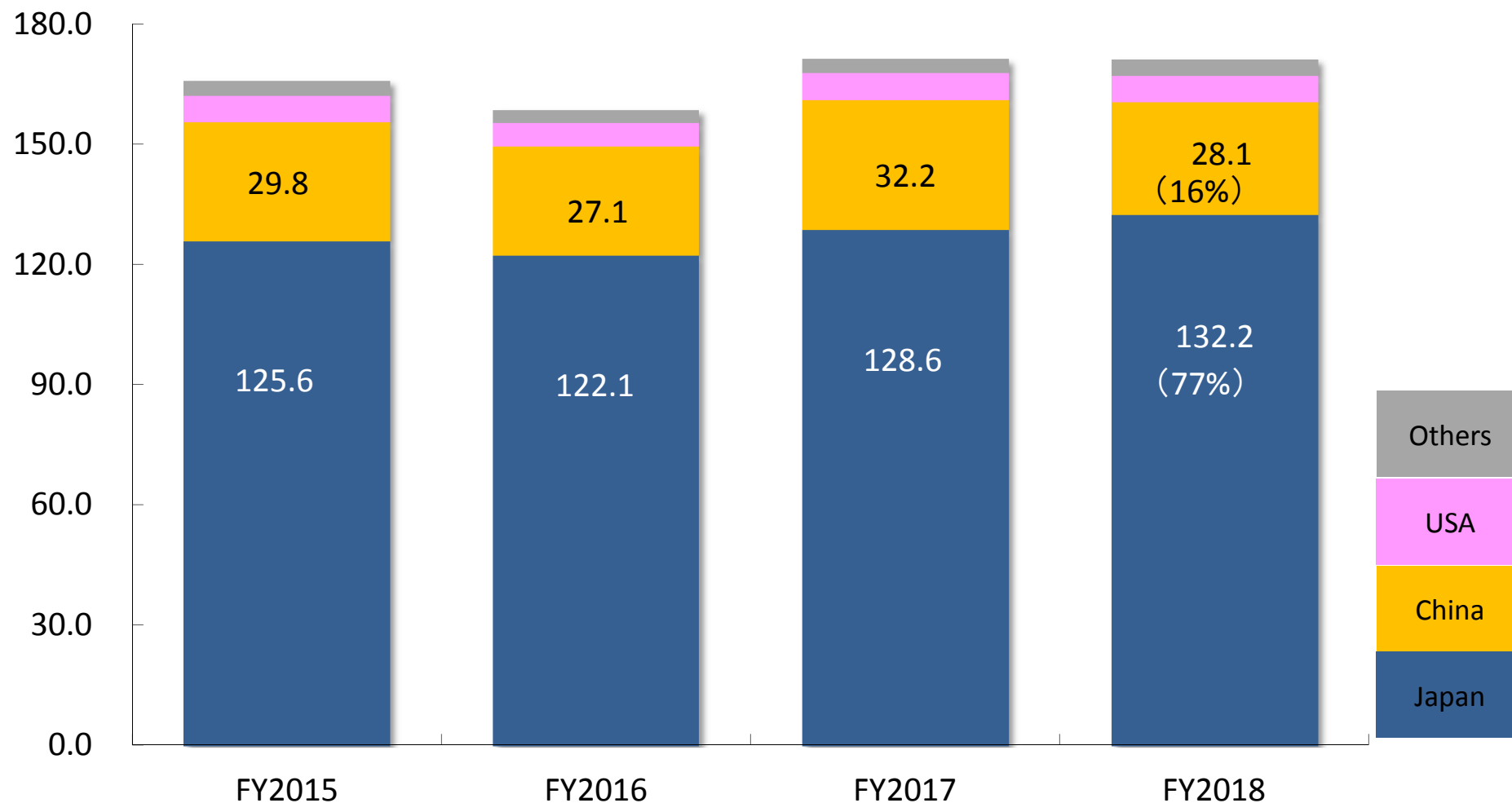
China

Asia  
(except China)

# Consolidated Net Sales Trend by Geographic Segments

Internal sales among Sanyo Chemical Group are not eliminated.

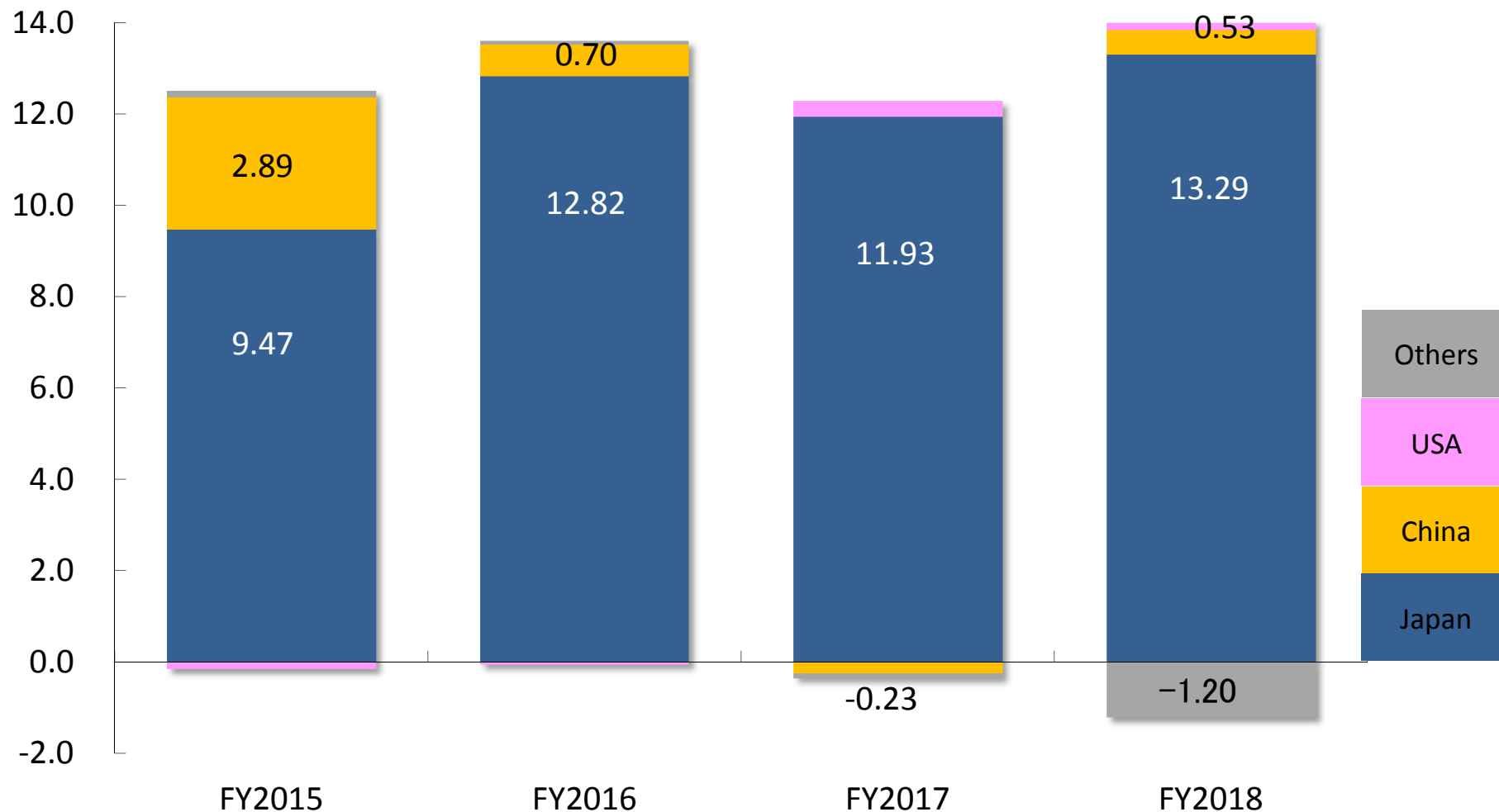
(Billions of yen)



# Consolidated Operating Profit Trend by Geographic Segments

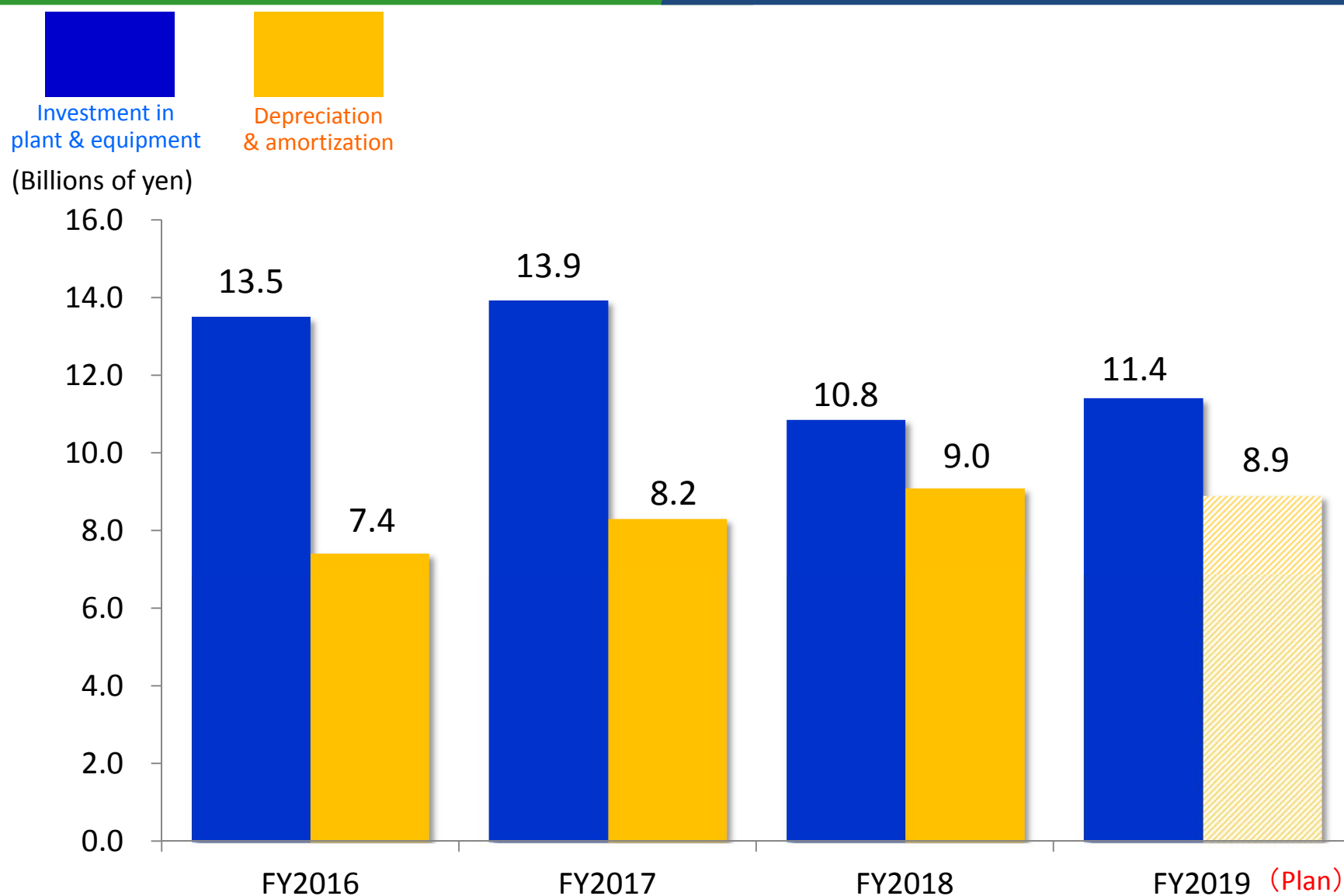
Internal sales among Sanyo Chemical Group are not eliminated.

(Billions of yen)





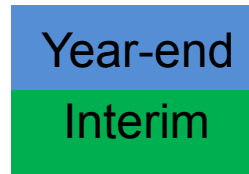
# Consolidated Investment in Plant & Equipment, and Depreciation & Amortization



Sanyo Chemical and its Japanese consolidated subsidiaries, which had mostly been using the declining balance method for depreciation of property, plant and equipment, have adopted the straight-line method since FY2016.

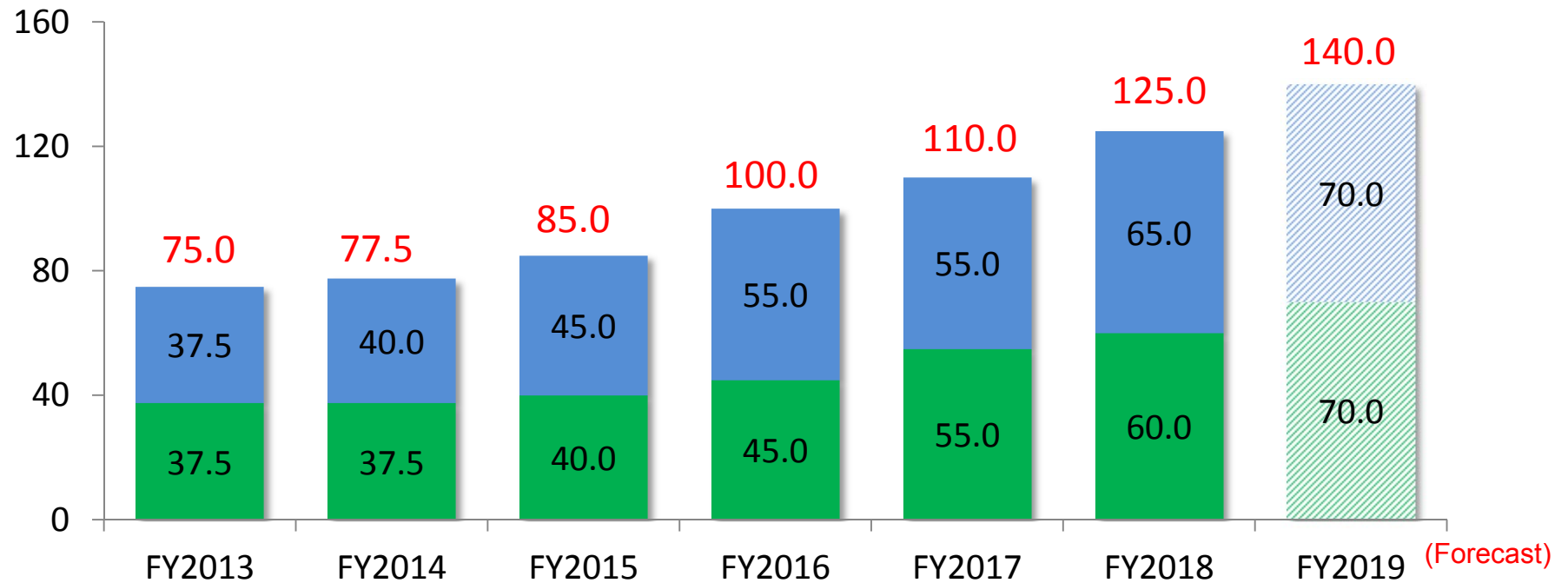
# Consolidated Dividends per Share & Payout Ratio Trend

Total

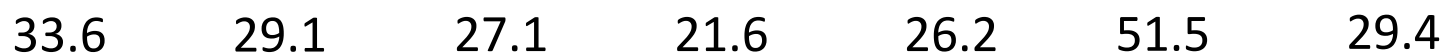


Sanyo Chemical conducted a reverse stock split at a ratio of one share for every five shares on October 1, 2016. The figures above for consolidated dividends per share are converted after Sanyo Chemical conducts the reverse stock split.

Dividends  
(Yen/share)



Payout ratio  
(%)



# Topics: LIB Project



Investment in APB Corporation, technology venture company of the new type lithium-ion battery (LIB)

Accelerating the development of the new LIB with Ph.D. Hideaki Horie of Keio University

~All polymer batteries bring new perspective to battery industry~

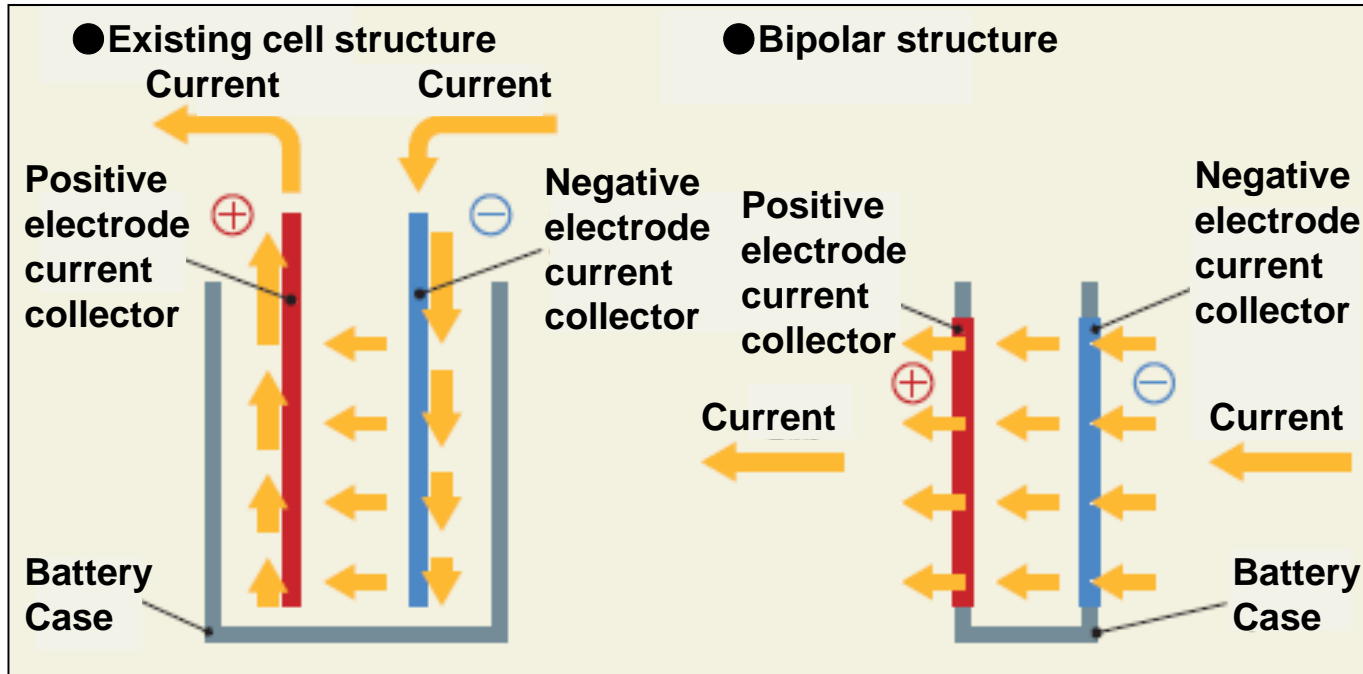


Left: Ph.D. Hideaki Horie of Keio University



Published an article in March, 2019 issue of “Nikkei Electronics”

## Bipolar structure that differ from existing battery structure



### The feature of our LIB

- ◆ Improves of the capacity, since our technology enables to **increase the thickness of the electrodes more than a couple of times**
- ◆ **Reduces of the number of the parts such as connectors,** which are occupying a large portion of the volume
  - ⇒ **A more compact LIB system**
  - ⇒ **Reduction of the risk of problems** caused by the parts



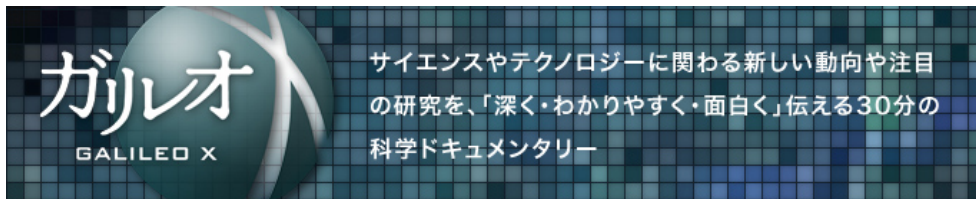
Published an article

in November, 2017 issue of “Nikkei Automotive” 28

# Topics: LIB Project



Our LIB doesn't explode even by drill penetration or scissors cut.



In a Japanese TV program "Galileo X"

Front line of cell work

~The innovation brought by Next-Generation cell~

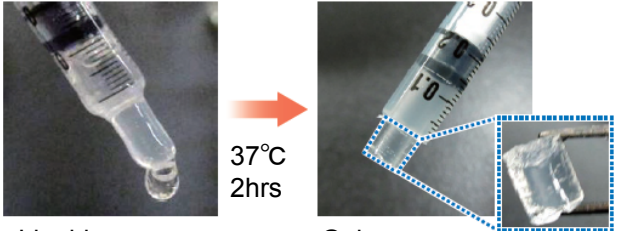


## Functional Synthetic Protein, Silk-elastin

Silk-elastin is functional synthetic protein, recombinant of two imitated natural proteins, elastin and silk fibroin.

⇒ Aiming for development of wound treatment agents and meniscus injury therapeutic agent

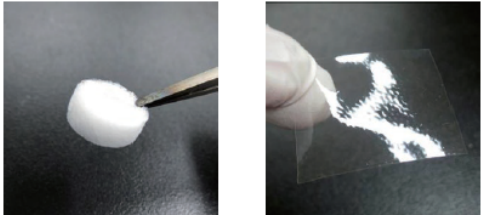
### Thermo-sensitive gelation



**Liquid**  
Mode of action for silk-elastin's gelation is self assembly. In the presence of heat, it turns into gel without the help of cross-linking agent.

**Gel**

### Formability




**Sponge**  
**Film**

Silk-elastin's excellent formability in combination with Sanyo's interface polymer control can offer various form application.


### Applications in wound care

- Wound care is one of the greatest opportunity for silk-elastin.
- Excellent treatment effect was confirmed in the animal study.
- Investigator-initiated clinical trial are underway at Kyoto University Hospital from Feb. 2018.


**Wound healing mechanism of silk elastin**




① Wound (bed sores, diabetic ulcers, burns)



② Application of silk elastin sponge



③ Dissolution and gelation with body liquid (5-6 hours after application)



④ Promote healing (scaffold for cells)

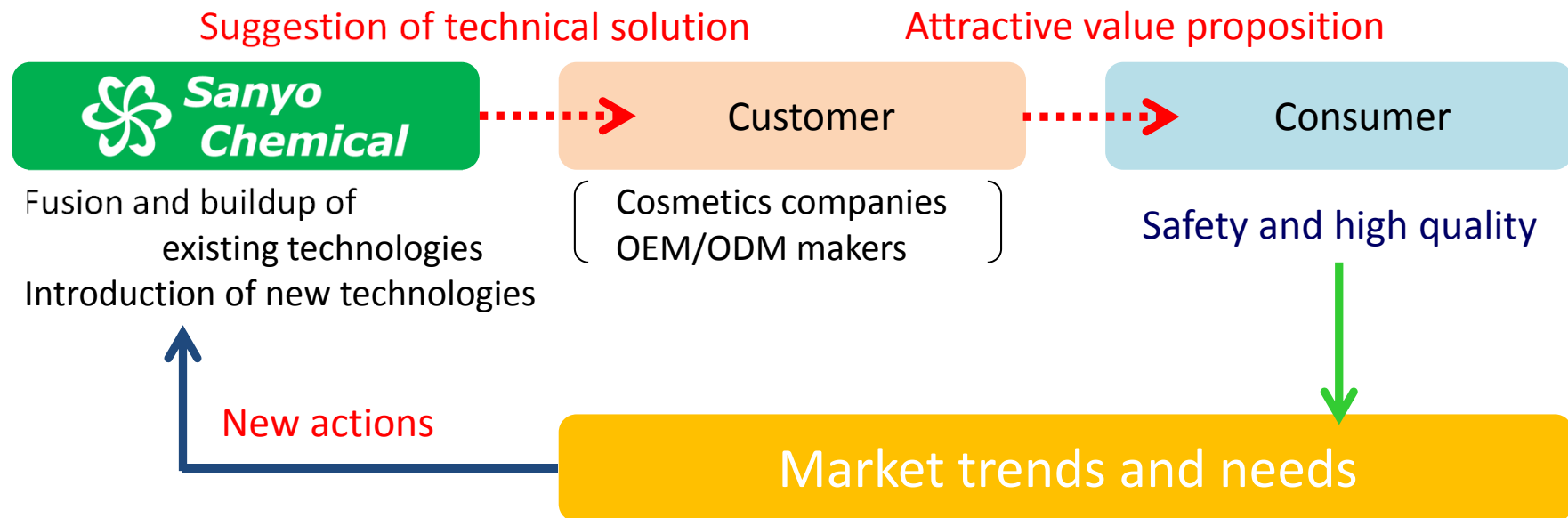
Desirable granulation promotion was confirmed in the animal study.  
Promising inhibitory effect for bacterial proliferation was also demonstrated.

# Topics: Coffret Project



Being aware of market trends and needs, we suggest attractive solutions (materials and formulation) by using various core technologies such as surface control technology.  
⇒ Value proposition to the cosmetics field focus on skin care

Improvement of PR activities in China by a contract with Chinese professional golfer, Seki sisters



LIMEX is TBM Co., Ltd.'s product made mainly from limestone. It is an environmentally and economically viable new material that can substitute paper and plastic. As paper alternatives, it does not use any water and pulp unlike conventional paper. As plastic alternatives, LIMEX enables to reduce petroleum derived material use leading to a lesser dependence on it. We support its concept to reduce environmental burden and we have jointly developed with TBM.

## What's LIMEX?

LIMEX is made mainly from limestone that can substitute paper and plastic. The new material, which is produced in Japan, contributes to sustainable society.

### LIMEX's 3 features

**Main raw material: limestone**  
Limestone that constitutes more than 50% of LIMEX, is an almost inexhaustible resource.  
In Japan, the self-sufficiency ratio in limestone supply surpasses 100% and limestone is cheap and available mineral resource.

**Contribution to resource depletion problem**  
As paper alternatives, LIMEX does not use any water and pulp.  
As plastic alternatives, LIMEX enables to reduce petroleum derived material use.

**Contribution to environmental problem**

- LIMEX contributes to control carbon dioxide emission and limit climate change.
- LIMEX contributes to micro-plastic problem to reduce refuse by its circulation and reuse.

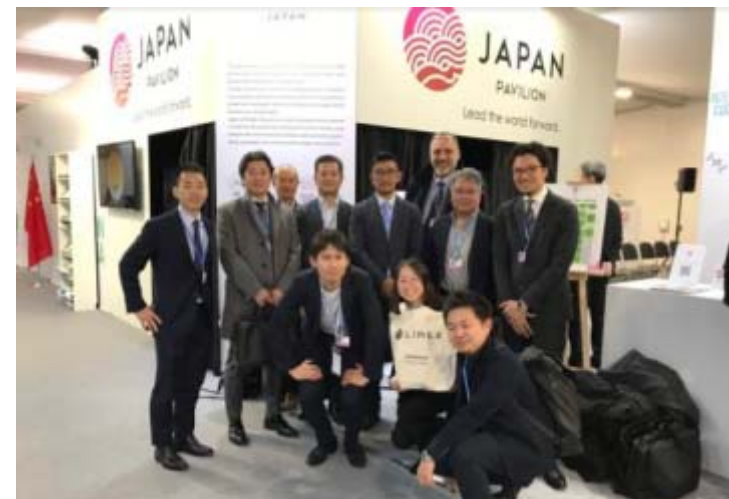


# Topics: Investment in TBM Co., Ltd.



Business card made of LIMEX

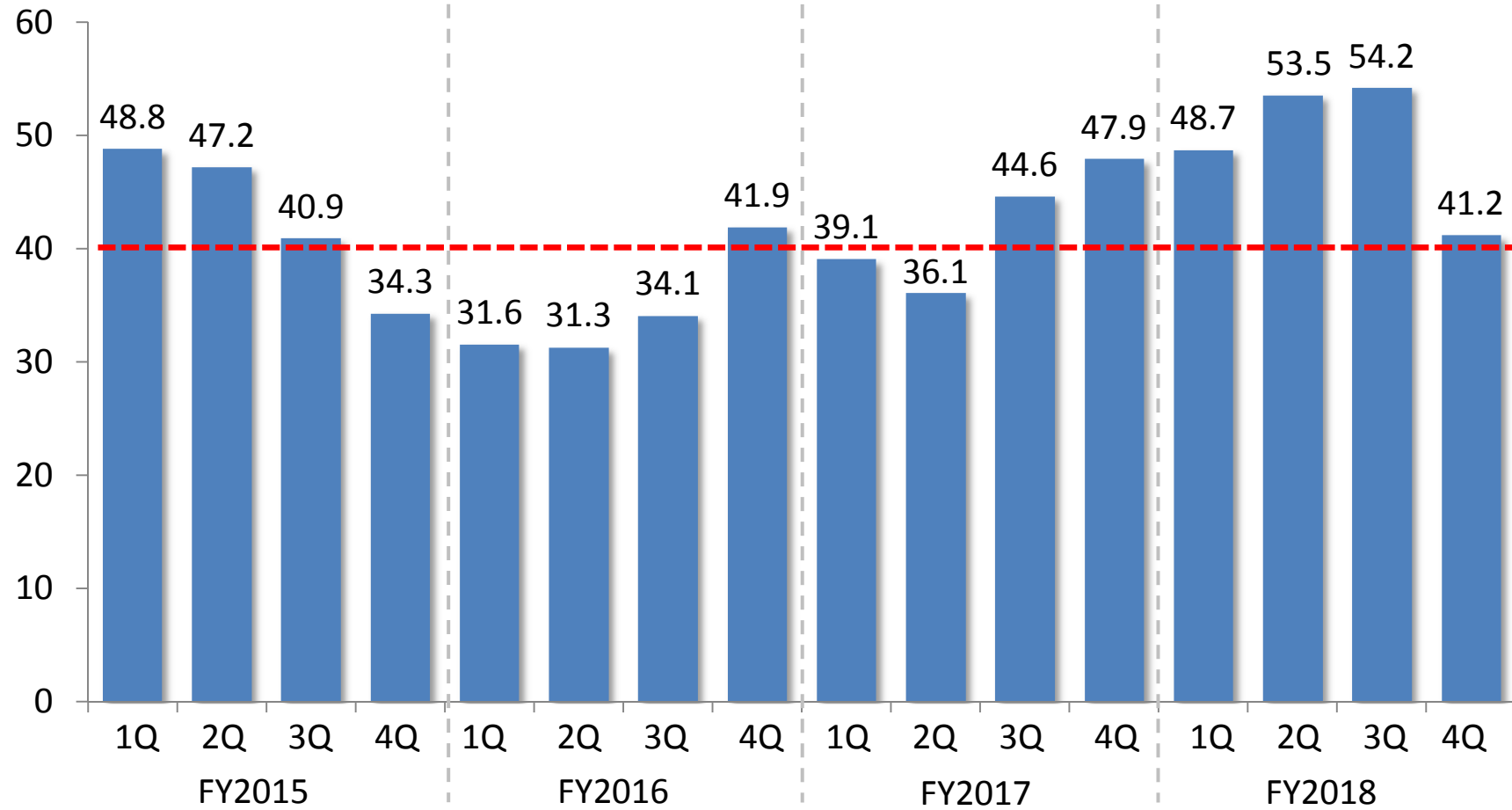
We are supporting TBM for development of next-generation LIMEX (using for vehicle or increasing strength) with our compatibility technologies



# Reference

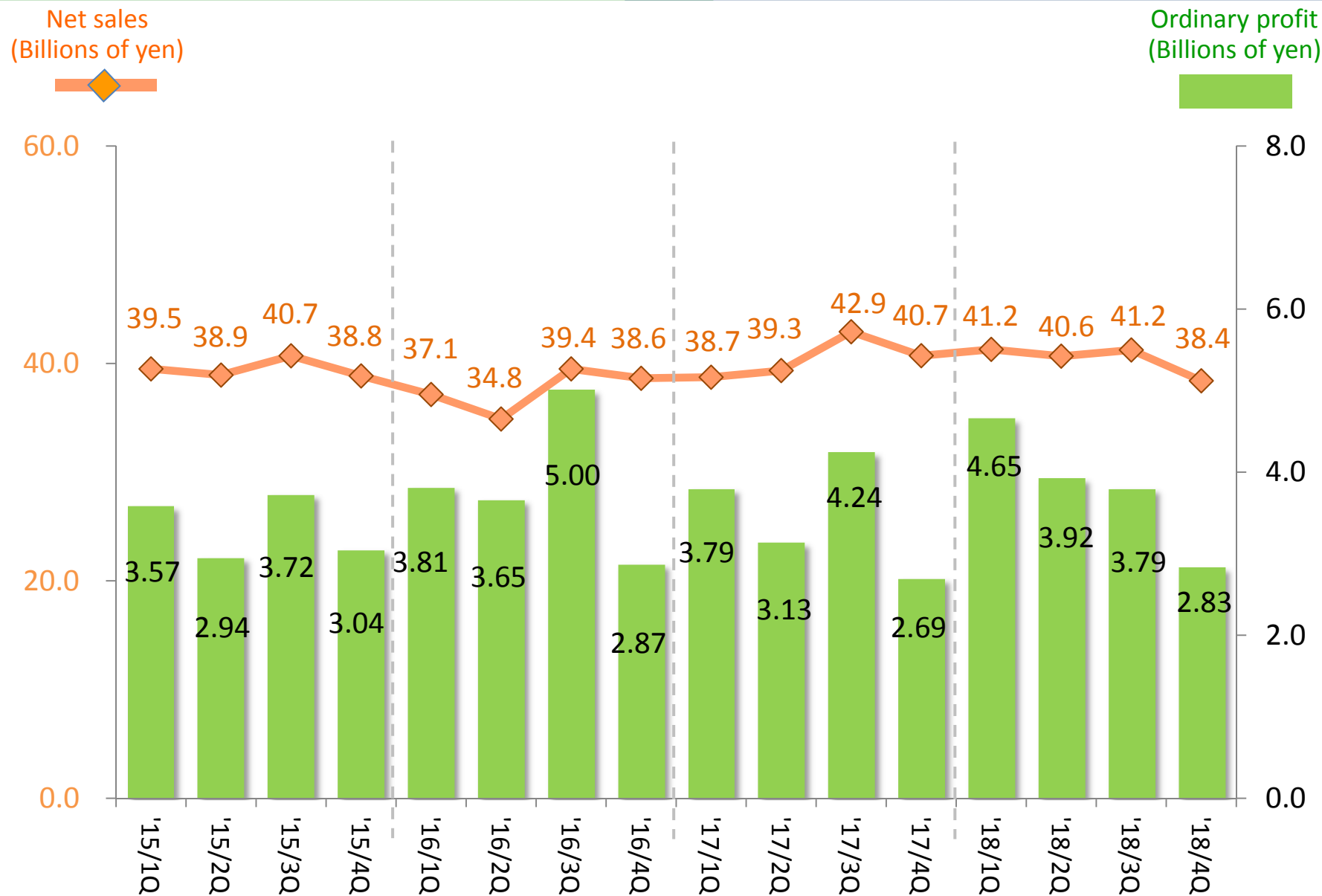
# Transition of Price of Naphtha Produced in Japan

Naphtha price  
(Thousands of yen/kl)

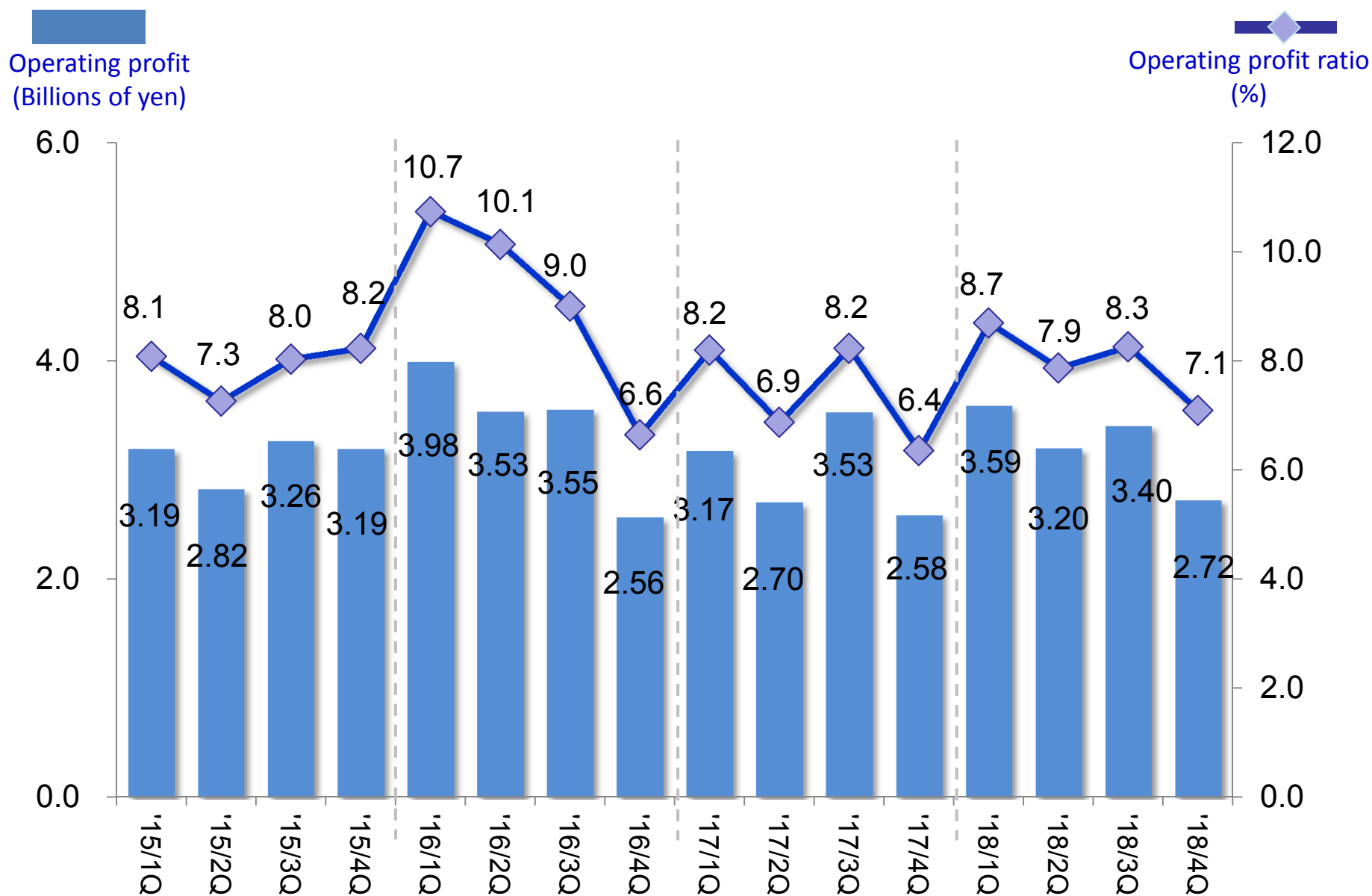


(Reference: Japanese newspapers, etc)

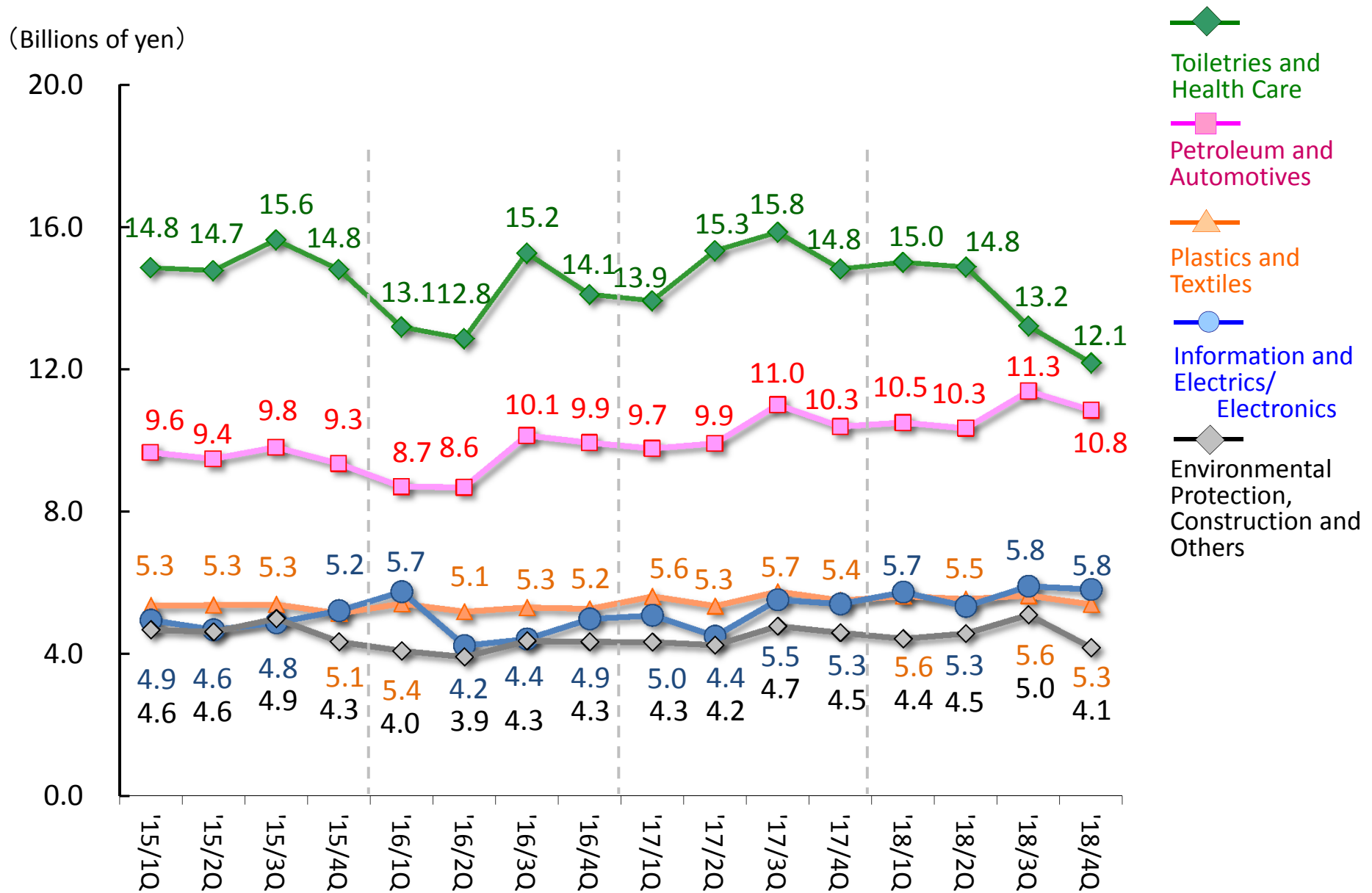
# Consolidated Business Result Trend



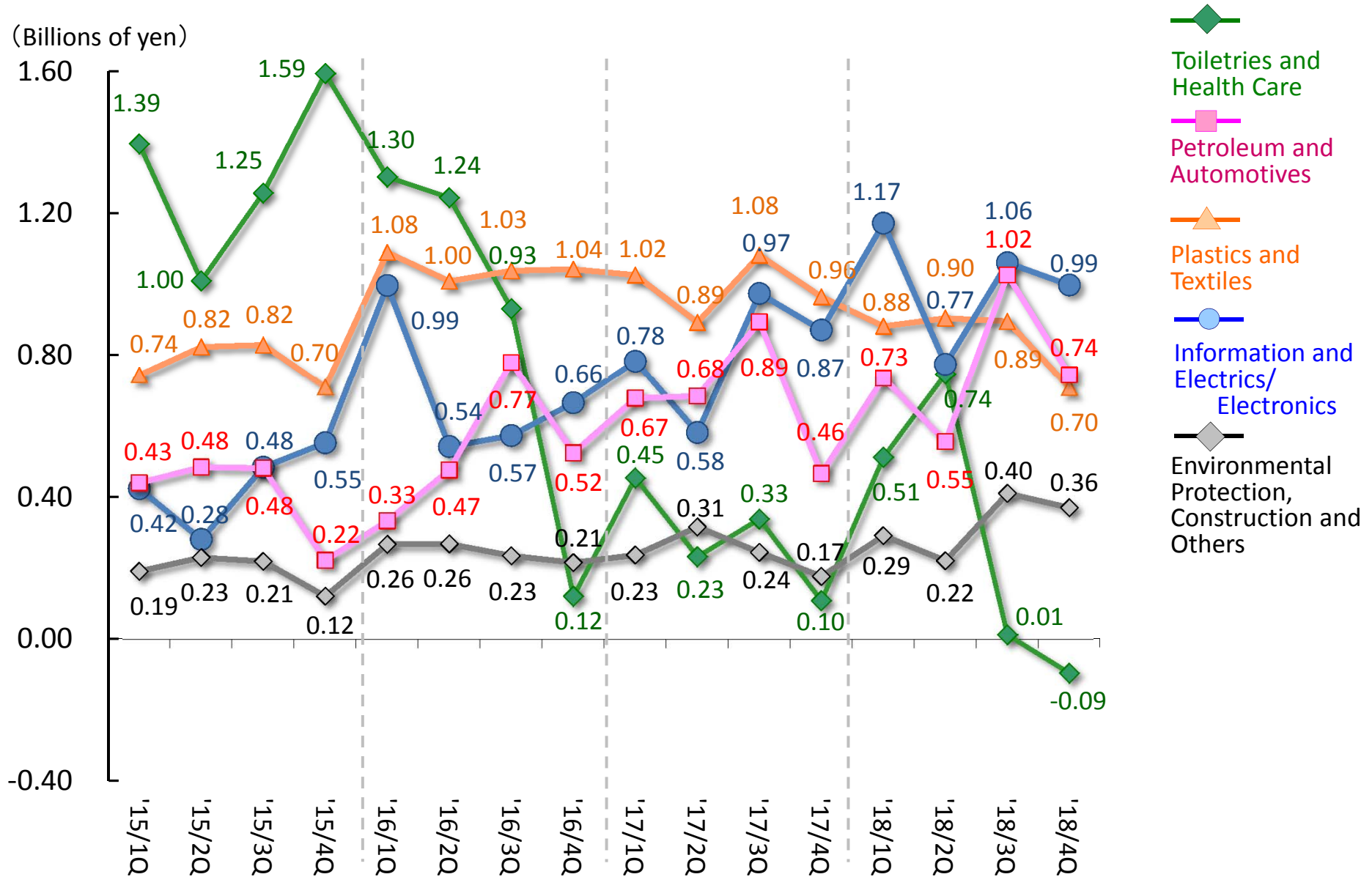
# Consolidated Operating Profit Trend



# Consolidated Net Sales Trend by Segment



# Consolidated Operating Profit Trend by Segment



## Domestic Consolidated Subsidiaries (5 companies)

Company Name	Abbr.	Equity Ownership	Line of Business	
SDP Global Co., Ltd.	SDP	Sanyo Chemical Toyota Tsusho	70% 30%	Manufacture and sales of superabsorbent polymers
SAN NOPCO LIMITED	SNL	Sanyo Chemical	100%	Manufacture and sales of agents for pulp & paper, coating agents, a wide range of industrial agents, etc.
San Chemical Co., Ltd.	SCC	Sanyo Chemical JXTG Nippon Oil & Energy	50% 50%	Manufacture of raw materials for polyurethane foams, etc.
San-Apro Ltd.	SA	Sanyo Chemical Evonik International Holding B.V.	50% 50%	Manufacture and sales of curing accelerators for epoxy resins, urethane catalysts, etc.
Sanyo Transport Co., Ltd.	—	Sanyo Chemical	100%	General trucking



## Overseas Consolidated Subsidiaries (8 companies)

Company Name	Abbr.	Equity Ownership		Line of Business
Sanyo Kasei (Nantong) Co., Ltd. [China]	SKN	Sanyo Chemical	100%	Manufacture of surfactants, polyurethane resins, etc.
San-Dia Polymers (Nantong) Co., Ltd. [China]	SDN	SDP Global	100%	Manufacture and sales of superabsorbent polymers
Sanyo Chemical (Shanghai) Trading Co., Ltd. [China]	SCST	Sanyo Chemical	100%	Sales of surfactants, polyurethane resins, etc.
Sanyo Kasei (Thailand) Ltd. [Thailand]	SKT	Sanyo Chemical Toyota Tsusho and others	89% 11%	Manufacture and sales of surfactants, polyurethane resins, etc.
SANAM Corporation [USA]	SANAM	Sanyo Chemical	100%	Holding company of U.S. consolidated subsidiaries. Sales of lubricating oil additives, polyurethane beads, etc.
Sanyo Chemical & Resins, LLC [USA]	SCR	SANAM	100%	Manufacture of lubricating oil additives
Sanyo Chemical Texas Industries, LLC [USA]	SCTI	SANAM	100%	Manufacture of polyurethane beads
SDP GLOBAL (MALAYSIA) SDN.BHD. [Malaysia]	SDPM	SDP Global	100%	Manufacture and sales of superabsorbent polymers

# Subsidiaries and Affiliates Accounted for by Equity Method

(5 companies)

Company Name	Abbr.	Equity Ownership	Line of Business
San-Petrochemicals Co., Ltd.	SPCC	Sanyo Chemical 50% JXTG Nippon Oil &Energy 50%	Manufacture of raw materials for synthetic rubbers
Sunrise Chemical LLC [USA]	SRC	SANAM 50% JX Nippon Chemical Texas 50%	Manufacture of raw materials for synthetic rubbers
Nagoya Sanyo Warehouse Co., Ltd.	—	Sanyo Chemical 100%	Warehousing
Shiohama Chemicals Warehouse Co., Ltd.	—	Sanyo Chemical 50% JXTG Nippon Oil &Energy 50%	Warehousing
Sanliving Ltd.	SL	Sanyo Chemical 100%	Real estate, insurance and agency