

Fiscal 2017 Business Results

DOWA HOLDINGS CO.,LTD.

May 16, 2018

Overview of Operating Results

■ Consolidated Income Statements

Billion yen

	FY2016 Results			FY2017 Results			Changes					
	H1	H2	Full Year	H1	H2	Full Year	H1		H2		Full Year	
Net Sales	184.7	225.7	410.5	219.3	235.4	454.7	34.5	19%	9.7	4%	44.2	11%
Operating Income	13.3	20.6	33.9	14.6	16.2	30.9	1.3	10%	(4.3)	△ 21%	(3.0)	△ 9%
Ordinary Income	13.5	22.9	36.5	17.2	19.0	36.3	3.6	27%	(3.8)	△ 17%	(0.1)	△ 0%
Profit attributable to owners of parent	9.8	16.2	26.1	11.7	12.9	24.6	1.8	19%	(3.3)	△ 20%	(1.4)	△ 6%

- ✓ While net sales increased with higher metal prices, operating income decreased due to increased depreciation costs, worsening conditions for purchasing raw materials in Nonferrous Materials, and lower waste treatment volumes.
- ✓ Ordinary income remained almost on par with the preceding fiscal year given the improvement in equity method profit.

Exchange rate and metal prices

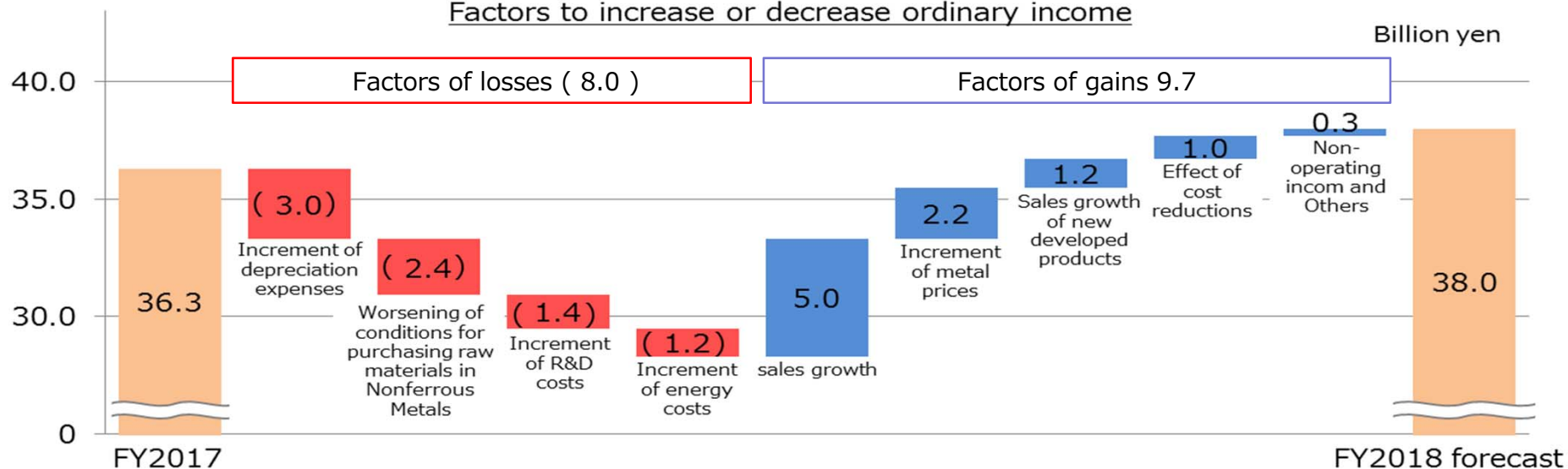
	FY2016 Average			FY2017 Average		
	H1	H2	Full Year	H1	H2	Full Year
Exchange Rate: (¥/\$)	105.3	111.5	108.4	111.1	110.6	110.9
Copper: (\$/t)	4,752	5,557	5,154	6,005	6,884	6,444
Zinc: (\$/t)	2,084	2,650	2,367	2,780	3,328	3,054
Indium: (\$/kg)	222	192	207	184	269	226

Forecast for Fiscal 2018

Billion yen

	FY2017 results	FY2018 forecast	Change
Net Sales	454.7	475.0	20.2
Operating Income	30.9	32.0	1.0
Ordinary Income	36.3	38.0	1.6
Profit attributable to owners of parent	24.6	26.5	1.8

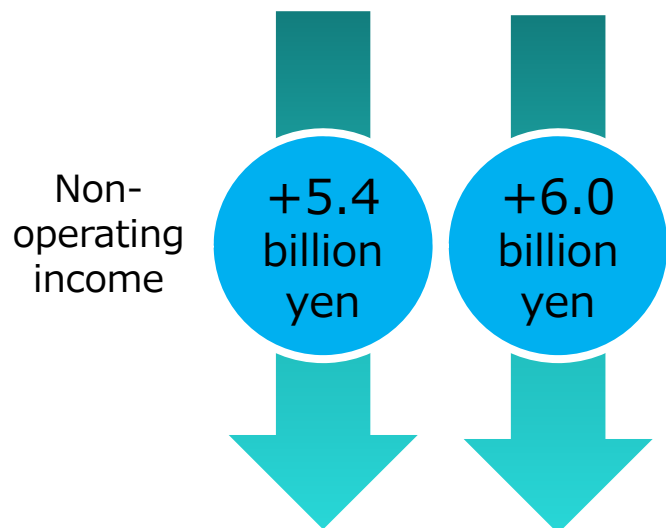
Factors to increase or decrease ordinary income



- ✓ Despite the rise in depreciation costs incurred for growth investments and the worsening of conditions for purchasing raw materials in Nonferrous Metals, profits are expected to rise compared with the preceding fiscal year given sales growth in major products and a rise in metal prices.

Breakdown of non-operating income

	Billion yen	
	FY2017 results	FY2018 forecast
Operating income	30.9	32.0



Ordinary income	36.3	38.0
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【Breakdown in FY2018】

Share of profit of entities accounted for using equity method: 3.5 billion yen

(decline by 0.1 billion yen from FY2017)

Mine-related income remained on a par with FY2017, 2.7 billion yen.

《Mine-related income (comparison with FY2017)》

Tizapa: Rise in zinc price (increased by 0.5 billion yen)

Los Gatos: Development construction continue
(increased by 0.0 billion yen)

Gibraltar: A decline in quality is assumed
(decreased by 0.2 billion yen)

Palmer: Exploration activity costs
(decreased by 0.2 billion yen)

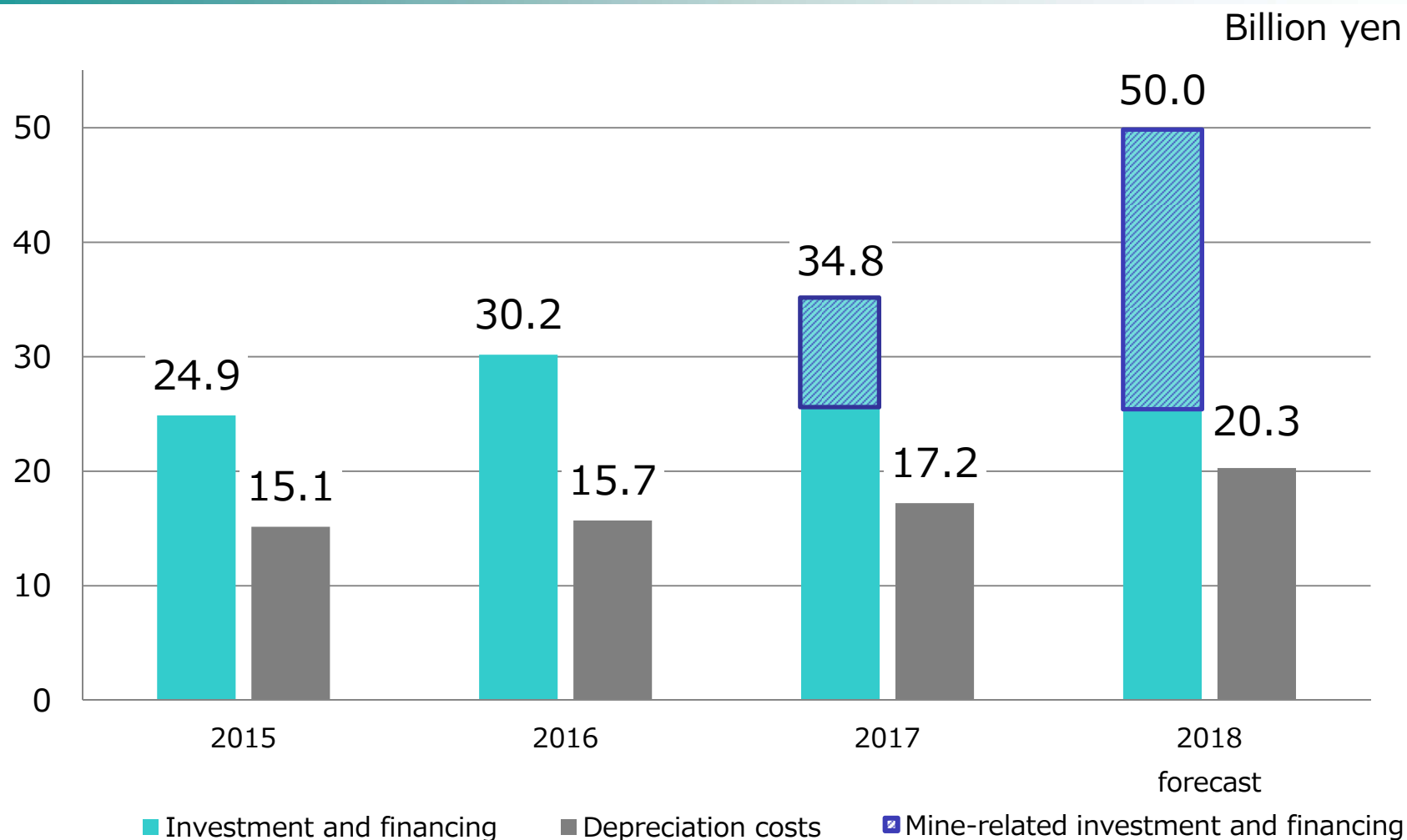
Other income: 2.5 billion yen

(increased by 0.7 billion yen from FY2017)

Increasing sales of new products in Electronic materials segment.

- ✓ Mine development proceeds as planned.
- ✓ The sales expansion of newly developed products also made a good start.

Investment and financing, depreciation costs



- ✓ Including the development of Los Gatos mine, the amount for investment and financing becomes 50.0 billion yen in FY2018.
- ✓ Investments in growth continue to be made. Depreciation costs also increase along with the growing investments.

FY2018 Outline for Each Segment and Progress of Key Measures

Environmental Management and Recycling (1)

FY2018 Outline

◆ Business environmental

- Waste emissions in Japan remains flat.
- Waste emissions in Southeast Asia continue to increase.
- The collection environment for recycling materials improves.

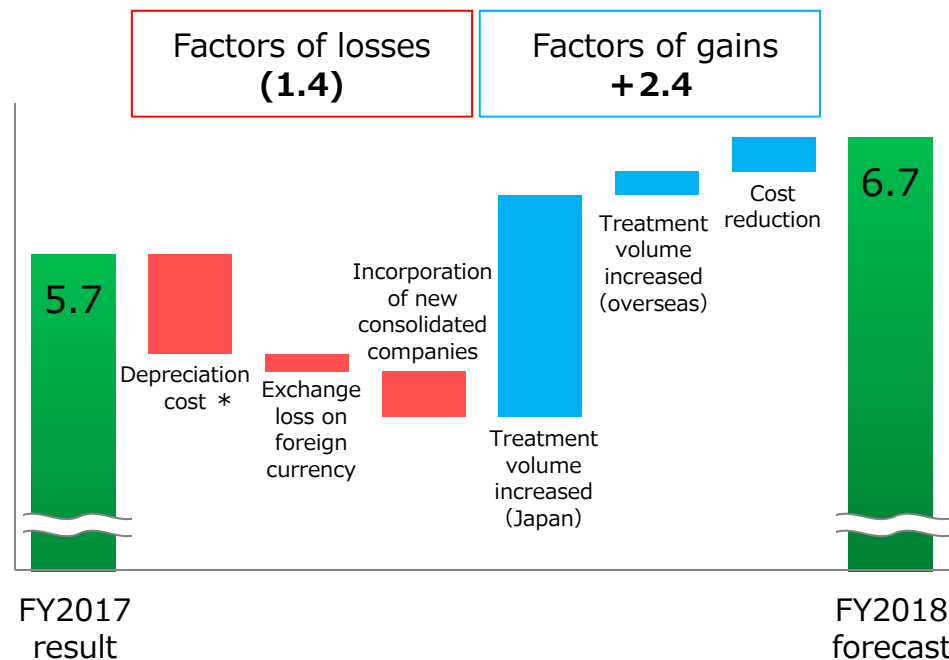
Major Product Trends

(FY2016 = 100)

	2016	2017	2018
Intermediated Waste Treatment Volume in Japan	100	95	100
Waste Treatment Amount in Southeast Asia	100	106	115
Recycling Materials Collection Volume (Kosaka)	100	94	100

◆ Ordinary income

(Billion yen)



[Key Points of income in FY2018]

- Increase of low-contaminated PCB waste treatment volume
- Expansion of waste collection volume in Southeast Asia
- Expansion of recycling material collection volume
- Increase of depreciation costs incurred from enhancement of equipment

* The increase of depreciation costs exclude those in new consolidated companies.

Environmental Management and Recycling (2)

Progress of Key Measures

◆ Expansion of waste treatment business in Southeast Asia

Existing business

- Increase of waste collection volume from the manufacturing industry
- Recovery of oil drilling waste management, DWM, business is expected

Expansion of business scale and area

Further incorporate needs for appropriate waste treatment

<Indonesia>

- Commercialization of incineration treatment: The environmental assessment was completed
→ **it will be the first commercialization in the country**
- East Java new landfill: The environmental impact assessment continued
→ aiming for commence operation in FY2020

<Thailand>

- Hazardous waste treatment : Treatment of CFC has started at existing sites
Promote collaboration with PDI and launch a new landfill (FY2020)
- Expansion of operations:
Participated in the automobile recycling project and the waste-to-energy business

Collection volumes at respective sites in Southeast Asia (FY2015=100)



Environmental Management and Recycling (3)

Progress of Key Measures

◆ Increase of low-contaminated PCB waste treatment volume

Increase of generation of large-size waste electric devices, contaminated objects, and insulating oil

- A treatment network with multiple sites
- All of electric devices, contaminated objects, and insulating oil can be treated
- Focus on enhancement of treatment capacity in Akita and Okayama

Try to increase collection volumes from a wide range of customers

◆ Expansion of recycling material collection volume

With the strengthening of scrap import restrictions in China, recycling materials are accumulated globally

Expand collection of recycling materials from the occurrence area

Licenses	Akita	Chiba	Okaya- yama	Fuku- oka
electric devices	●		●	●
contaminated objects	●	●	●	●
insulating oil	●	●	●	●

Actions

Chiba: Acquired the authorization of Minister of the Environment (FY2017.4Q)

Fukuoka: Double the licensed treatment volume (FY2017.4Q)

Akita: Double the licensed treatment volume (FY2018.3Q)

Okayama: Start treatment by the existing incinerator (FY2018.4Q)



An example of scrap
(Source: Ministry of the Environment)

Nonferrous Metals (1) FY2018 Outline

◆ Business environmental

- Metal prices remains firm.
- Demand for zinc remains firm in Asia.
- The generation of platinum group raw materials are increasing globally, the competition for collection intensified.

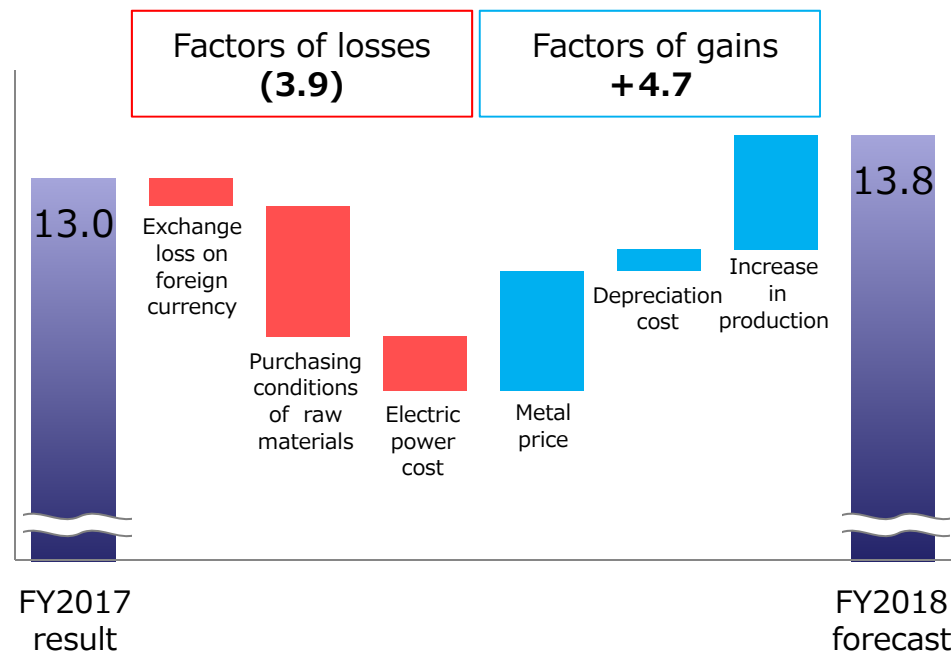
Major Product Trends

(FY2016 = 100)

	2016	2017	2018
Copper Production (Kosaka・Onahama)	100	81	80
Zinc Production (Akita)	100	99	100

◆ Ordinary income

(Billion yen)



[Key points of income in FY2018]

- Increase of free metal income due to increased production.
- Higher metal prices are positively affected.
- The conditions for purchasing raw materials worsen.
- The electric power cost increased due to the higher fuel price.

Nonferrous Metals (2) Progress of Key Measures

◆ Enhancement of earning power in the refining business

Demand for metals increase firmly

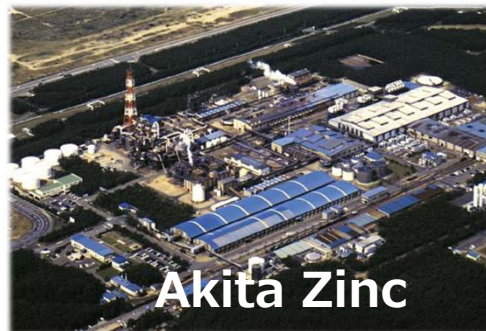


- Concentrate: Worse purchasing conditions, lower quality and increased impurity rate
- Recycling materials: Reduced metal in waste electronic substrates, intensifying competition for collection

To respond to changes in the raw material procurement and collection environments, enhanced the industrial complex functions

Efforts for refining and recycling complex

Concentrate & recycling materials



- Strengthen the impurity separation processes
- Increment of the purchasing from owned mine percentage

Increase zinc production volume
Sales expands to Asia

Recycling materials & concentrate



- Increment of the treatment of low-quality raw materials
- Strengthen the impurity separation processes

Increase production volumes of noble metal, lead and tin

Used vehicle exhaust catalyst



- Expand raw material collection in Europe, North America and Asia

Treatment volume bring up to 1,000 t/month

Nonferrous Metals (3) Progress of Key Measures

◆ Promotion of Mine Development

Los Gatos: Zinc-Silver-Lead Project (Mexico)

2017

Commenced construction of the infrastructure

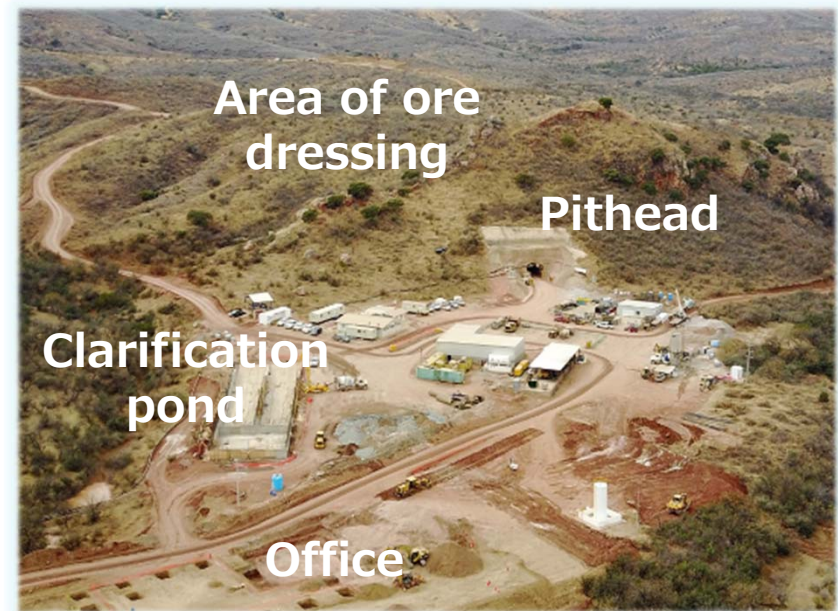
2018

Constructs the equipment inside the mine and metal washings, sequentially

→ **Progressing as planned**

2019

(2Q) Commence concentrate production
(second half) Commence processing at Akita Zinc



Los Gatos project - construction status

Palmer: Zinc and Copper Project (Alaska)

2017

Confirmed the ore reserve of 8 million tons

2018

Continue to explore, aiming for 10 million tons
→ Aim to commence F/S in FY2021 or later

- Increase of the purchasing from owned mine percentage (over 20% → 50%)
- Stable procurement of ores with a high quality of zinc and silver
- Increase of share of profit for using equity method

Increasing Nonferrous metal segment income from the business of refining and mines

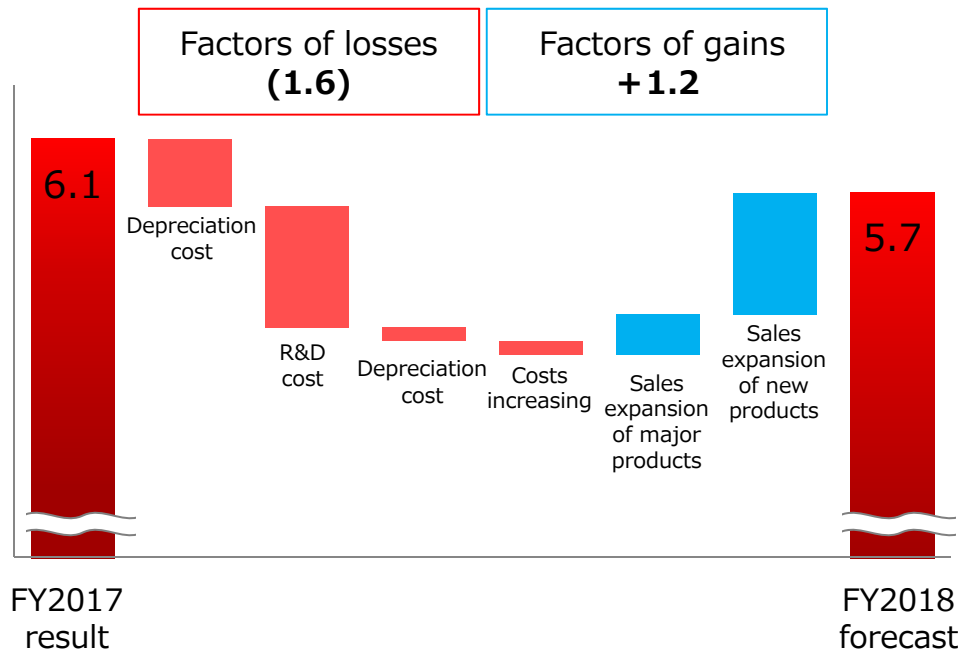
Electronic Materials (1) FY2018 Outline

◆ Business environmental

- LEDs are supported by those for old models of smartphones.
- Sales of silver powder for solar panels are expanded by additional installations.
- Opportunities for employing new products increased steadily.

◆ Ordinary income

(Billion yen)



Major Product Trends

(FY2016 = 100)

	2016	2017	2018
LED Sales Volume	100	97	100
Silver Powder Sales Volume	100	94	110
Income from new products (e.g. prices of samples)	100	221	500

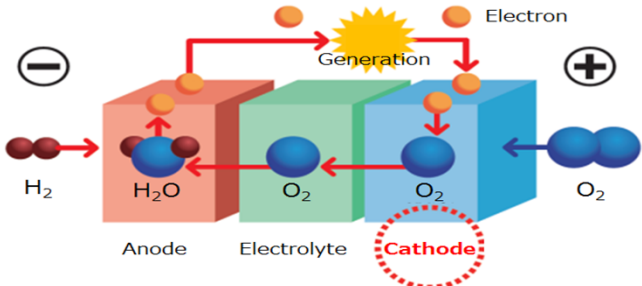

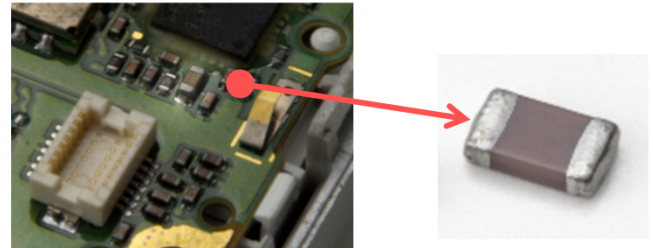
[Key points of income in FY2018]

- Increase of depreciation costs due to enhanced equipment
- Active increase of R&D costs aiming for sales expansion and early commercialization of new products

Electronic Materials (2) Progress of Key Measures

◆ Commercialization of new products

- R&D costs (e.g. human resources and equipment) for new products that will lead to market growth are actively increased.
- Expand the utilization of new and replacement products by improving features. Moved to full-scale mass production.

Intended use/our product	Role of our product	2017 → 2020
<p>Fuel cell (for home and industry)</p> <p>▼</p> <p>Fuel cell materials</p>	 <p>Material for cathode that ionizes oxygen required to generate power</p>	Mass production
<p>Sterilization device</p> <p>▼</p> <p>Deep ultraviolet LED</p>	 <p>Light source of deep UV-ray that weakens and detoxifies DNA of Bacillus coils, etc.</p>	Mass production
<p>Condenser and inductor (electronic circuit components)</p> <p>▼</p> <p>Atomized powder (conductive and magnetic)</p>	 <p>Electrode materials for power-saving electronic circuit components</p>	Mass production

Electronic Materials (3) Progress of Key Measures

◆ Sales expansion of Deep ultraviolet LEDs

Needs for mercury-free, long-life and power-saving sterilization lamps increased

→ Demand for Deep ultraviolet LEDs increased

■ For sterilization purposes

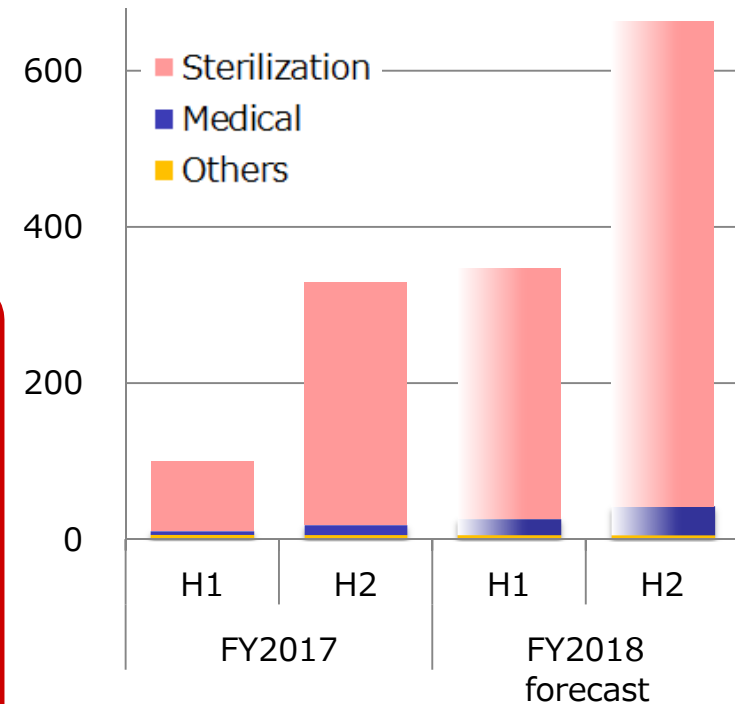
- The world's top-class output power was achieved
- Employed for home electrical appliances with a sterilization function

■ For medical purposes

- Employed for skin therapy devices

- Aim to achieve higher-power and longer-life products
- Its employment is expanded for water sterilization devices used at water purifying plants and semiconductor manufacturers

Sales amount of Deep UV LEDs
(2017.H1=100)



Deep UV LEDs for sterilization devices

Metal Processing (1) FY2018 Outline

◆ Business environmental

- Copper rolled products: Demand expansion continued due to automated automobiles and advanced Internet of Things (IoT).
- Electroplating: Demand increase due to electrified automobiles.
- Metal-ceramics substrates: Those for industrial machines remained firm.

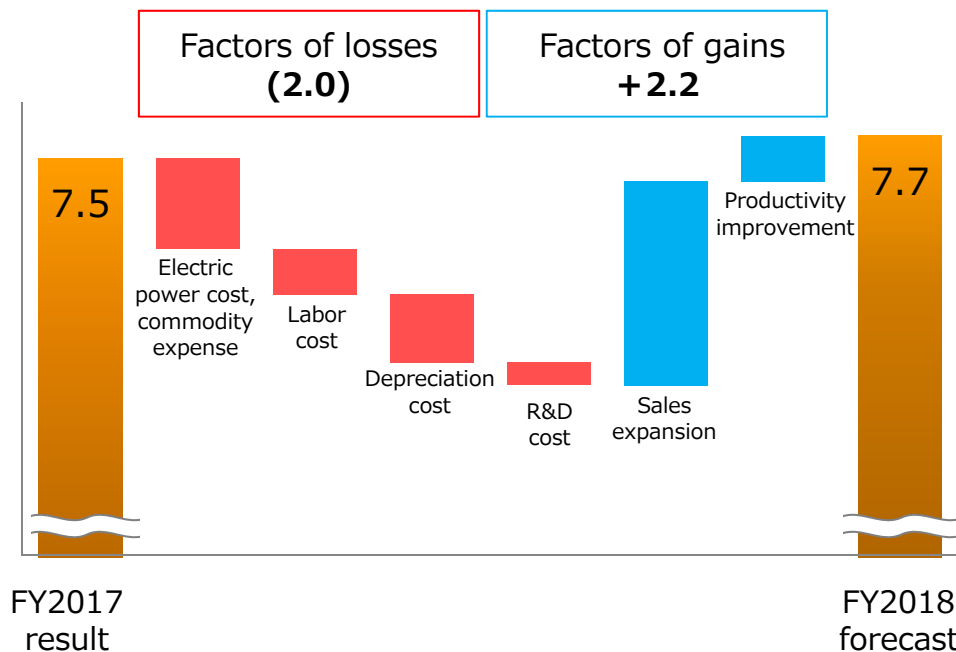
Major Product Trends

(FY2016 = 100)

	2016	2017	2018
Copper Alloy Sales Volume (For Automobile)	100	102	105
Copper Alloy Sales Volume (For IoT devices)	100	105	115

◆ Ordinary income

(Billion yen)



[Key points of income in FY2018]

- Increase of production volume and sales expansion of high-function products
- Increase of commodity expenditure, labor costs, and depreciation costs due to additional installations and increased production volume

Metal Processing (2) Progress of Key Measures

◆ Production volume increase and sales expansion of high-function products

Automated, more intelligent automobiles, and advance of IoT

→ Demand for related components increased

Needs for features were enhanced and diversified

- Focus on production volume increase and sales expansion of high-function products
- Gradually and steadily increase the production volume

Copper rolled products:

- Production volume increase by optimized product configuration, higher quality, and improved productivity
- Promote large-scale investments in anticipation of the production volume increase in FY2019.

Electroplating:

- Productivity increased due to restructured production lines in Japan and production volume increased due to additional installations.
- Capture the demand for local procurement by utilizing the sites in Thailand and Mexico.

Metal-ceramics substrates: The production volume of core products increase by enhanced equipment. Sales of in-vehicle products and products for railways expand.

Needs for features were enhanced and diversified

Automated



PHV・EV

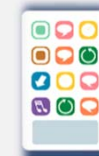
High conductivity
High pressure resistance
High reliability

Intelligence



High reliability
Downsizing
Lightweight

Advancement of IoT



High speed communication

Thinner
Stronger
Low heat generation

Heat Treatment (1) FY2018 Outline

◆ Business environmental

- The production volume of automobiles decrease slightly in Japan, but the total volume gradually increase led by India and Southeast Asia.
- The production of car parts continue to increase.

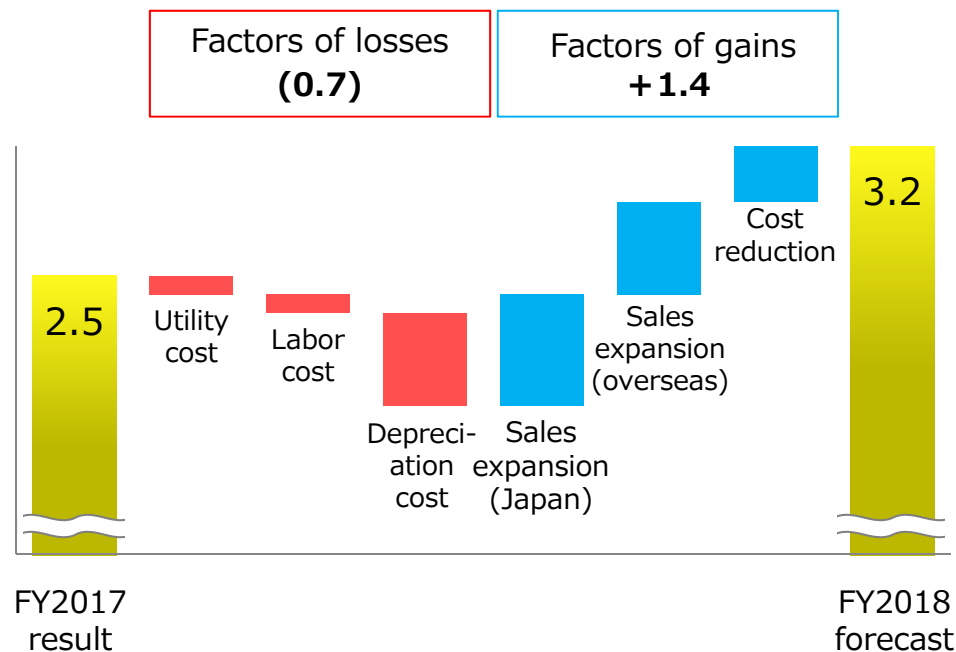
Major Product Trends

(FY2016 = 100)

	2016	2017	2018
Heat Treatment Sales Amount	100	110	120
Industrial Furnaces Sales Amount	100	113	125

◆ Ordinary income

(Billion yen)



[Key points of income in FY2018]

- Sales expand in Japan and overseas, mainly for automobiles.
- Utility costs, labor costs, and depreciation costs increase due to additional installation and increased production volume.

Heat Treatment (2) Progress of Key Measures

◆ Demand for car parts increase

• Automatic cars became popular and spread globally.

→ The production of related parts increased in Japan, and also spread overseas.

Japan: Equipment was enhanced and automation facilities are introduced.

China and North America: Equipment is enhanced in anticipation of increased orders.

• Local procurement of parts in the production locations of automobiles is advancing.

→ Heat treatment of car parts were also carried out locally.

■ New investments

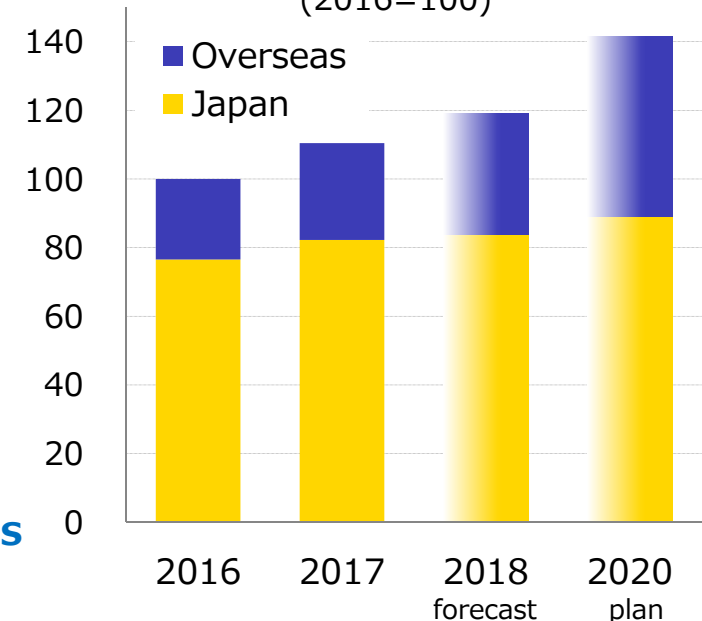
India: Mass production at two new plants commence (second half of FY2018).

■ Utilization of existing facilities

Thailand and Indonesia: Products whose production was transferred and new mass-produced products were acquired.

Continue investments in growth and also proceed with the return of prior investments.

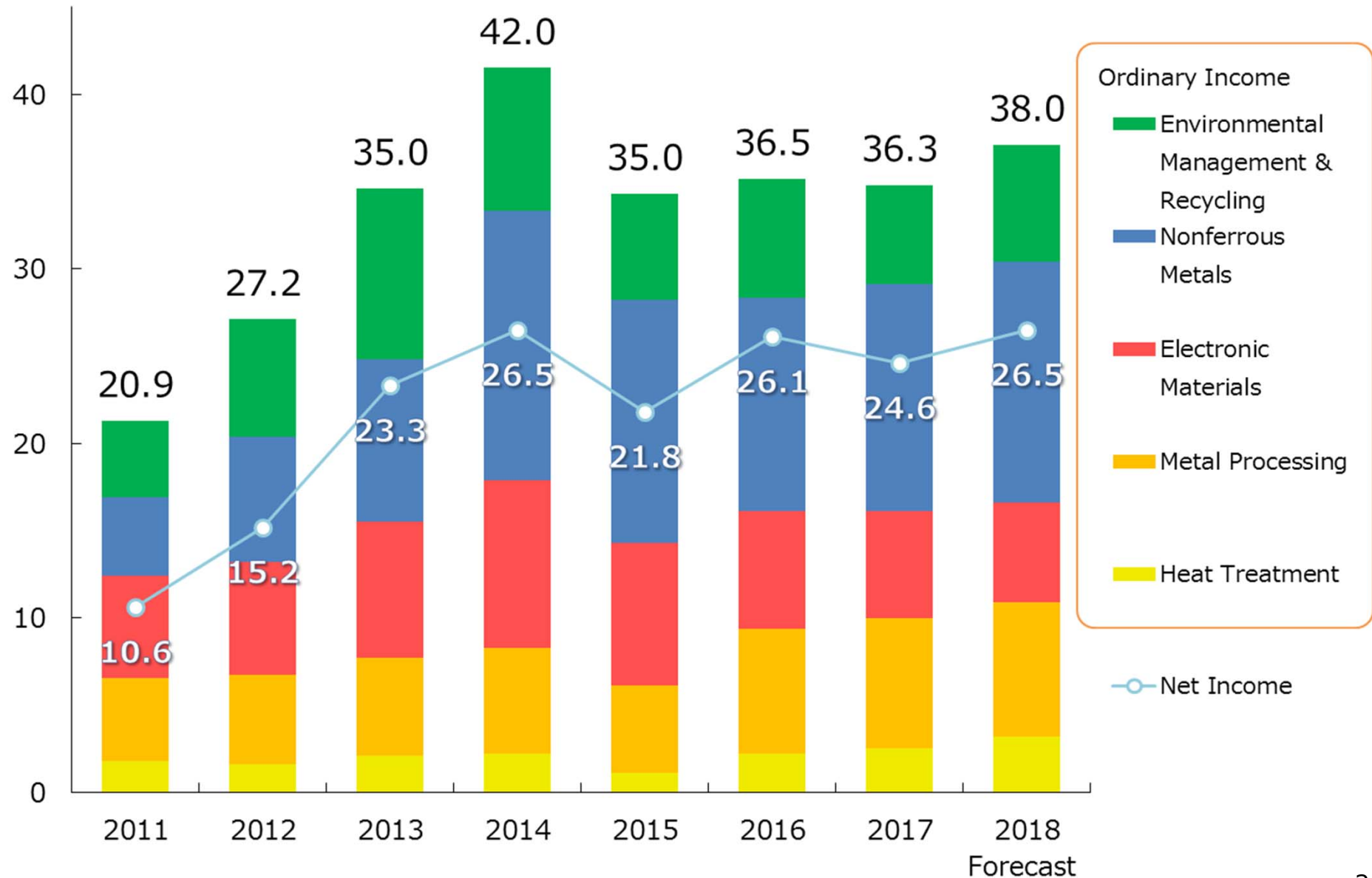
Sales amount of Heat treatment (2016=100)



Heat treatment facility of new plant in India

Ordinary Income and Net Income

(Billion yen)



DOWA

* Forward-looking statements made in this document, such as business forecast, are based on the information available at this time and on certain premises that the Company assumes to be reasonable. Actual performance may differ materially from such forecasts due to a variety of factors.