

# Business Results and Progress of Key Measures

---

FY2018 (FY Ending March 2019)

**DOWA HOLDINGS CO.,LTD.**

May 16, 2019

# FY2018 Consolidated Business Results Highlights

## ■ Consolidated Income Statement

	FY2017 Results	FY2018 Results	Change	
Net Sales	454.7	452.9	(1.8)	(0%)
Operating Income	30.9	18.6	(12.2)	(40%)
Ordinary Income	36.3	24.3	(12.0)	(33%)
Profit attributable to owners of parent	24.6	14.9	(9.7)	(39%)

Billion yen

In FY2018, the company steadily implemented initiatives that were included in Midterm Plan 2020, although profits decreased compared to the previous year due to reasons such as worsened conditions for the purchase of smelting raw materials and the fall in demand for electronics material products.

Segment	Status of implementation of major measures
Environmental Management & Recycling	<ul style="list-style-type: none"> <li>- The capacity for treatment of low-contaminated PCB waste has expanded.</li> <li>- Melting and recycling operations have been strengthened.</li> </ul>
Nonferrous Metals	<ul style="list-style-type: none"> <li>- Construction of Los Gatos mine, Mexico, has progressed.</li> <li>- The production capacity of the zinc processing site in Thailand has been reinforced.</li> </ul>
Electronics Materials	<ul style="list-style-type: none"> <li>- Customer approval was acquired for conductive atomized powder.</li> <li>- The Shipping samples of near-infrared LED started.</li> </ul>
Metal Processing	<ul style="list-style-type: none"> <li>- Established a site for the tin plating of copper rolled products in China.</li> </ul>
Heat Treatment	<ul style="list-style-type: none"> <li>- Established a site for the maintenance of industrial furnaces in the U.S. and two new heat treatment plants in India.</li> </ul>

## Forecast for FY2019 (1)

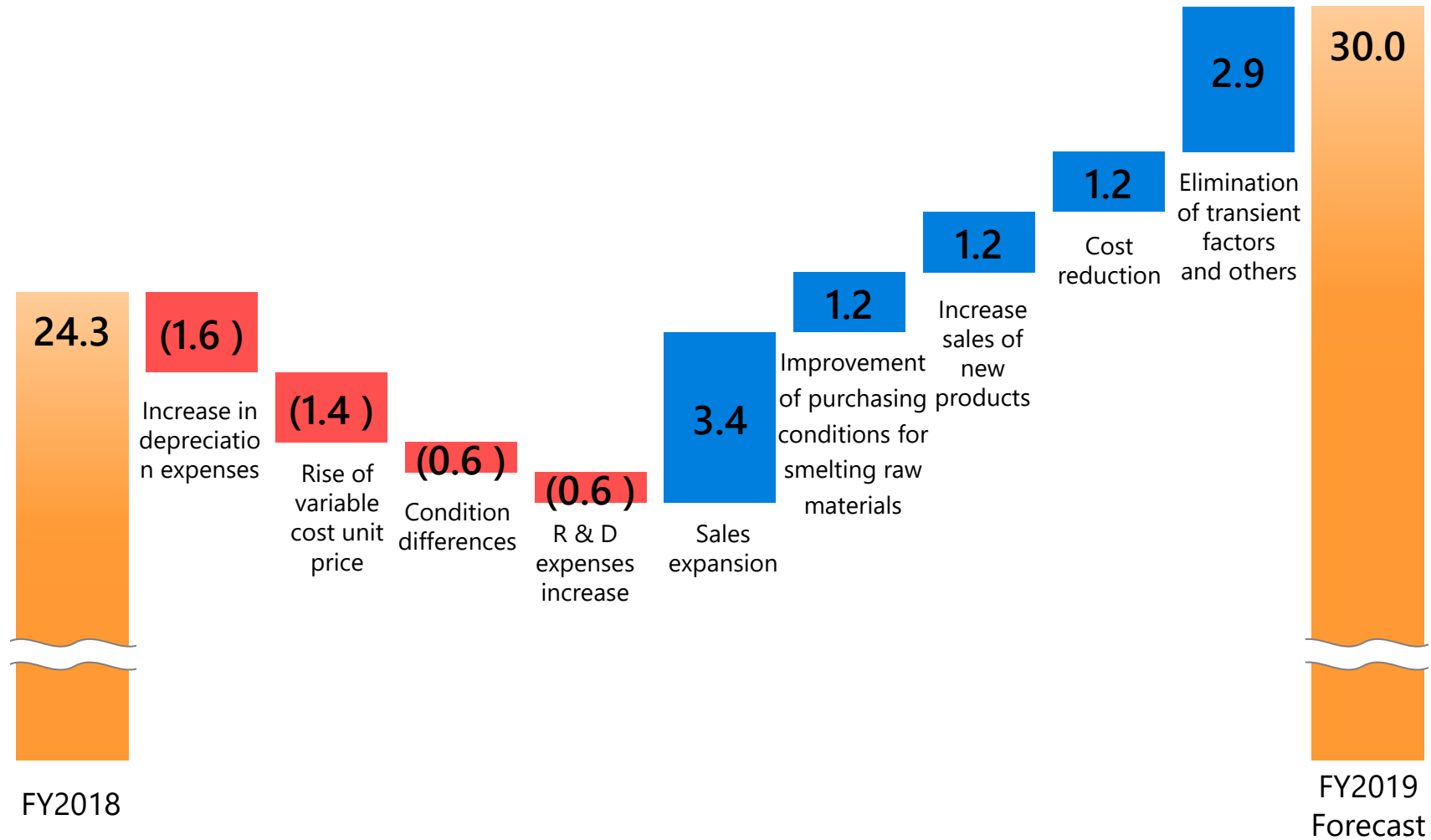
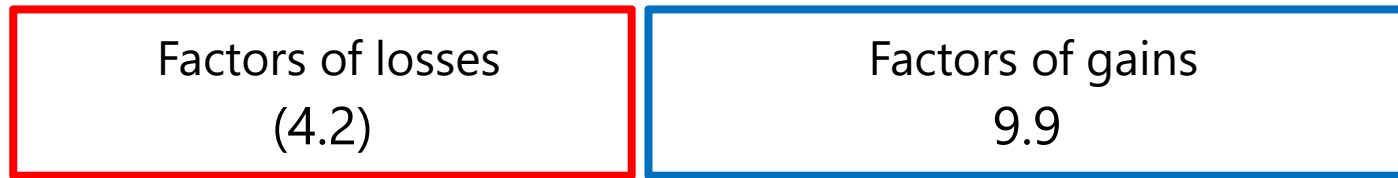
### ■ Consolidated Income Statement

	FY2018 Results	FY2019 Forecast	Billion yen Changes	
Net Sales	452.9	455.0	2.0	0%
Operating Income	18.6	24.5	5.8	31%
Ordinary Income	24.3	30.0	5.6	23%
Profit attributable to owners of parent	14.9	20.0	5.0	33%

In FY2019, the cost for electric power, depreciation and others will increase, but conditions for the purchase of smelting raw materials will take an upturn and temporary factors will be resolved. In addition, the effects of Midterm Plan 2020 will boost sales of new and existing products. Therefore, profits are projected to be larger compared to the previous fiscal year.

# Forecast for FY2019 (2) Factor Analysis of Ordinary Income

Billion yen



# Review of Midterm Plan 2020 Changes since the plan was established

	Midterm Plan 2020	FY2018 Results	FY2019 Forecast	Progress rate
Operating Income (billion yen)	(FY2020) 45.0	18.6	24.5	54%
Ordinary Income (billion yen)	(FY2020) 50.0	24.3	30.0	60%
ROE (%)	(FY2020) 12 or more	6.3	8.0	67%
ROA (%)	(FY2020) 10 or more	5.1	6.0	60%
Operating Cash Flow (billion yen)	(3 years) 120.0	(2 years) 72.5		60%
Capital Investments (billion yen)	(3 years) 110.0	(2 years) 83.0		75%
R & D Expenses (billion yen)	(3 years) 20.0	(2 years) 13.1		66%

## Changes in Business Environment

### Positive factors:

- Increase in metal prices (assumed in Midterm Plan: copper 5,500 \$/t; zinc 2,700 \$/t)
- Increase in collection of automobile shredder residue and disassemble home electrical appliances, reflecting tighter environmental regulations inside and outside Japan

### Negative factors:

- Appreciating yen (assumed in Midterm Plan: 115 yen/\$)
- Decreased profit in low-contaminated PCB waste treatment
- Changes in business environment for LEDs and silver powder
- Development of the market for new products was delayed in the electronics materials segment
- Rising costs, for example, electricity costs and material unit prices

- Investment and R&D expenses were basically in line with the Midterm Plan.

ROE: Return on equity (net income attributable to owners of the parent divided by average of equity at the start and end of the year)

ROA: Return on assets (ordinary income divided by the average of total assets at the start and end of the year)

# Progress of Key Measures in Each Segment

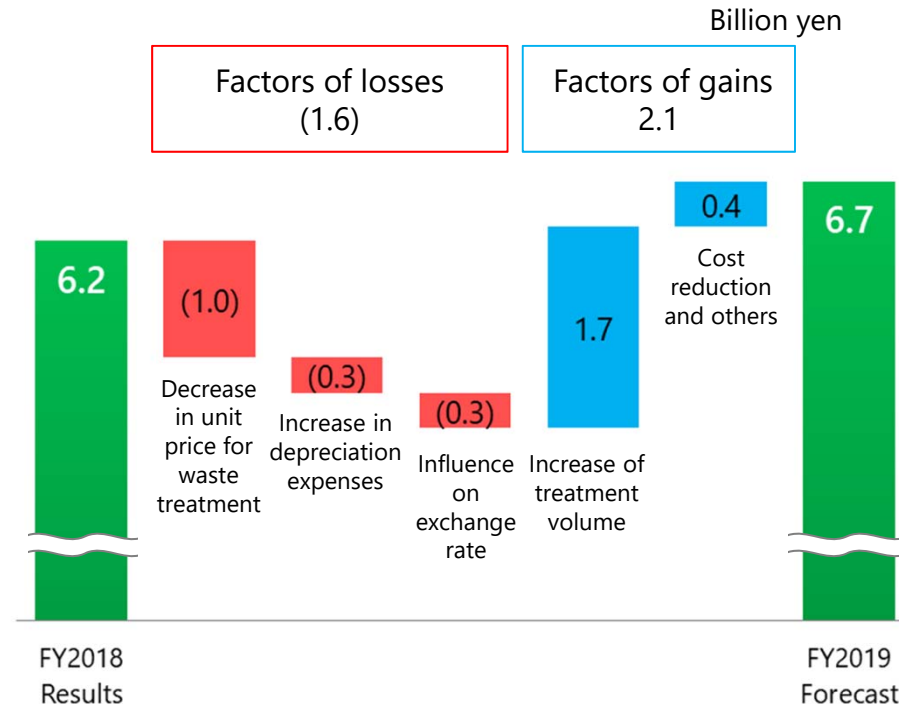
---

# Environmental Management & Recycling (1): Business Overview

## Business Environment (FY2019)

- Waste: The volume of waste generated is solid in both Japan and Southeast Asia. Oil and natural gas projects are also expected to be on a par with the preceding fiscal year.
- The environment for collecting automobile shredder residue and disassemble home electrical appliances continues to be favorable.

## Net Sales & Ordinary Income



## 《Major Product Trends》

(FY2018 H1 = 100)

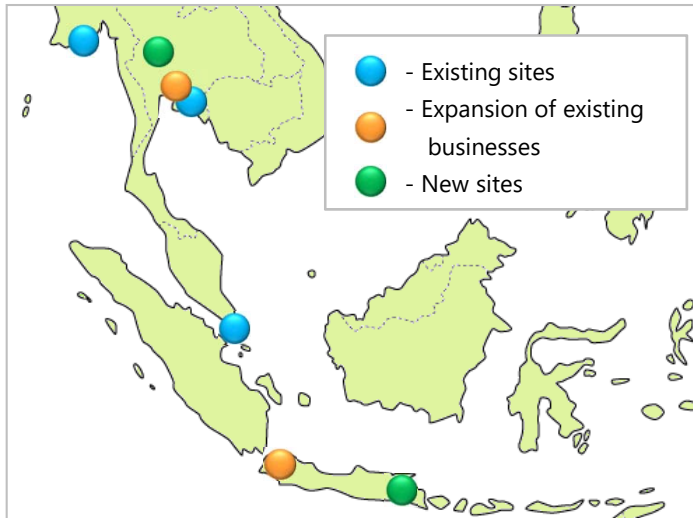
	FY2018		FY2019	
	H1	H2	H1	H2
Intermediated Waste Treatment Volume in Japan	100	97	107	105
Treatment Volume in Melting and Recycling business	100	105	121	119
Waste Treatment Amount in Southeast Asia	100	96	98	118
Treatment Volume in Electric Equipment Recycling business	100	103	106	96

## Overview of FY2019

- Unit price for domestic waste treatment is estimated to fall.
- By the measures for increasing the treatment capacity in the previous fiscal years, the amount of waste treatment in terms of low-contaminated PCB waste, melting and recycling have increased.
- Disassembly and sorting sites will remain fully operational in the automobile recycling and electric equipment recycling business.

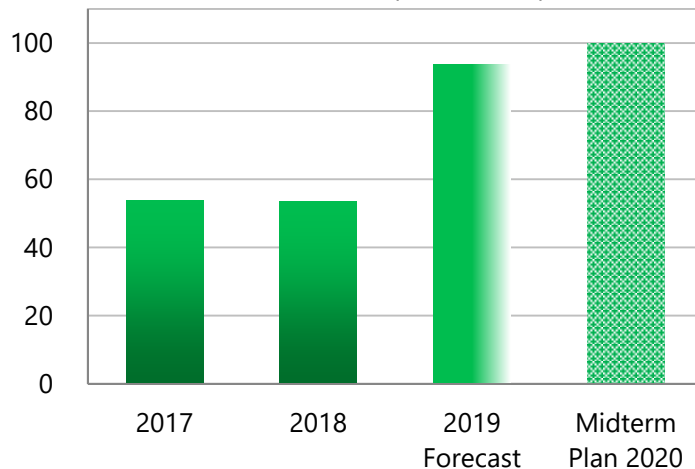
## (2): Expansion of Waste Treatment Business in Southeast Asia

Business expansion in Southeast Asia in Midterm Plan 2020



Thailand: Expand hazardous waste treatment (new facilities and incineration).  
 Indonesia: Establish a second facility and commercialize incineration treatment.  
 Develop businesses in the neighboring countries.

Ordinary Income in Businesses in Southeast Asia (2020 = 100)



### Thailand Expand waste treatment

- Incineration business:  
 Expected to acquire authorization for hazardous waste during the first half of FY2019.  
 -> **Expansion of hazardous waste treatment will contribute to profits.**
- Expand existing facilities and build new facilities for treating hazardous waste for further expansion.

### Indonesia

#### Commercialize incineration treatment

- FY2018: The environmental impact assessment for existing sites was completed.
- **First half of FY2019: Start construction of incinerators for hazardous waste.**  
 => **Start operation in FY2020.**

#### Establish a second landfill facility

- The environmental impact assessment is expected to be completed in FY2019.
- > **Start construction in FY2019 and start operation in FY2020.**



## (3): Strengthen Readiness for Operations in the Domestic Market

### ■ Disassembly and sorting

According to tightened regulations on the import of plastic waste and metal scrap in China and Southeast Asia, the recycling of waste disassemble home electrical appliances in Japan has increased.

-> **Disassembly and sorting sites will remain fully operational to unflinchingly capture opportunities to satisfy the market demand.**

### ■ Melting and recycling

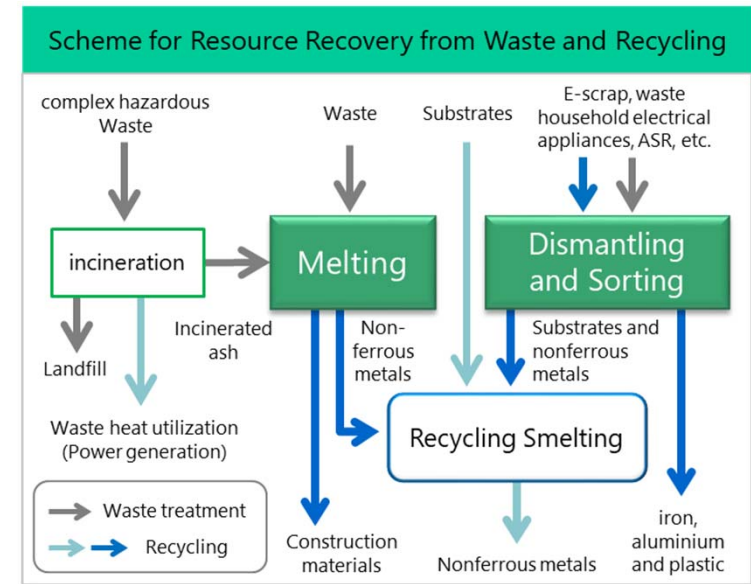
Operation of a new site in Fukushima started in December 2017. Another site in Tochigi acquired greater treatment capacity in FY2018.

-> **The amount of waste treatment is planned to increase 20% compared to the previous period in FY2019.**

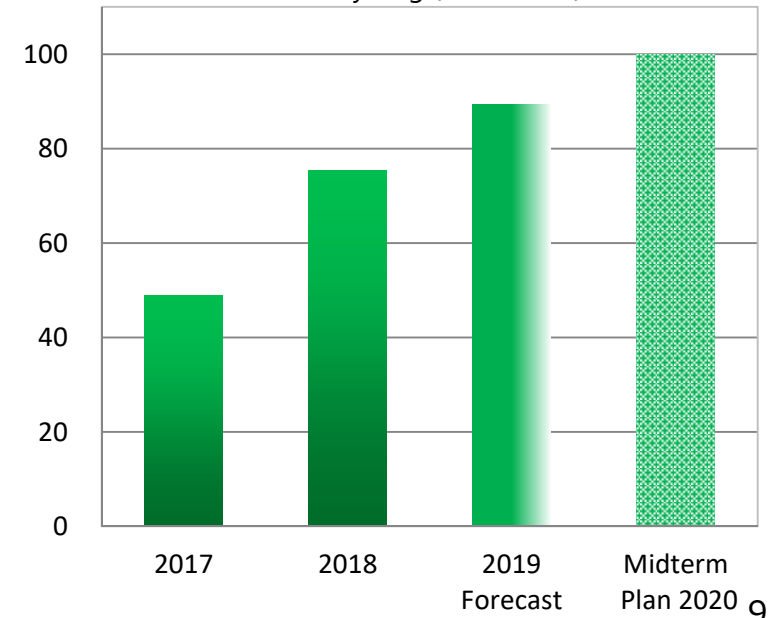
### ■ Incineration of low-contaminated PCB waste

Use of the existing furnace in Okayama and the doubling of approved quantities in Akita helped to increase the waste treatment capacity in FY2018.

-> **The amount of waste treatment is planned to increase 20% compared to the previous period in FY2019.**



Amount of waste treatment in terms of melting and recycling (2020 = 100)



# Nonferrous Metals (1) Business Overview

## Business Environment (FY2019)

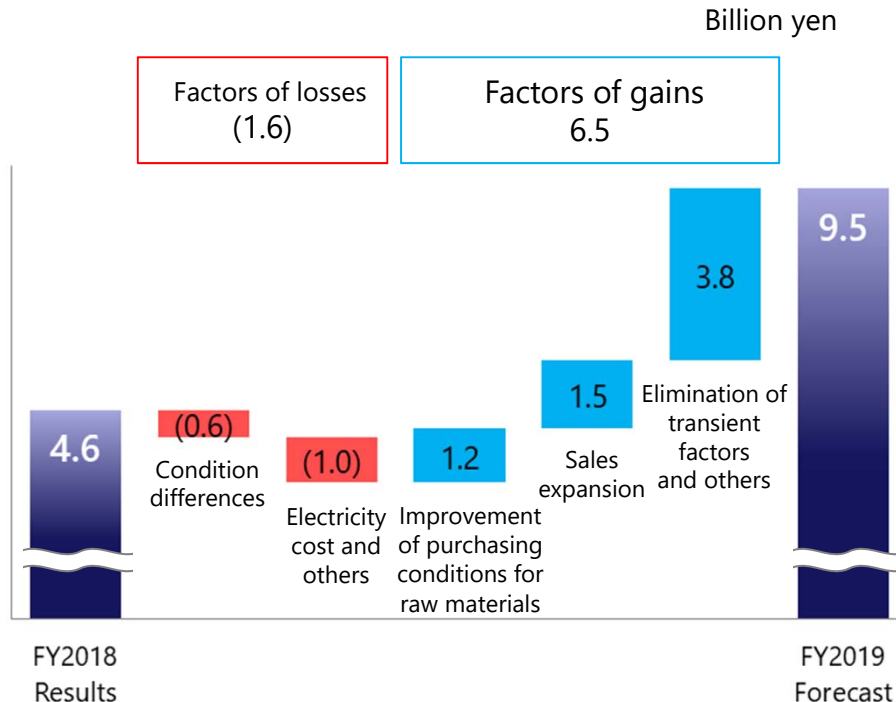
- Metal prices: Copper and zinc prices are resistant to increases due to the impact of the U.S.-China trade war, and prices for precious metals are rising sharply.
- Demand for metals: Expected to be generally strong.

## 《Major Product Trends》

(FY2018 H1 = 100)

	FY2018		FY2019	
	H1	H2	H1	H2
Copper Production (Kosaka・Onahama)	100	97	<b>108</b>	<b>107</b>
Gold Production (Kosaka)	100	102	<b>99</b>	<b>112</b>
Zinc Production (Akita)	100	113	<b>103</b>	<b>111</b>

## Net Sales & Ordinary Income



## Overview of FY2019

- Exchange rate and metal prices: Generally on a par with the preceding fiscal year.
- Electricity costs and hedge costs rose.
- Purchase conditions for zinc raw materials are significantly improved.
- Production: Increase production of copper, gold and PGMs.
- The transient factors in FY2018 was solved.

## (2): Start of Operation at Los Gatos Mine

### ■ Progress

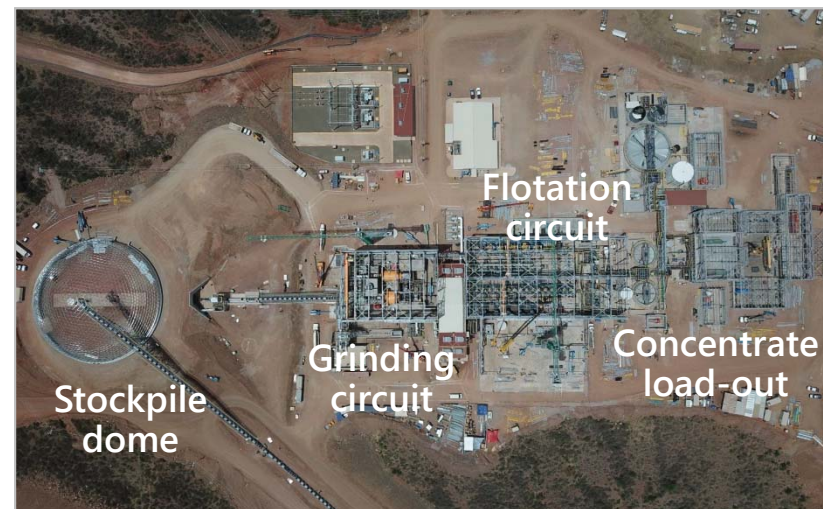
- Construction is being facilitated as planned.
- Scheduled to start operating in **July of FY2019**.
- The mine will become fully operational and begin to contribute to profits in FY2020.

### ■ Overview and Features of Los Gatos Mine

- Reserves: 9.8 million tons; mine life: 12 years
  - > Long-term and stable raw material procurement for DOWA's smelting facilities
- Production of concentrates: 50k tons/y for zinc concentrate and 30k tons/y for lead concentrate
  - > DOWA has the right to off-take all zinc concentrate. DOWA increased the percentage of procurement from its own mines from 20 to 40%.
- Content: **High-content silver** and low impurities
  - > Suitable as raw materials for DOWA's recycling and smelting complex



Overview of Los Gatos Mine



Processing plant under construction

# Electronics Materials (1) Business Overview

## Business Environment (FY2019)

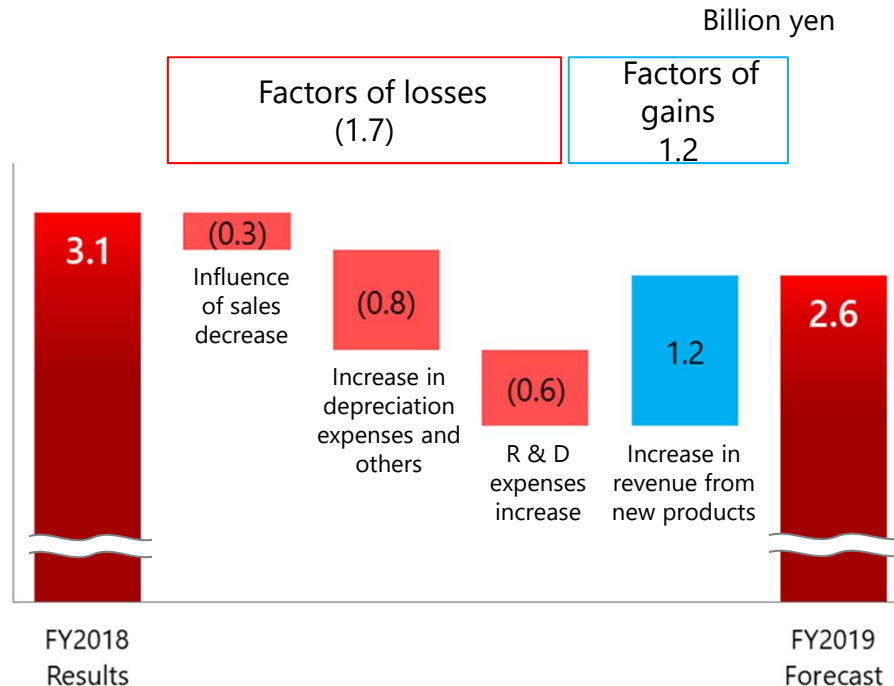
- Sales of smartphone units grow slowly.  
New method proximity sensors become mainstream.
- The installation of solar panels shows flat growth, but the ratio of new panels is expected to increase.

## 《Major Product Trends》

(FY2018 H1 = 100)

	FY2018		FY2019	
	H1	H2	H1	H2
LED Sales Volume	100	63	58	75
Silver Powder Sales Volume	100	98	102	103
Income from new products (e.g. evaluation sample incomes)	100	82	170	280

## Net Sales & Ordinary Income



## Overview of FY2019

- Sales of leading products including LEDs for smartphones are expected to decrease.
- Increase R&D expenses for new products as well as income from samples such as conductive atomized powder and silver nano powder.

## (2): Changes from Midterm Plan 2020 and Future Plans

### ■ Ordinary income deviates from the Midterm Plan

#### 1. Changes in the operational environment for existing products

LED: Lifecycle of products for proximity sensors ended.

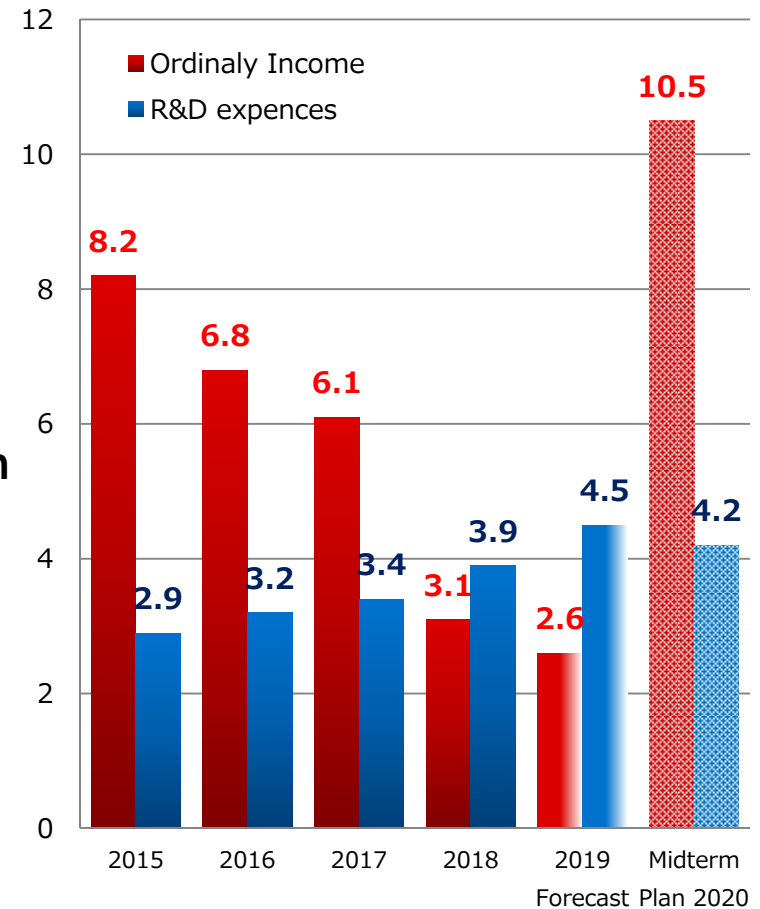
Silver powder: Grants for solar panels were reduced and the wiring of cells became thinner.

#### 2. Development of the market for new products was delayed.

### ■ Future plans: Increase applications to strengthen the revenue base

- Develop applications with the wider wavelength range of infrared LEDs.
- Increase sales of silver powder for new and next-generation solar panels.
- Expand applications of conductive atomized powder and silver nano powder.

Ordinary Income & R&D Expenses (billion yen)



Domains of information communications, such as IoT and 5G and healthcare, will grow further in the future.

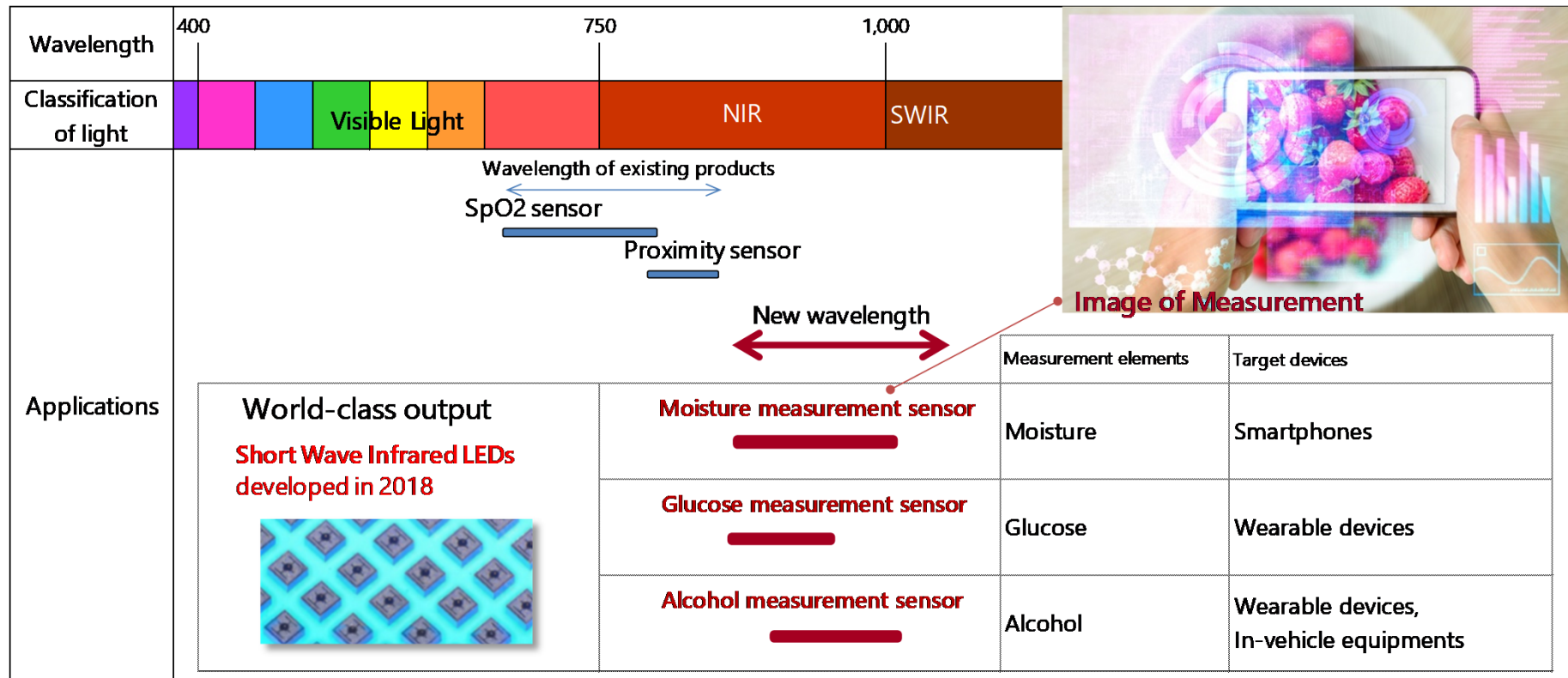
-> R&D expenses will be spent faster than projected in the Midterm Plan. **Profits have got back on a recovery track from the second half of FY2019.**



### (3): Develop Applications with the Wider Wavelength Range of Infrared LEDs

Demand for optical sensors, which are used to measure elements such as moisture content and glucose, increases in healthcare and other fields.

-> **Widen the wavelength range of infrared LEDs and capture the demand.**



FY2019: For Moisture measurement sensor which customer approval was acquired, **start mass production from the second half of the year.**

FY2020: Being ahead of other companies, develop applications for healthcare sensors.

## (4): Increase Sales of Silver Powder for New and Next-generation Solar Panels

### Market trend

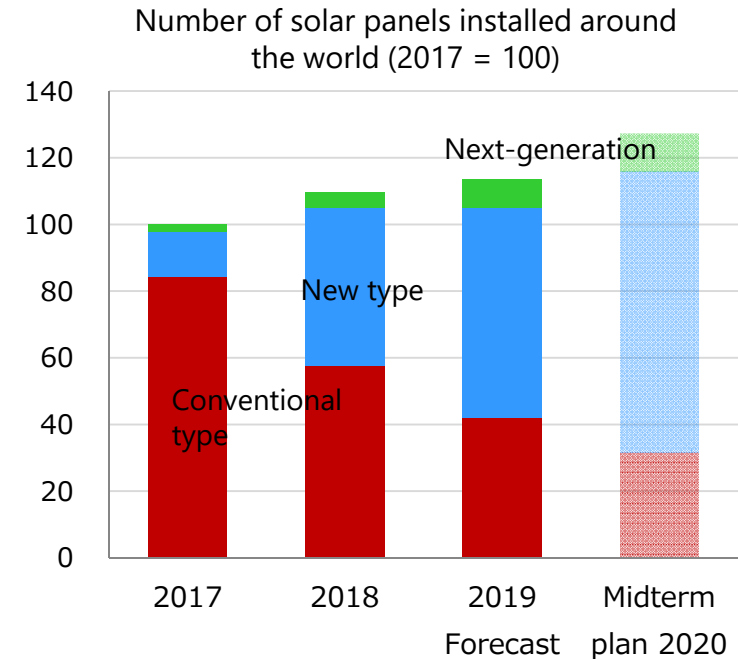
- The number of solar panels installed is in a period of stable growth.
- The ratio of installation of new and next-generation panels, characterized by higher efficiency for power generation, continues to increase.
- The wiring of cells becomes thinner mainly in new and next-generation panels.



### Strategy

Develop and expand sales of silver powder in accordance with the needs for thinner wire and capture opportunities to satisfy demand for new and next-generation panels.

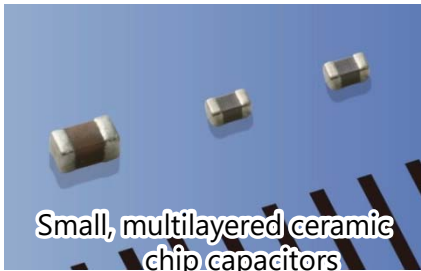
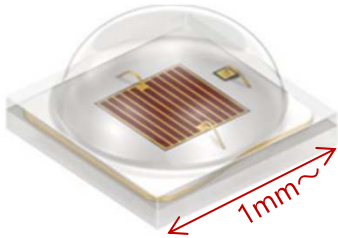
- > This will be a stable source of profits as the company maintains its position as the top manufacturer of silver powder.



Example of a next-generation panel (power generated from both sides of the panel)<sup>15</sup>

## (5): Expand applications of conductive atomized powder and silver nano powder

- Given advances in IoT and 5G, electronic components are being downsized and the number of electronic components used is increasing.
  - > Materials require **less quantity, superior adhesion and high conductivity.**
- DOWA's conductive atomized powder and silver nano powder boast the strength of having the optimum balance in terms of **of size, shape and powder size distribution.**
  - > Mass production for ultra-micro, high-performance electronic components will start in FY2019.

Products	Applications	Schedule		
		2018	2019	2020
<b>Conductive Atomized Powder</b>	 <p>Small, multilayered ceramic chip capacitors</p>	Introduce facilities Acquire customer approval	Mass production	Achieve profitability
<b>Silver Nano Powder</b>	 <p>Joints for ultra-micro LEDs</p>	Introduce facilities Acquire customer approval	Mass production	Achieve profitability



# Metal Processing (1) Business Overview

## Business Environment (FY2019)

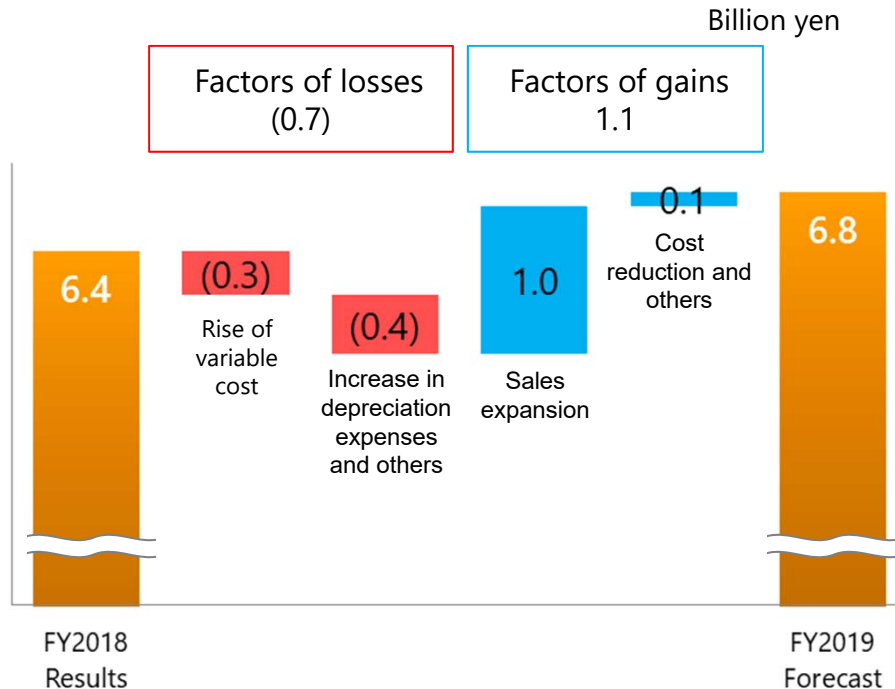
- Demand for the main products will grow due to the development of electrified, intelligent automobiles and multi-functional, high-speed information and communication equipment, as well as the increase in servers and base stations.

## 《Major Product Trends》

(FY2018 H1 = 100)

	FY2018		FY2019	
	H1	H2	H1	H2
Copper Alloy Sales Volume (For Automobile)	100	106	<b>102</b>	<b>107</b>
Copper Alloy Sales Volume (For information and communication equipment)	100	91	<b>98</b>	<b>109</b>

## Net Sales & Ordinary Income



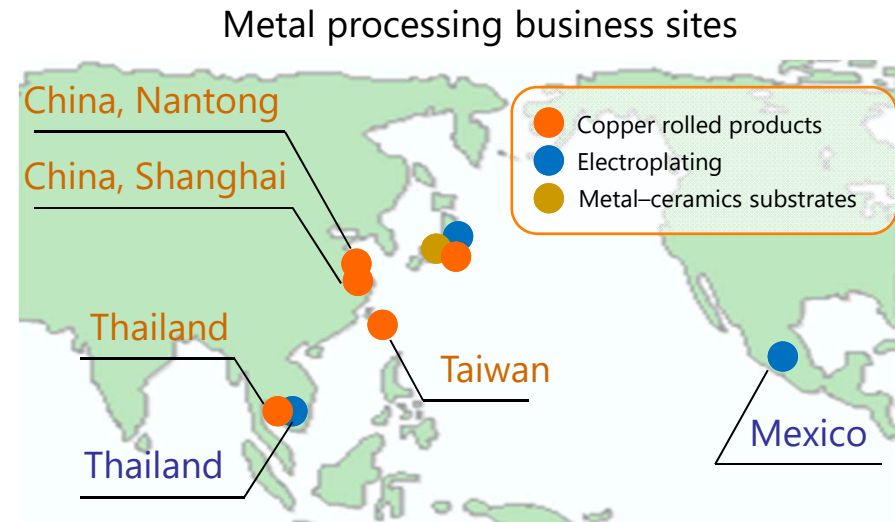
## Overview of FY2019

- Demand grows firmly, especially for automobiles, and production continues to be at a high level.
- Expand production facilities at key sites to satisfy the increasing demands in the medium and long term.

## (2): Expansion of Businesses in Global Market

### Expand sites outside Japan

Expand local processing and delivery sites to respond to the trend of Japanese manufacturers' overseas relocation of domestic production sites as well as to meet Chinese customers' production expansion.



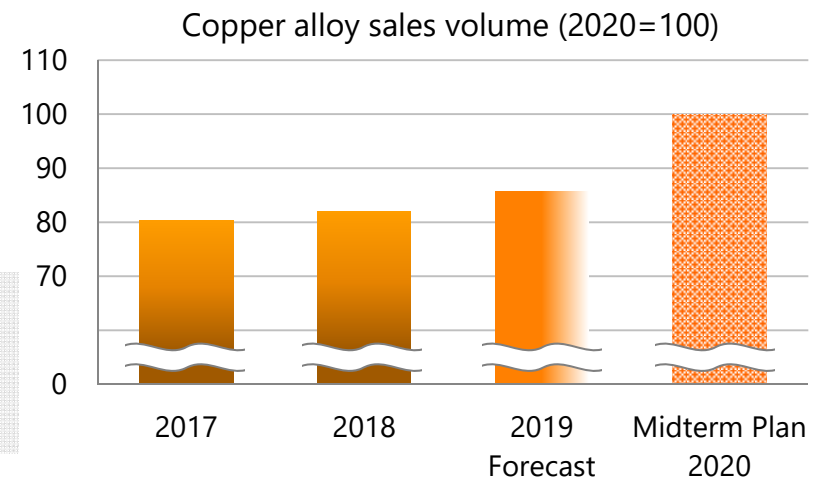
FY2019: Establish a new site in China (Nantong) and increase production at plating sites in Thailand.

FY2020: Achieve full-scale production at all overseas sites and consider the further improvement of processing capacities.

### Expand production capacity in Japan

To better address strong demand for copper alloy, start to invest in construction for the bottleneck processes.

Increase production capacity of high-performance copper alloy strips in FY 2020 by 20% compared to FY2017.

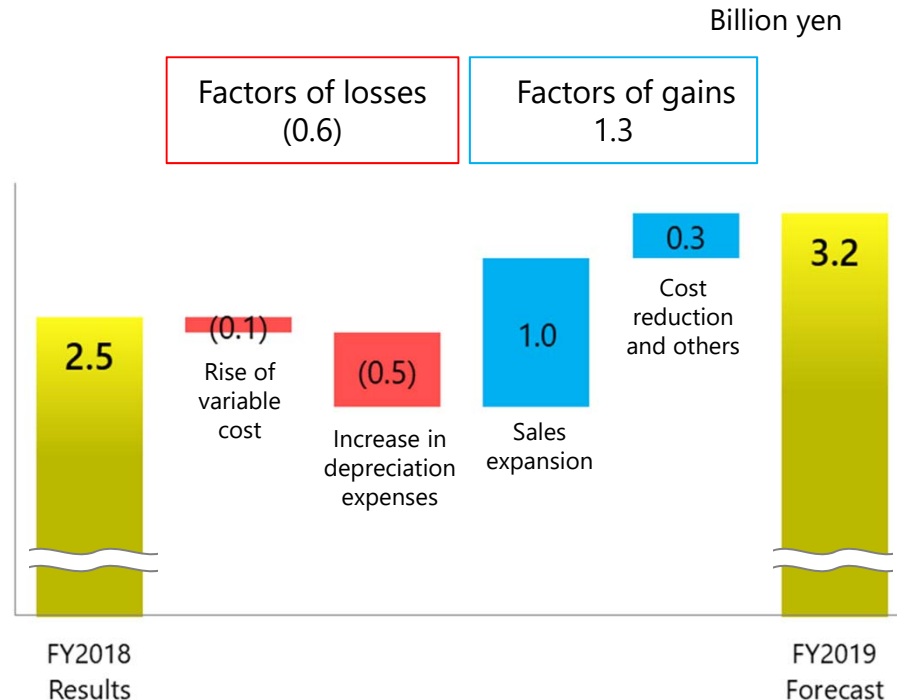


# Heat Treatment (1) Business Overview

## Business Environment (FY2019)

- Automobile production volume increases in the medium and long term. Demand for heat treatment in Japan shows flat growth, but demand outside Japan is gradually increasing, especially in Thailand, Indonesia and other Southeast Asian countries.

## Net Sales & Ordinary Income



## 《Major Product Trends》

(FY2018 H1 = 100)

	FY2018		FY2019	
	H1	H2	H1	H2
Heat Treatment Sales Amount	100	99	102	115
Industrial Furnaces Sales Amount	100	159	121	158

## Overview of FY2019

- Continue to increase production as demand for heat treatment and industrial furnaces is steadily growing inside and outside Japan.
- In anticipation of further increasing demand, start to make prior investments, including enhancement of heat treatment lines.

## (2): Expansion of Businesses Outside Japan

In FY2019, make new investments to prepare for increasing demand and recover from the effects of past investments.

### China

Key customer decided to expand their production in China.

-> To prepare for increasing demand from FY2020,

install new heat treatment lines in advance.

Plan to establish them in the second half of FY2019.

### India

Two new sites were almost completed in FY2018.

-> Plan to start operation in FY2019.

### Mexico

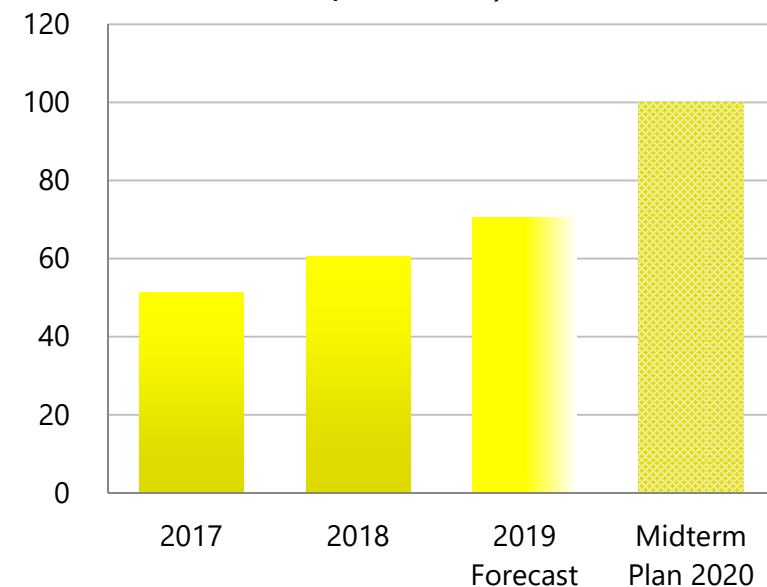
Installed heat treatment lines and acquired customer approval in FY2018.

-> Make efforts to receive stable orders from Japanese customers and to expand new sales from the U.S. and European customers in FY2019.



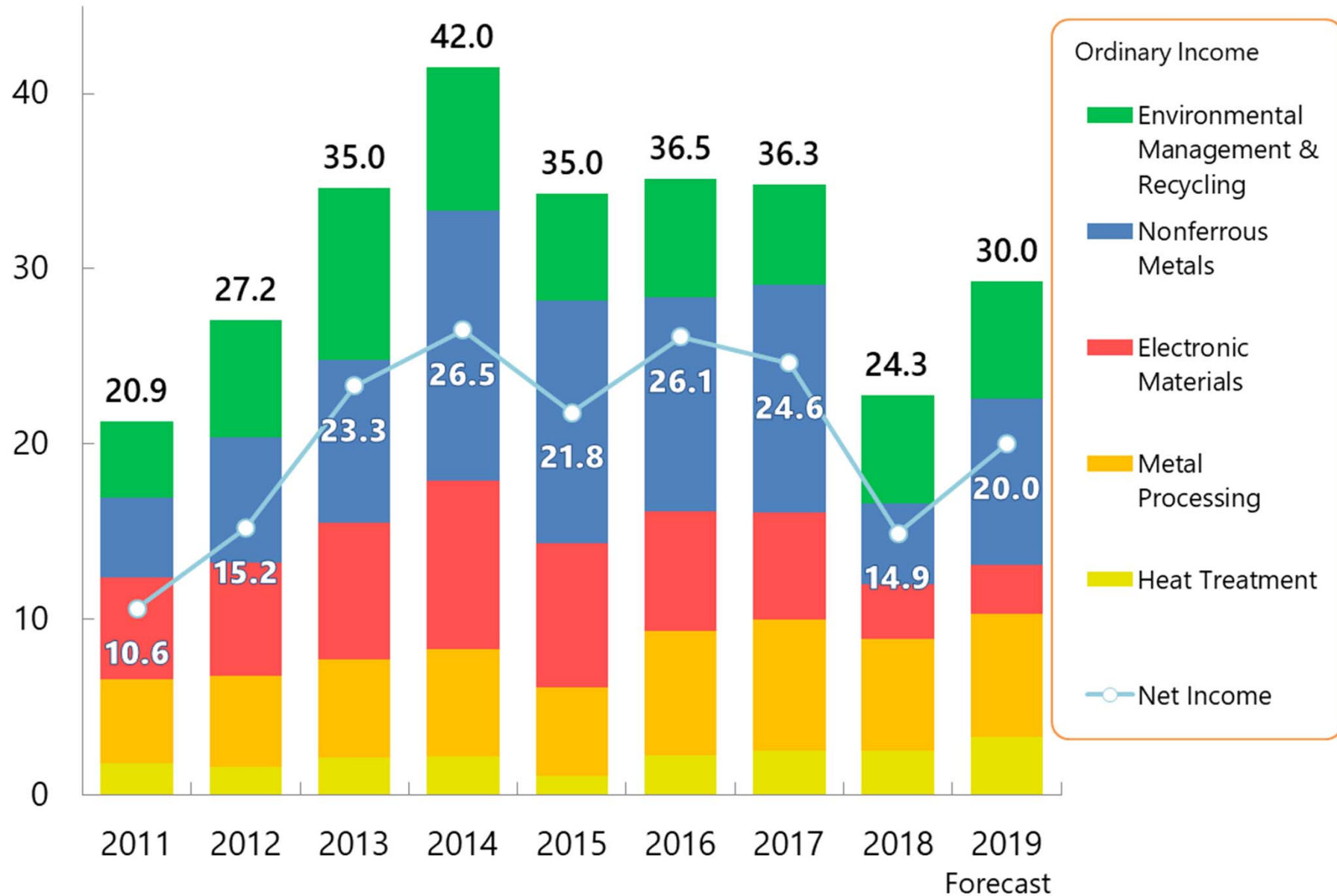
New site in India

Ordinary income from sites outside Japan  
(2020 = 100)



# Transition of Ordinary Income

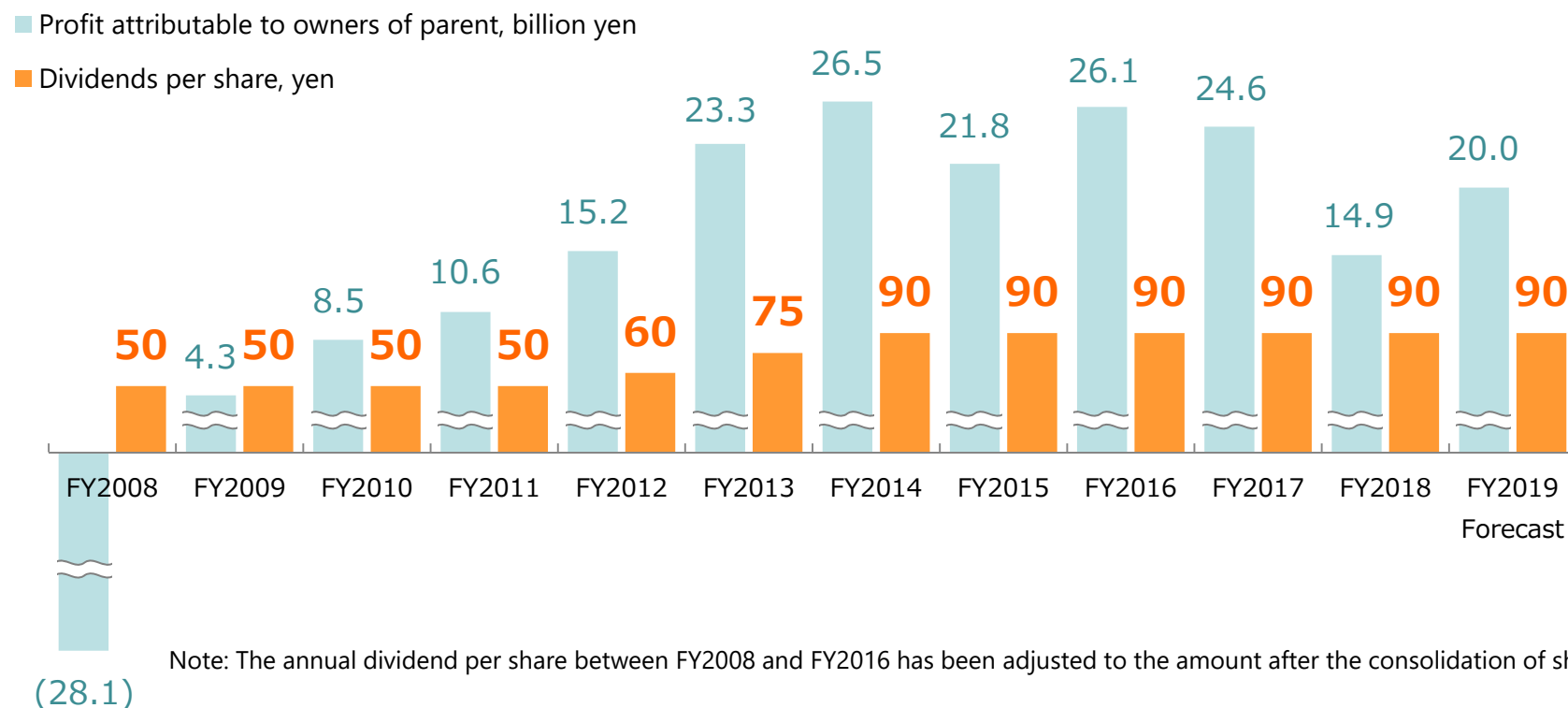
(Billion yen)



## Returns to Shareholders

DOWA regards the payment of dividends to shareholders as one of its top management priorities. The Company sets out a policy of increasing dividends as performance allows, while ensuring sufficient internal reserves for bolstering the corporate structure and expanding business in the future in line with the basic principle of maintaining stable dividends.

During the Midterm Plan 2020 (FY2018 to FY2020), DOWA aims to increase the dividend commensurate with the level of profitability, while maintaining a stable annual dividend of 90 yen per share.



# 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.