

# Q3 FY2016 - Apr 1, 2016 to Dec 31, 2016 -**Presentation for IR Meeting**

# Tokuyama Corporation January 31, 2017

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# **1** Financial Results for Q3 FY2016

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- 3. Changes in Operating Income

### **<u>1. Financial Highlights</u>** Consolidated (year-on-year change)

(Billions of yen)

	Q3 FY2015 YTD	Q3 FY2016 YTD	Differe	ence
	Q3F12013 11D	Q3 F12010 TID	Amount	%
Net sales	226.6	218.1	(8.5)	(4)
Operating income	12.9	29.1	+16.2	+125
Ordinary income	9.3	25.1	+15.7	+168
Profit attributable to owners of parent	(115.8)	24.8	+140.6	-
Basic earnings per share (yen)	(322.91)	70.01		
Exchange rate (¥/\$)	122	107		
Domestic naphtha price (¥/kl)	45,600	32,300		

Qualitative information

(Net sales) ¥218.1 billion, down 4%

Plus: increased sales volume of polycrystalline silicon for both semiconductor and solar-cells

Minus: weak selling prices of petro chemicals on the back of downturn in domestic naphtha prices

(Operating income) ¥29.1 billion, up 125%

Pluses: operating rate improvement and decreased depreciation expenses at Tokuyama Malaysia; downturn in production costs as a result of the drop in raw material and fuel prices



## **<u>1. Financial Highlights</u>** Consolidated (year-on-year change)

(Billions of yen)

	Q3 FY2015 YTD	Q3 FY2016 YTD	Differe	ence
	Q3 FT2013 TTD	Q3 F12010 TID	Amount	%
Net sales	226.6	218.1	(8.5)	(4)
Operating income	12.9	29.1	+16.2	+125
Ordinary income	9.3	25.1	+15.7	+168
Profit attributable to owners of parent	(115.8)	24.8	+140.6	-
Basic earnings per share (yen)	(322.91)	70.01		
Exchange rate (¥/\$)	122	107		
Domestic naphtha price (¥/kl)	45,600	32,300		

**Qualitative information** 

(Ordinary income) ¥25.1 billion, up 168%

Plus: increased operating income

Minus: increased trial production expenses at Tokuyama Malaysia

(Profit attributable to owners of parent) ¥24.8 billion

Pluses: increased ordinary income;

improved extraordinary income//losses;

decreased income taxes owing to the decision on the business transfer of Tokuyama Malaysia



### **1. Financial Highlights** Consolidated (compared with the previous fiscal year-end)

(Billions of yen, except ratios)

	As of Mar 31, 2016	As of Dec 31, 2016	Changes
Total assets	401.3	405.3	+4.0
Shareholders' equity	51.4	99.4	+48.0
Shareholders' equity ratio	12.8%	24.5%	+11.7 pts
Interest-bearing debt	244.1	218.2	(25.9)
D/E ratio	4.74	2.19	(2.55)
Net D/E ratio*	2.38	1.01	(1.37)
Net assets per share (yen)	147.98	227.01	

**Qualitative information** 

\*Net D/E ratio: (Interest-bearing debt - Cash and deposits, Cash equivalents)/Shareholders' equity

(Total assets)

Increase factors: increase in notes and accounts receivable - trade, and investment securities

Decrease factor: decrease in cash and deposits

(Shareholders' equity)

Increase factors: increase in shareholders' equity as a result of issuance of class shares;

increase in retained earnings as a result of posting profit attributable to owners of parent

(Interest-bearing debt)

Decrease factors: decrease in bonds, long-term loans payable and short-term loans payable



#### (Year-on-year change)

(Billions of yen)

	Q3 FY2015 YTD		Q3 FY2015 YTD Q3 FY2016 YTD			)16 YTD	Difference			
	Net sales	Operating income	Net sales	Operating income	Net sales	%	Operating income	%		
Chemicals	66.1	5.6	60.0	9.8	(6.1)	(9)	+4.2	+75		
Specialty Products	40.8	(3.7)	47.3	5.4	6.5	+16	+9.2	-		
Cement	64.9	4.1	61.3	6.2	(3.6)	(6)	+2.1	+52		
Life & Amenity	43.3	4.9	38.2	4.1	(5.0)	(12)	(0.8)	(18)		
Others	40.5	4.0	39.4	4.5	(1.0)	(3)	+0.5	+13		
Total	255.8	15.0	246.5	30.2	(9.3)	(4)	+15.2	+102		
Inter-segment eliminations and corporate-wide expenses	(29.2)	(2.0)	(28.4)	(1.1)	+0.7	-	+0.9	-		
Consolidated results	(226.6)	12.9	218.1	29.1	(8.5)	(4)	+16.2	+125		

(Note) Sales and operating income shown above include inter-segment transactions.

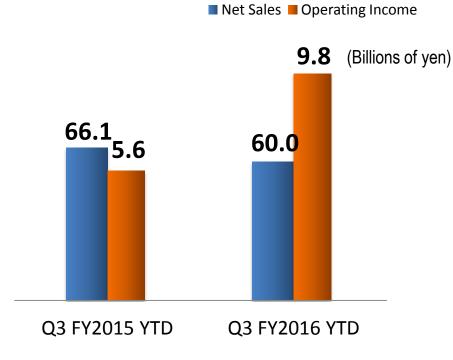
(Reference)

Tokuyama Malaysia	5.7	(8.9)	10.3	(1.3)	+4.5	+79	+7.5	-

(Year-on-year change)

**Chemicals** 

#### Higher earnings on lower sales



#### Qualitative information

#### (Caustic soda)

•Net sales decreased due to weak trends in selling prices, while domestic sales volumes were steady

(Vinyl chloride monomer (VCM))

•Net sales were down due to weak trends in selling prices as a result of the drop in domestic naphtha prices, despite increased export volume for Asian market

#### (Vinyl chloride resin)

•Improved earnings due to the suspension of operations at the Chiba factory

(Soda ash and calcium chloride)

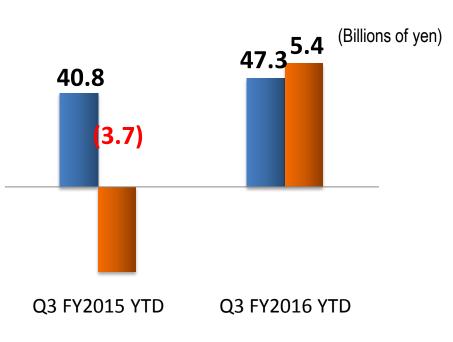
•Net sales were flat owing to the fact that the efforts to revise selling price were offset by decreased sales volume



Higher earnings on higher sales

(Year-on-year change)

### **Specialty Products**



#### Net Sales Operating Income

#### Qualitative information

(Semiconductor-grade polycrystalline silicon) •Increased sales volume, reflecting the growing trend to highly functional mobile devices including smartphones

(Solar-grade polycrystalline silicon)

•Higher sales volume, reflecting the operating rate improvement at Tokuyama Malaysia

#### (Fumed silica)

Net sales were down due to appreciated yen, in addition to weak trend of sales volume of such applications as a polishing material for semiconductors

(High-purity chemicals for electronics manufacturing)

•Net sales were down due to appreciated yen, despite of robust sales volume of product used for semiconductor manufacturing

(Aluminum nitride)

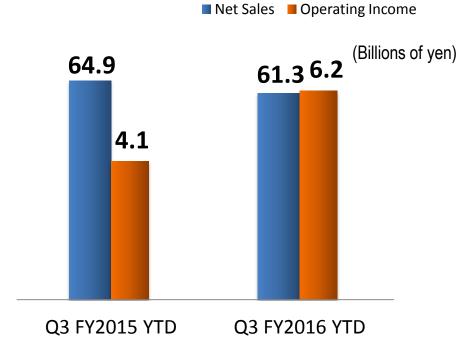
•Higher sales volume of such applications used for semiconductor manufacturing equipment



(Year-on-year change)

Cement

#### Higher earnings on lower sales



Qualitative information

#### (Cement)

•Net sales were down due to downturn in domestic sales volumes attributable to weak public- and private-sector demand in Japan and weak trends in export prices as a result of weaker yen, despite of an increase in the volume of exports on the back of robust demand in the Asia region

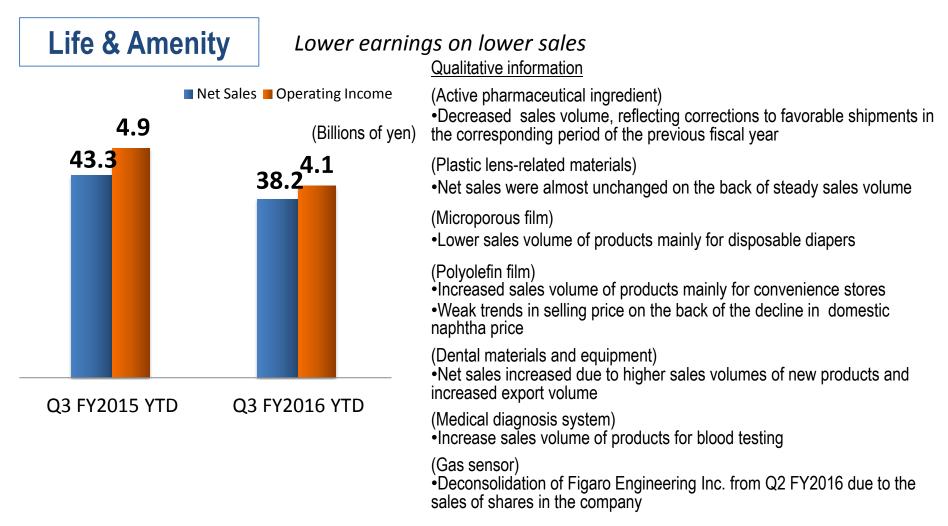
•Consolidated subsidiary net sales declined, reflecting corrections to robust shipping targeting large-scale projects in the corresponding period of the previous fiscal year

(Recycling and environment-related business)

•The Company accepted higher volume of waste including coal ash



(Year-on-year change)

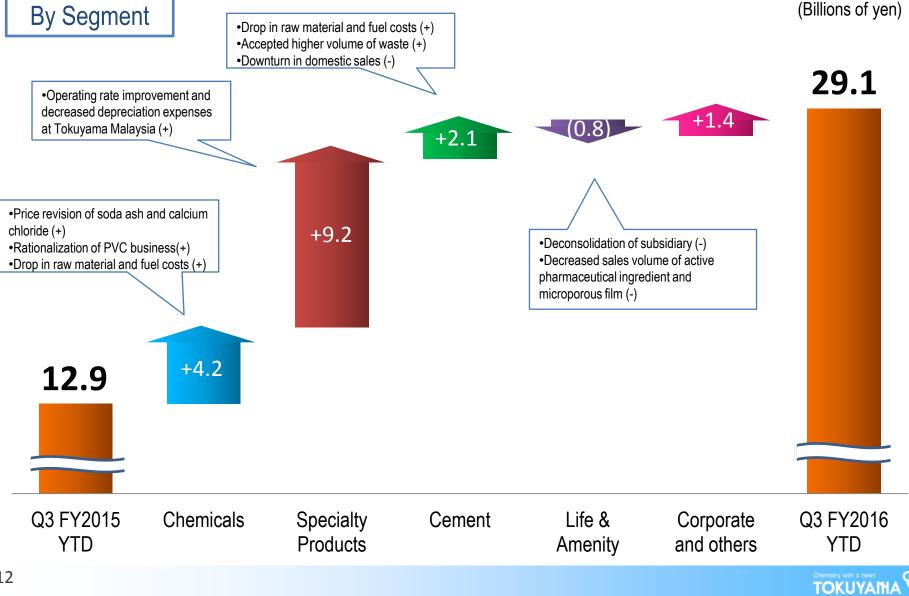




#### Financial Results for Q3 FY2016

# **3. Changes in Operating Income**

# (Year-on-year change)





# 2 Performance Forecasts for FY2016 1. Performance Forecasts 2. Performance Forecasts by Business Segment

# **1. Performance Forecasts**

Consolidated (Year-on-year change based on FY2016 forecasts)

(Billions of yen)

	FY2015 Results	FY2016 Forecast (Oct 28, 2016)	Difference	Q3 FY2016 YTD Results
Net sales	307.1	291.0	(16.1)	218.1
Operating income	23.0	33.0	+9.9	29.1
Ordinary income	17.7	27.0	+9.2	25.1
Profit attributable to owners of parent	(100.5)	21.0	+121.5	24.8
Net income per share (yen)	(289.10)	58.18	1	70.01
Exchange rate (¥/\$)	120	103		107
Domestic naphtha price (¥/kl)	42,800	32,200		32,300

Although the future business environment is uncertain because of the fluctuations in such as exchange rate and raw material and fuel prices, the Company's results were in line with our expectations at this time. Therefore, the Company has not revised the performance forecasts, announced on October 28, 2016.



2 Performance Forecasts for FY2016

The forecast, announced on Oct 28, 2016, has not been revised

# **2. Performance Forecasts by Business Segment**

(Compared with the previous forecast)

(Billions of yen)

	FY2015 Results		FY2016 Forecast (Oct 28, 2016)		Differ	Difference		Q3 FY2016 YTD Results	
	Net sales	Operating income	Net sales	Operating income	Net sales	Operating income		Net sales	Operating income
Chemicals	87.8	8.9	80.0	11.5	(7.8)	+2.5		60.0	9.8
Specialty Products	60.9	(1.1)	64.0	6.5	+3.0	+7.6		47.3	5.4
Cement	85.4	5.8	82.0	7.5	(3.4)	+1.6		61.3	6.2
Life & Amenity	57.6	6.5	50.0	5.0	(7.6)	(1.5)		38.2	4.1
Others	53.6	5.6	52.0	5.0	(1.6)	(0.6)		39.4	4.5
Total	345.5	25.8	328.0	35.5	(17.5)	+9.6		246.5	30.2
Inter-segment eliminations and corporate-wide expenses	(38.4)	(2.7)	(37.0)	(2.5)	+1.4	+0.2		(28.4)	(1.1)
Consolidated Results	307.1	23.0	291.0	33.0	(16.1)	+9.9		218.1	29.1

(Note) Sales and operating income shown above include inter-segment transactions.

8.8

(10.2)

(Reference)

Tokuyama Malaysia

+2.6

+7.0

15

(1.3)

10.3



# **3** Topics

- 1. Tokuyama Malaysia
- 2. Expansion of High-purity Aluminum Nitride Powder Manufacturing Facilities
- 3. Transfer of Deep Ultraviolet LED Technologies and Facilities

# Topics <u>1. Tokuyama Malaysia</u>

#### Schedule Going Forward

Fiscal Year	FY2015 (16/3)	FY2016 (17/3)
Progress and schedule going forward	(Posted impairment loss in 3Q)	<ul> <li>Sep 28 Decided transfer of Tokuyama Malaysia</li> <li>Oct 7 Completed third-party allotment of new shares (1st) (Tokuyama's portion of shares: 83.5%)</li> <li>Mar 31 Complete third-party allotment of (scheduled) new shares (2nd) Transfer all shares of Tokuyama Malaysia to OCI</li> </ul>
		(billions of yen)

Business Plan	(Results)	(Results (1H))	(Forecasts (2H))	(Forecasts)*	(Q3 YTD)
Net sales	8.8	7.5	4.0	11.5	10.3
Operating income	(10.2)	(0.9)	(2.3)	(3.2)	(1.3)
Spot price of solar-grade polysilicon	US\$14.6/kg	US\$15.7/kg	US\$13.5/kg	US\$14.6/kg	US\$15.2/kg
Sales Qty	5,000 tonnes	5,000 tonnes	3,300 tonnes	8,300 tonnes	7,200 tonnes
Exchange rate (¥/US\$)	120	105	100	103	107
Exchange rate (¥/MYR)	30	26	25	25	26

\*announced on Oct 28, 2016



#### **3** Topics

## 2. Expansion of High-purity A&N Powder Manufacturing Facilities

- Tokuyama decided to bolster the high-purity aluminum nitride powder (A&N) manufacturing facilities at Tokuyama Factory using its proprietary reduction-nitridation process in response to growing demand. Moreover, the Company will expand this business in the heat dissipation market, which is showing considerable growth.
- Production Capacity 600 tonnes/year

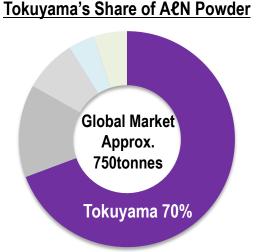
(Current 480 tonnes/year + 120 tonnes/year)

➢Investment

≻Schedule

Approx. ¥1.2 billion January 2017 Commenced construction

April 2018 Commence operations (planned)



#### > Applications for A&N Heat Dissipation Substrates

Heat Dissipation and Insulation Substrates Used in IGBT Power Modules

Industrial Robots

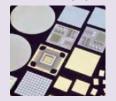


Electric Railways



HEVs & EVs

Semiconductor Production Equipment



Heat Dissipation and Insulation Substrates Used in LEDs

Automotive Lighting







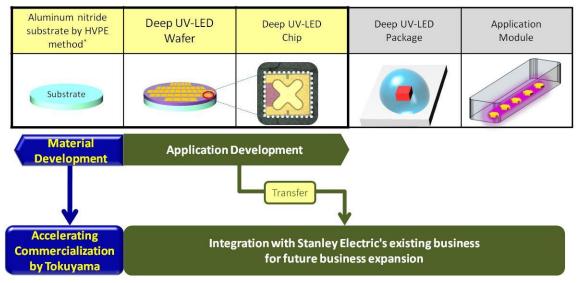
#### **3** Topics

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# 3. Transfer of Deep Ultraviolet LED Technologies and Facilities

- Tokuyama has decided to transfer its deep ultraviolet LED-related patents, know-how as well as development and production facilities to Stanley Electric Co., Ltd., which maintains considerable competitive advantage in the LED market.
- Looking ahead, the Company will direct its research and development resources toward the development of single crystal aluminum nitride substrates. Working to deepen the application of technologies in this field while collaborating with customers including Stanley Electric, Tokuyama will also secure practical use at the earliest possible opportunity and strive to rollout new material development applications..

#### Overview of the Deep Ultraviolet LED Process and Perceived Scenario Following the Transfer of Technologies and Facilities



#### Outline of Stanley Electric Co., Ltd.

Location:

2-9-13 Nakameguro, Meguro-ku, Tokyo, Japan

Representative: Takanori Kitano, President and Representative Director

Capital: JPY 30,514 million

Number of Employees: 15,542

#### Business:

Manufacture and sale of headlamps for vehicles, other automotive components, electric components and equipment including LEDs

\*Single crystal aluminum nitride growth technology utilizing the hydride vapor phase epitaxy (HVPE) method.

After obtaining the support of the Japan Science and Technology Agency, an industrialization process successfully developed at the Company

following the introduction of substrate technologies held by Tokyo University of Agriculture and Technology.







- **1. Consolidated Financial Statements**
- 2. Performance Trend
- 3. Performance Forecasts (1H/2H)
- 4. Price Trend of Main Raw Material and Fuel
- 5. Polysilicon Market

# **<u>1. Consolidated Financial Statements</u>** Income Statements (Billions of yen)

	Q3 FY2015 YTD	Q3 FY2016 YTD	Differ	rence
	QUETZUIDTID		Amount	%
Net sales	226.6	218.1	(8.5)	(4)
Cost of sales	166.2	145.3	(20.9)	(13)
Selling, general and administrative expenses	47.4	43.6	(3.8)	(8)
Operating income	12.9	29.1	+16.2	+125
Non-operating income/expenses	(3.5)	(3.9)	(0.4)	-
Ordinary income	9.3	25.1	+15.7	+168
Extraordinary income/expenses	(116.6)	4.5	+121.1	-
Income/loss before income taxes	(107.2)	29.7	+136.9	-
Income taxes	7.9	4.0	(3.9)	(50)
Non-controlling interests	0.6	0.8	+0.2	+37
Profit attributable to owners of parent	(115.8)	24.8	+140.6	-

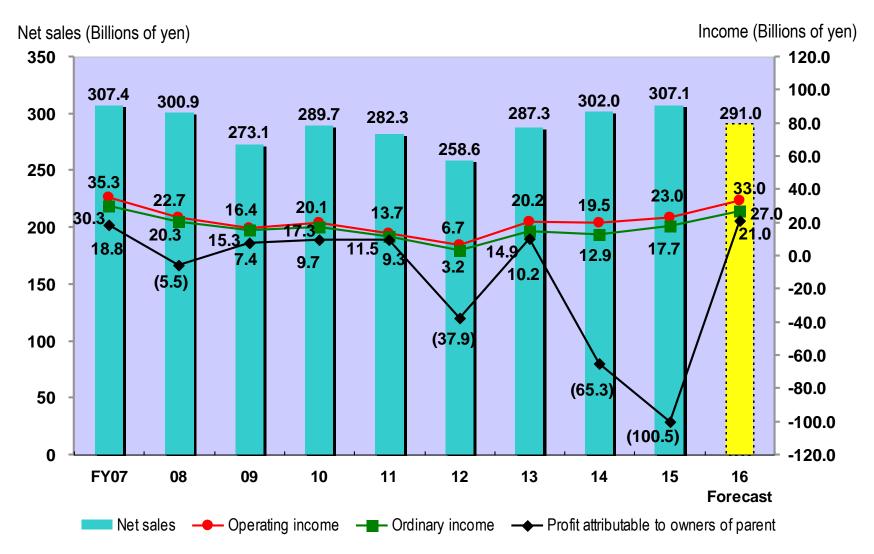
## **<u>1. Consolidated Financial Statements</u>** Balance Sheets

	3/31/2016	12/31/2016	Changes		
	5/5/1/2010	12/3/1/2010	Amount	%	
Total assets	401.3	405.3	+4.0	+1	
Current assets	243.7	245.3	+1.5	+1	
Tangible fixed assets	119.7	119.9	+0.1	+0	
Intangible fixed assets	6.3	5.2	(1.1)	(17)	
Investments and other	31.4	34.7	+3.3	+11	
	3/31/2016	12/31/2016	Char	iges	
	0/0 1/2010	12/3/1/2010	Amount	%	
Total liabilities	341.1	297.2	(43.9)	(13)	
Current liabilities	113.2	82.3	(30.8)	(27)	
Long-term liabilities	227.9	214.8	(13.0)	(6)	
Total net assets	60.2	108.1	+47.9	+80	



### **2. Performance Trend**

#### **Consolidated (Annual)**

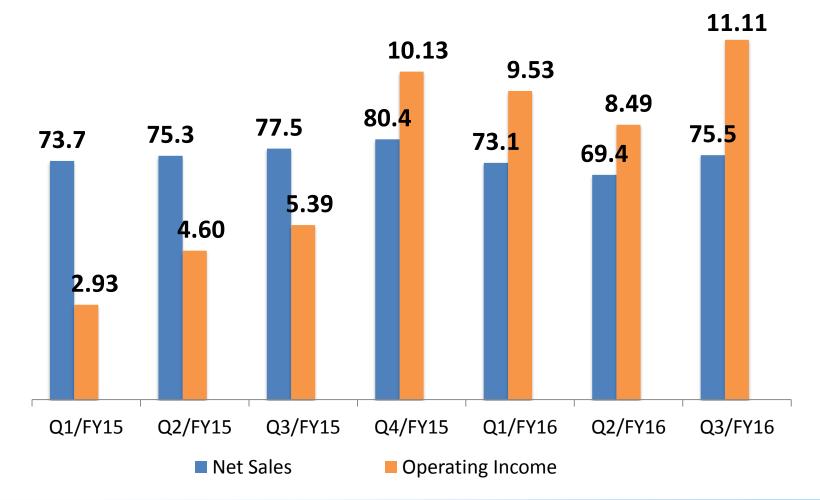


# **2. Performance Trend**

#### (Quarter)

### Consolidated

(Billions of yen)

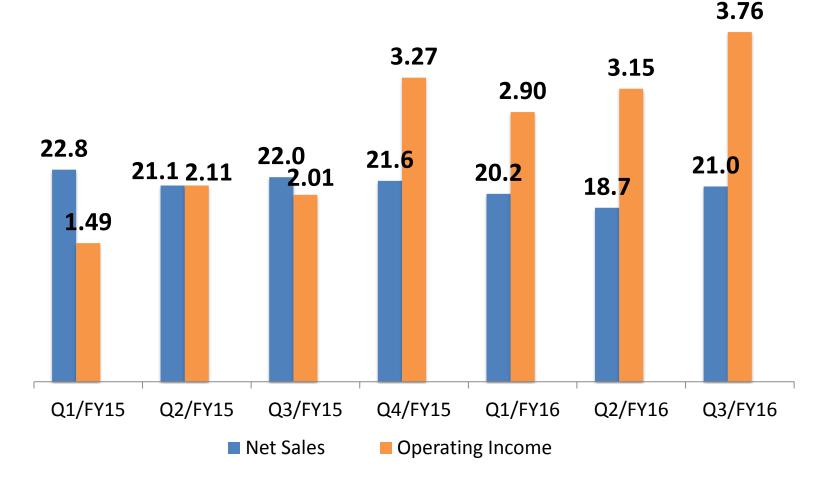


# **2. Performance Trend**

#### Chemicals

#### (Quarter)

(Billions of yen)



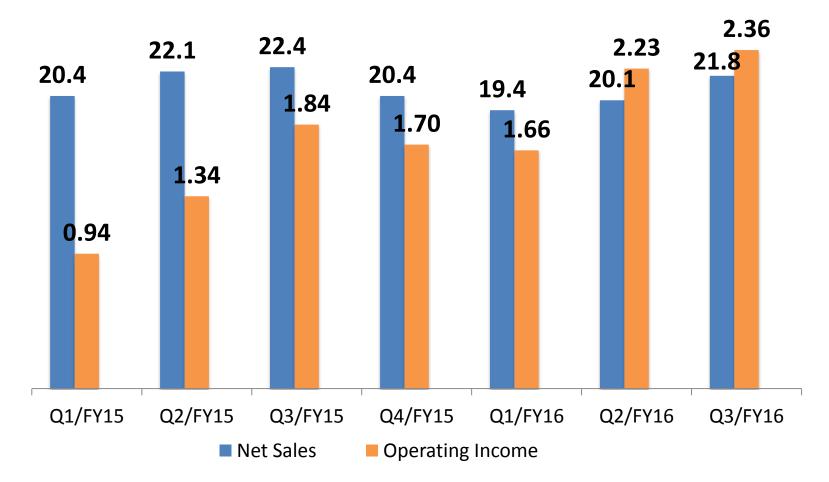
#### 2. Performance Trend (Quarter) **Specialty Products** (Billions of yen) 2.62 2.10 2.10 20.0 16.1 **15.7** 15.5 14.0 13.6 13.0 1.27 (1.52) (0.80) (1.45) Q1/FY15 Q2/FY15 Q3/FY15 Q4/FY15 Q1/FY16 Q2/FY16 Q3/FY16 Net Sales Operating Income



# **2. Performance Trend**

#### (Quarter)

Cement

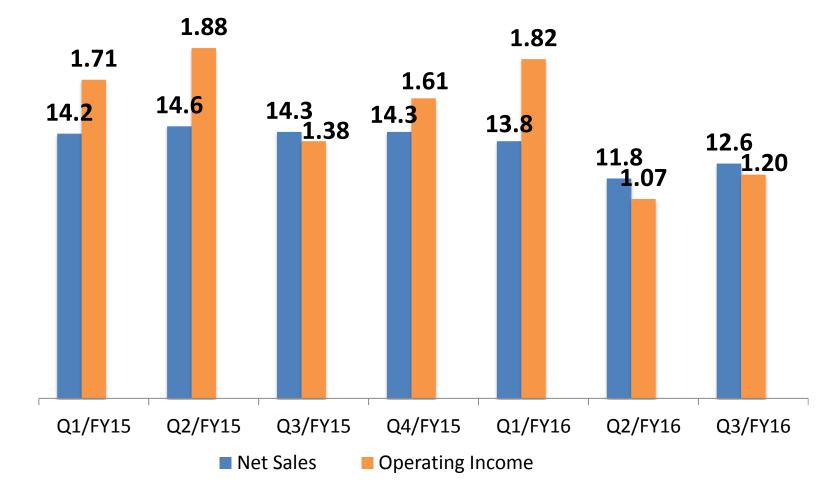




# **2. Performance Trend**

#### (Quarter)

Life & Amenity



The forecast, announced on Oct 28, 2016, has not been revised

#### **4** Supplementary Data

## 3. Performance Forecasts (1H/2H)

(Year-on-year change based on FY2016 forecasts)

		FY2015 results		FY2016 f	orecasts (Oct 2	28, 2016)
	1H	2H	Total	1H	2H	Total
Net sales	149.1	157.9	307.1	142.5	148.5	291.0
Operating income	7.5	15.5	23.0	18.0	15.0	33.0
Ordinary income	5.2	12.4	17.7	14.5	12.5	27.0
Net income attributable to owners of parent	2.7	(103.3)	(100.5)	18.4	2.6	21.0
Basic earnings per share (yen)	8.00	(297.10)	(289.10)	52.28	5.90	58.18
Exchange rate (¥/\$)	122	118	120	105	100	103
Domestic naphtha price (¥/kl)	48,000	37,600	42,800	31,400	33,000	32,200

The forecast, announced on Oct 28, 2016, has not been revised

#### **4** Supplementary Data

# 3. Performance Forecasts (1H/2H)

(Year-on-year change based on FY2016 forecasts)

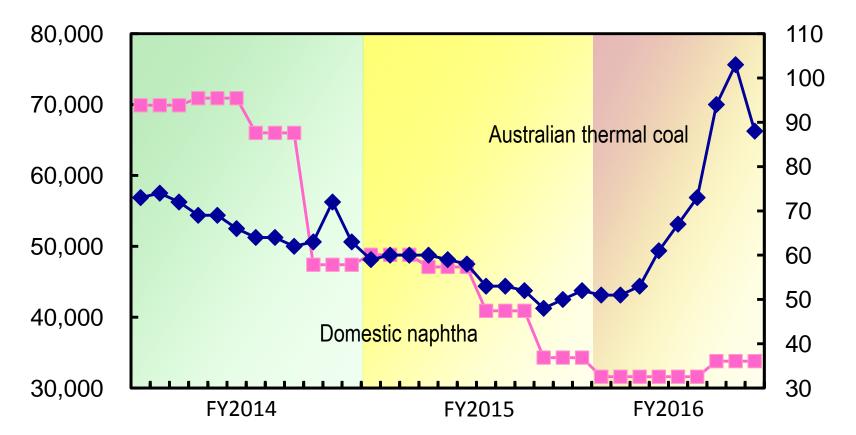
	FY2015 results						FY2016 forecast (Oct 28, 2016)					
	1H		2H		Total		1H		2H		Total	
	Net sales	Operating income	Net sales	Operating income	Net sales	Operating income	Net sales	Operating income	Net sales	Operating income	Net sales	Operating income
Chemicals	44.0	3.6	43.7	5.2	87.8	8.9	38.9	6.0	41.1	5.5	80.0	11.5
Specialty Products	26.7	(2.9)	34.1	1.8	60.9	(1.1)	31.6	3.3	32.4	3.2	64.0	6.5
Cement	42.5	2.2	42.9	3.5	85.4	5.8	39.5	3.9	42.5	3.6	82.0	7.5
Life & Amenity	28.9	3.6	28.7	2.9	57.6	6.5	25.6	2.8	24.4	2.2	50.0	5.0
Others	26.7	2.5	26.8	3.1	53.6	5.6	25.8	2.6	26.2	2.4	52.0	5.0
Total	169.1	9.0	176.4	16.7	345.5	25.8	161.7	18.9	166.3	16.6	328.0	35.5
Inter-segment eliminations and corporate-wide expenses	(19.9)	(1.5)	(18.4)	(1.2)	(38.4)	(2.7)	(19.1)	(0.8)	(17.9)	(1.7)	(37.0)	(2.5)
Consolidated Results	149.1	7.5	157.9	15.5	307.1	23.0	142.5	18.0	148.5	15.0	291.0	33.0



# 4. Price Trend of Main Raw Material and Fuel

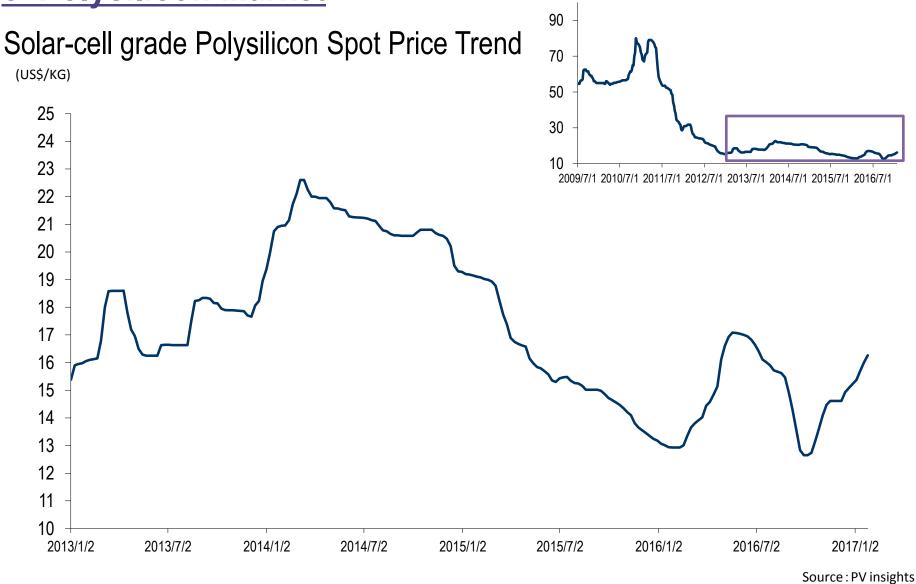
Domestic naphtha price (¥/KL)

Australian thermal coal spot price (\$/t)





# Supplementary Data 5. Polysilicon Market



TOKUYAMA

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