

Business Results and Progress of Key Measures

FY2019 (FY Ended March 2020)

DOWA HOLDINGS CO.,LTD.

May 27, 2020

Results for FY2019 (1) Overview of Results

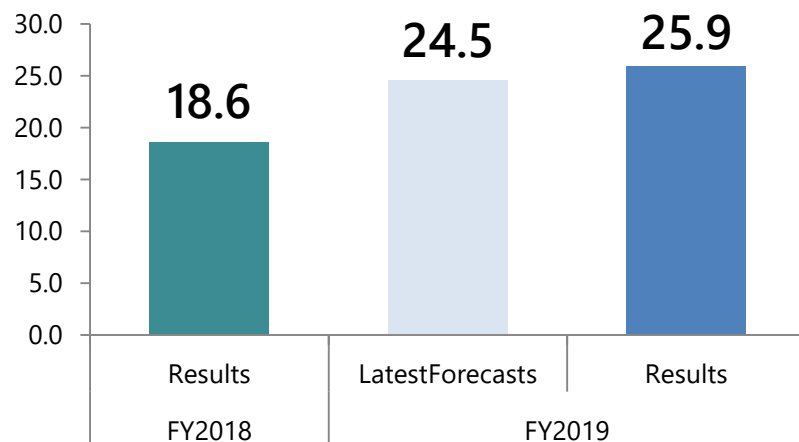
Billion yen (Amounts less than 100 million yen are omitted.)

| | FY2018 | FY2019 | | Changes | | | |
|--|--------------|--------------------------|--------------|-------------------------|-----|----------------------------------|-------|
| | Results A | Latest Forecasts B | Results C | Year-on-Year (C - A) | | From Latest Forecasts (C - B) | |
| Net Sales | 452.9 | 480.0 | 485.1 | 32.2 | 7% | 5.1 | 1% |
| Operating Income | 18.6 | 24.5 | 25.9 | 7.2 | 39% | 1.4 | 6% |
| Ordinary Income | 24.3 | 30.0 | 28.9 | 4.6 | 19% | (1.0) | (3%) |
| Profit attributable to owners of parent | 14.9 | 20.0 | 17.3 | 2.4 | 16% | (2.6) | (13%) |

✓ For FY2019, both sales and profit increased year on year.

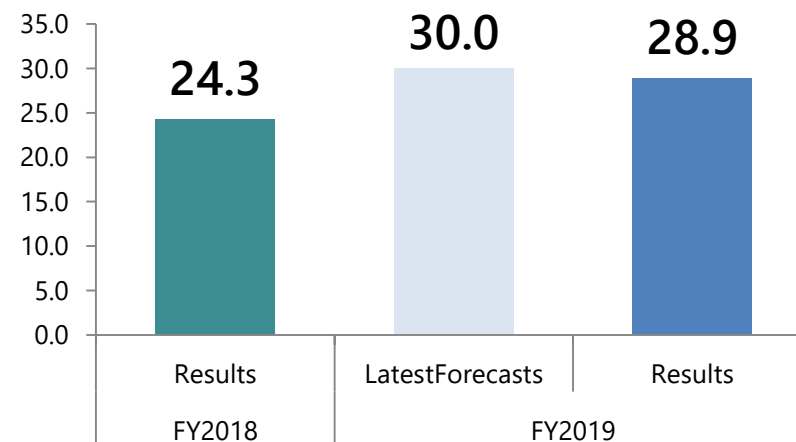
Changes in operating income

Billion yen

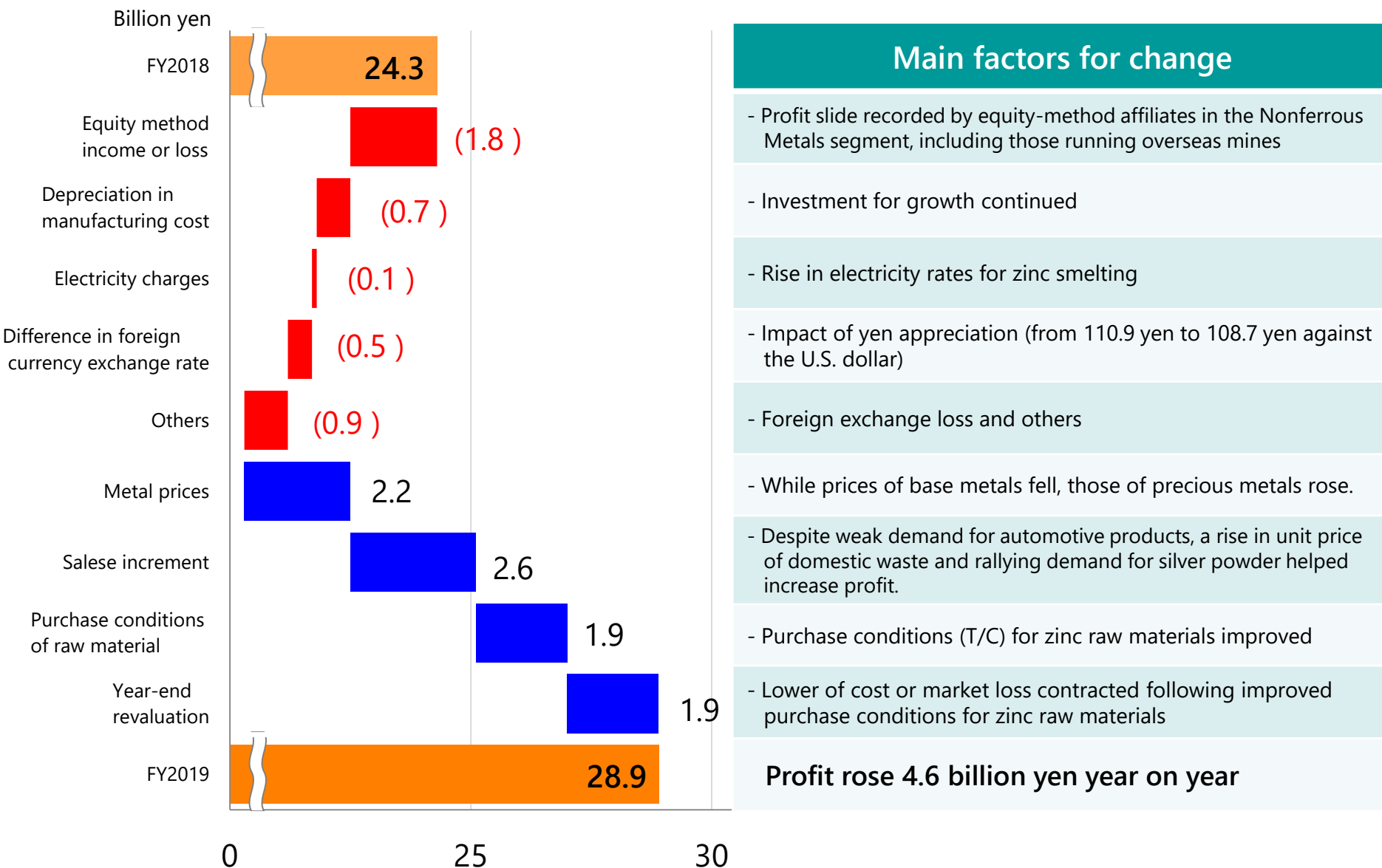


Changes in Ordinary Income

Billion yen



Results for FY2019 (2) Factor Analysis of Ordinary Income



Main factors for change

- Profit slide recorded by equity-method affiliates in the Nonferrous Metals segment, including those running overseas mines
- Investment for growth continued
- Rise in electricity rates for zinc smelting
- Impact of yen appreciation (from 110.9 yen to 108.7 yen against the U.S. dollar)
- Foreign exchange loss and others
- While prices of base metals fell, those of precious metals rose.
- Despite weak demand for automotive products, a rise in unit price of domestic waste and rallying demand for silver powder helped increase profit.
- Purchase conditions (T/C) for zinc raw materials improved
- Lower of cost or market loss contracted following improved purchase conditions for zinc raw materials

Profit rose 4.6 billion yen year on year

In addition to the rise in precious metal prices, promotional efforts and improvement in raw material conditions produced a positive effect.

Outlook for FY2020 (1) Results Forecast and Dividend Forecast

The spread of the Novel coronavirus (COVID-19) has started to affect the Group's business performance, and uncertainty is growing at the present in regard to demand.

In this situation, it is difficult to reasonably calculate financial results for the upcoming months. Therefore, the Company has decided not to forecast financial results and dividends for FY2020 at this time.

It will disclose its forecasts for financial results and dividends promptly, if such disclosure can be made.

Outlook for FY2020 (2) Current State of Operation

as of May 26, 2020

The Group's sites:

● Environmental Management & Recycling ● Nonferrous Metals ● Metal Processing ● Heat Treatment ● Corporate

[Germany, Czech Republic]

Operation continued with infection control measures taken.

[U.S.A., Canada]

Operation continued with infection control measures taken.

[Mexico]

Operation currently suspended at automotive-related sites and Los Gatos Mine (expected to be resumed at the beginning of June).

[Japan]

Operation continued with infection control measures taken.

Germany
Czech Republic

Myanmar
India

China
Taiwan
Singapore
Indonesia

Canada
U.S.A.
Mexico

[India]

Operation temporarily suspended due to the lockdown and resumed in mid-May.

[China, Taiwan, Myanmar, Thailand, Singapore, Indonesia]

Operation continued with infection control measures taken.

● ● ● ● ● ● ● ● ● ●
Thailand

Outlook for FY2020 (3) Demands Trends

■ Environmental Management & Recycling

- The amount of industrial/hazardous waste and recycling materials collected may gradually decrease if the stagnation of economic and production activities lasts long in Japan and Southeast Asia.

■ Nonferrous Metals

- Metal prices have been falling since mid-March to levels below the previous year's prices overall.
- Prices of platinum group metals have entered a downward trend, although they had risen.
- Demand for copper and zinc metals is down as automobile manufacturers reduce production or suspend operations.

■ Electronics Materials

- Demand for products for automobiles and industrial machinery is expected to be lower than in the previous year.
- Demand for silver powder for solar panels remains brisk. Amid a slowdown in economic activities in different countries, the introduction of solar panels may decline.

Outlook for FY2020 (4) Demands Trends

■ Metal Processing

- Demand for copper rolled products and electroplating will slide year on year as automobile manufacturers reduce production or suspend operations.
- Demand will not be severely affected for copper rolled products for smartphones and for metal-ceramic substrates for industrial robots and for railways.

■ Heat Treatment

- Demand for heat treatment will drop as automobile manufacturers reduce production or suspend operations.
- Increasing projects on capital investment and equipment maintenance are postponed.

Basic Policy for FY2020

- Monitor the impact of the coronavirus pandemic calmly to take appropriate actions.
- Steadily implement the measures for growth stipulated in Midterm Plan 2020.

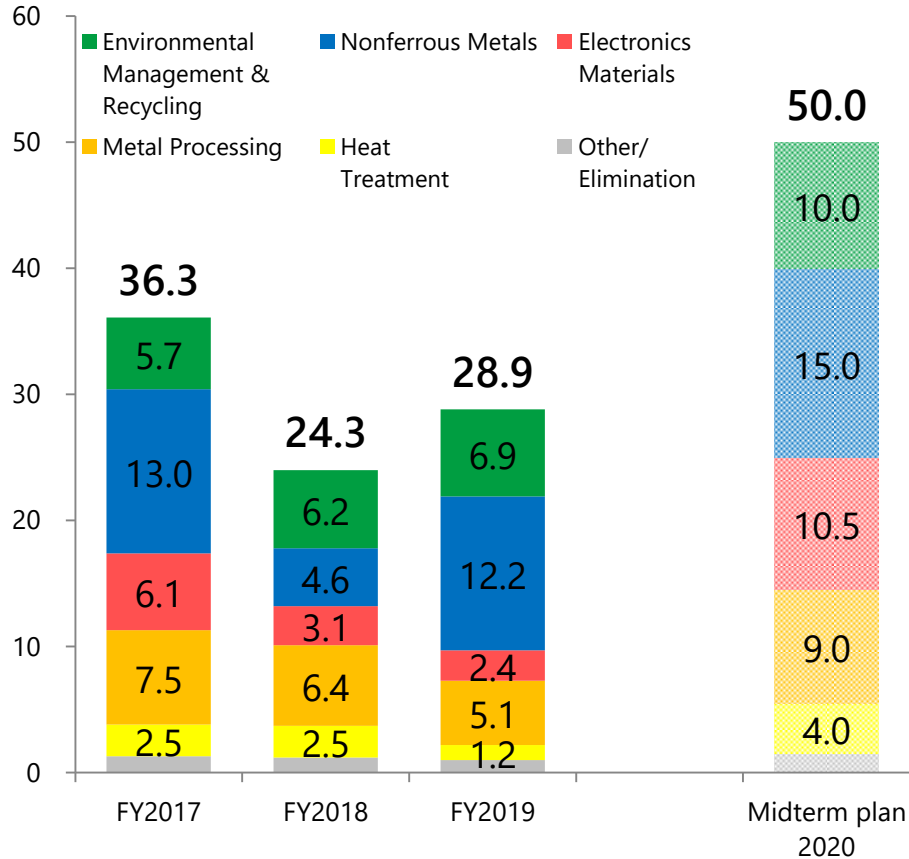
Review of Midterm Plan 2020

Progress in Financial Performance

Financial Review (1) Ordinary Income, ROA/ROE

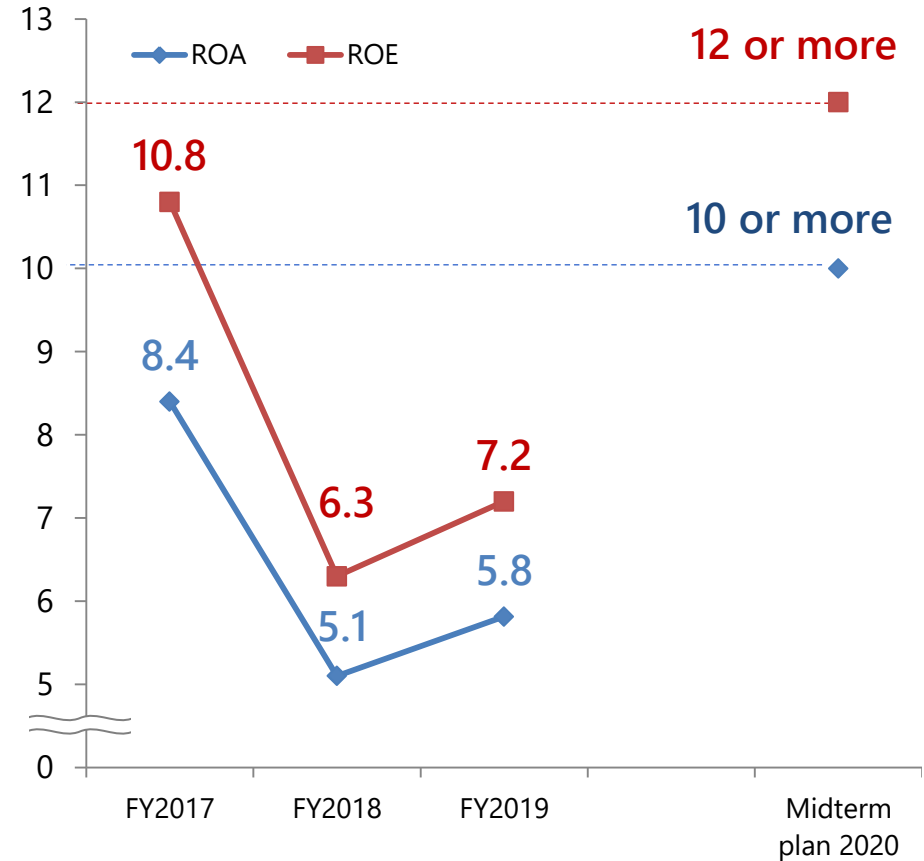
Ordinary Income

Billion yen



ROA/ROE

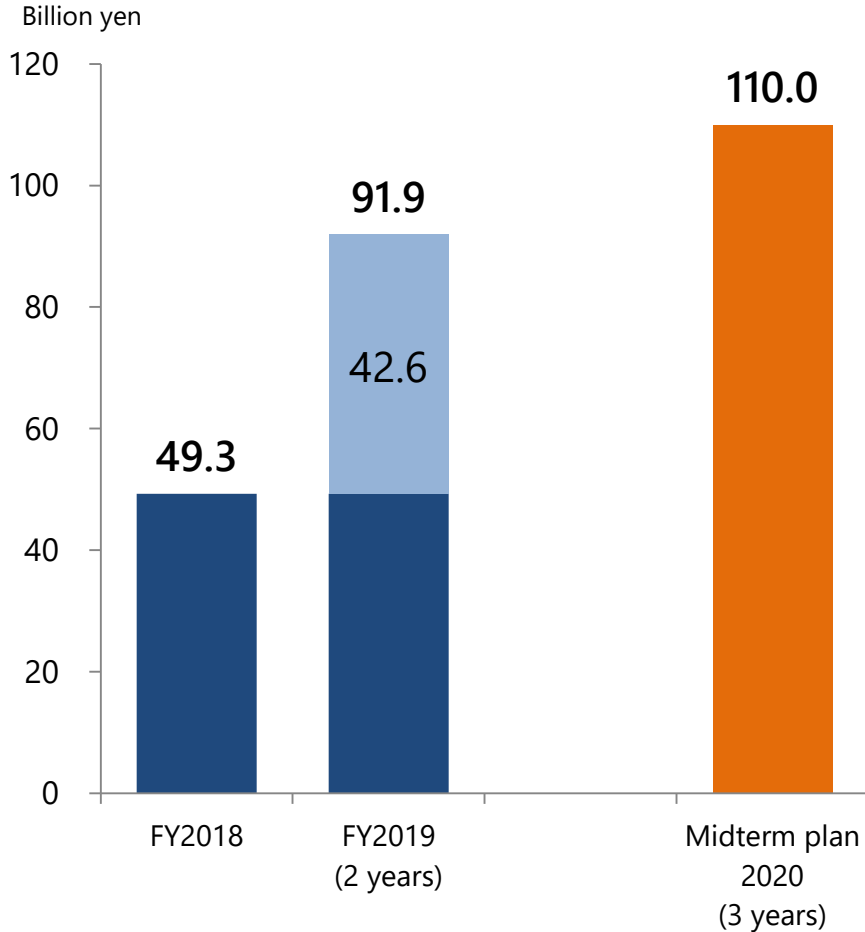
(%)



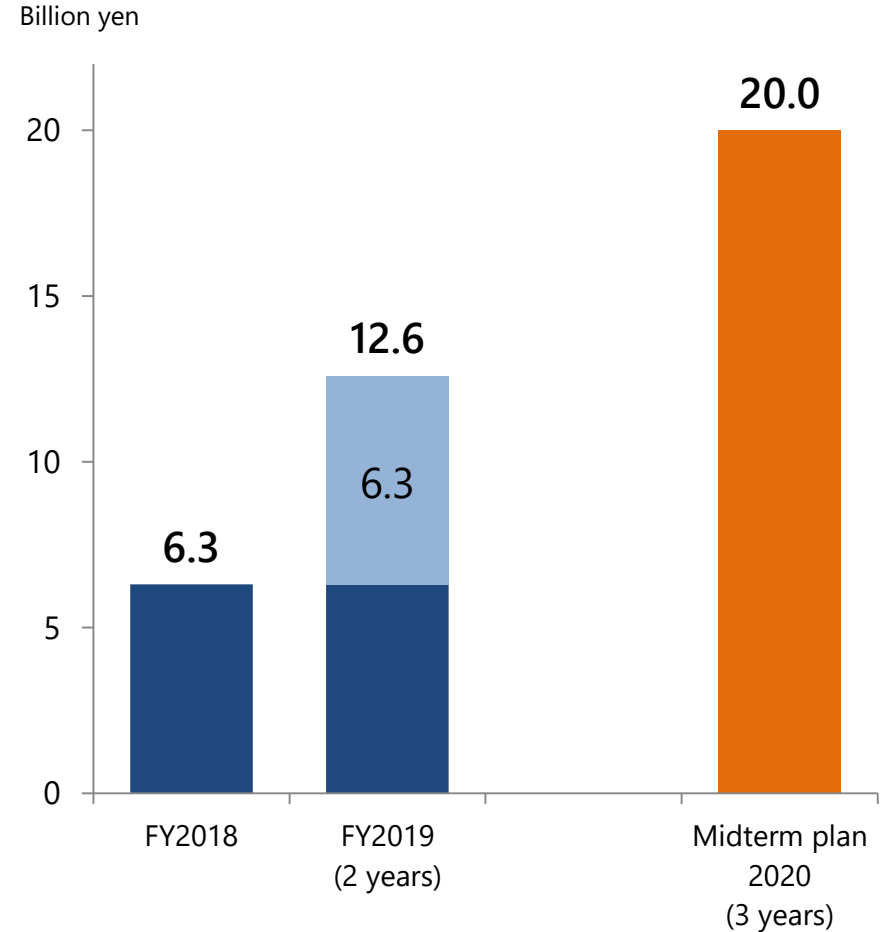
In view of changes in the external environment,
it is difficult to meet the profit target set in the Midterm Plan.

Financial Review (2) Investment, R&D Expenses

Investment



R&D Expenses



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

Review of Midterm Plan 2020

Progress in Each Segment

Business Overview (review of FY2019)

Changes in business environment (from the Midterm Plan)

- Domestic Waste

[Incineration] While treatment volume decreased slightly, the treatment unit price rose mildly.

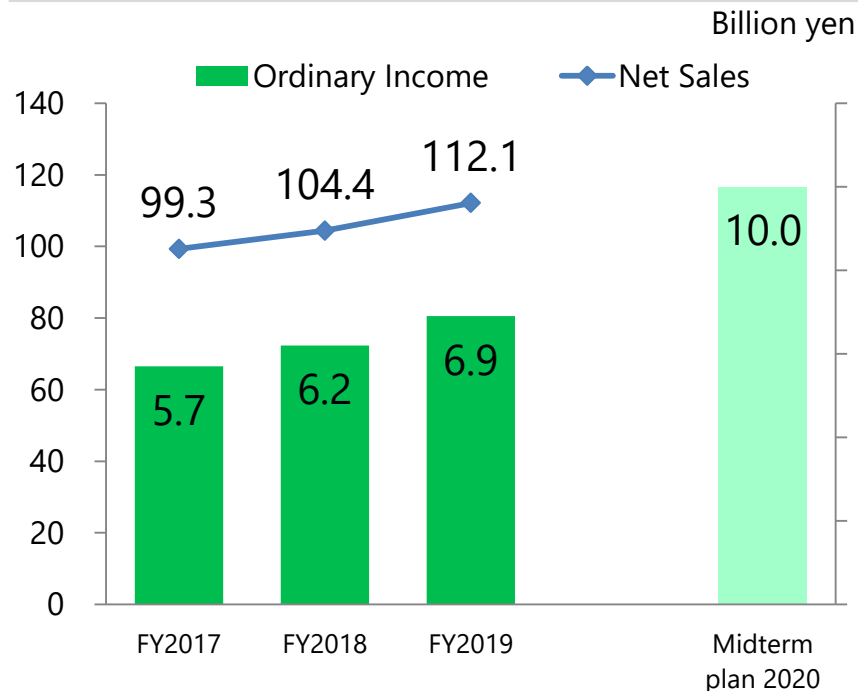
[Melting and recycling] The treatment volume was in line with the Midterm Plan.

[Low-contaminated PCB waste] The generation volume stayed flat while the treatment unit price fell sharply.

- Recycling : Electronic circuit board scrap, automobile shredder dust and waste home electrical appliances were generated in high quantities.

- Southeast Asia : Competition in waste collection intensified in Thailand and Singapore.

KPI Trend

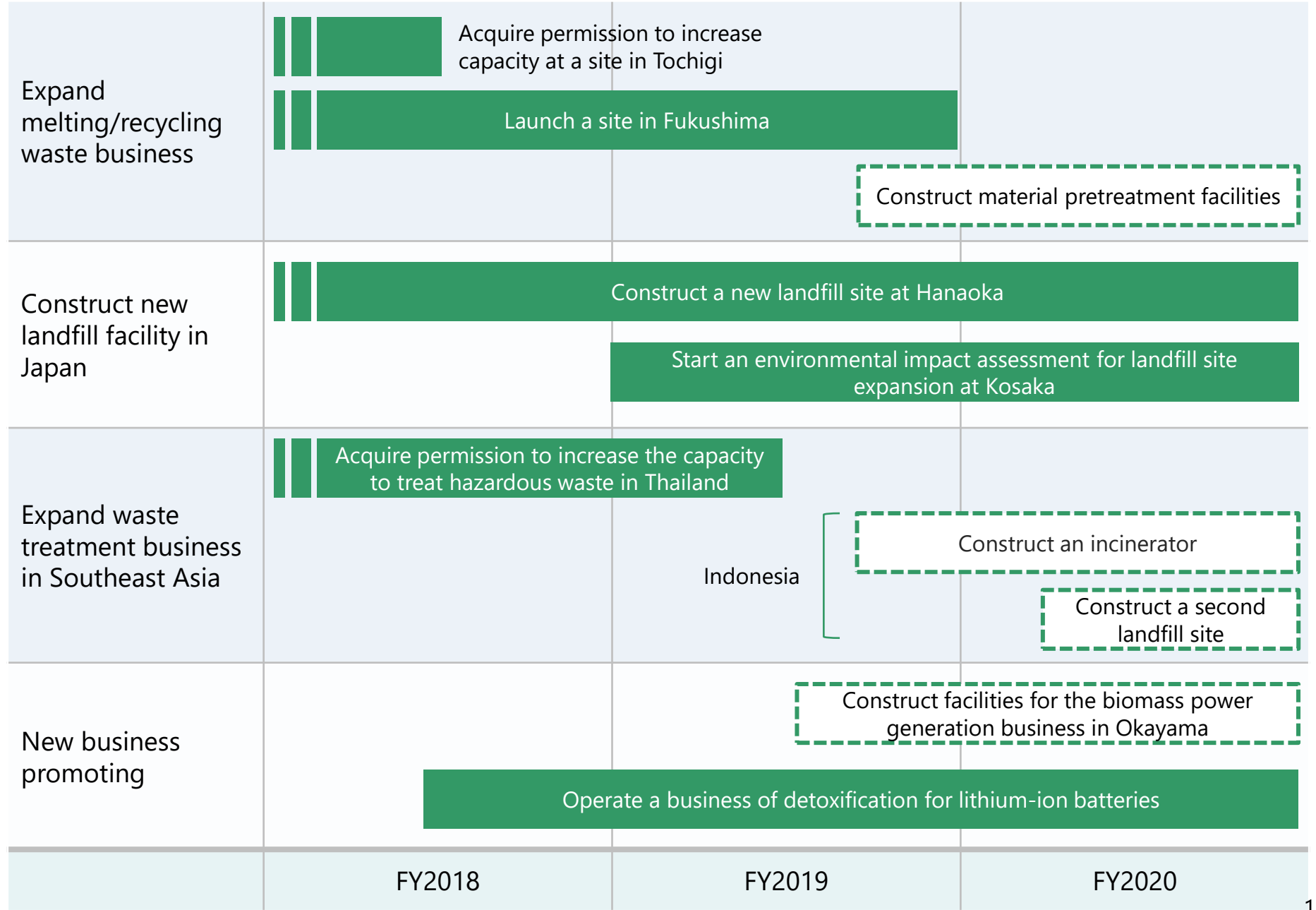


[Major Product Trends]

(Midterm plan 2020=100)

| | FY2018 | FY2019 | Midterm plan 2020 |
|---|--------|--------|-------------------|
| Intermediated Waste Treatment Volume in Japan | 87 | 91 | 100 |
| Treatment Volume in Melting and Recycling business | 75 | 83 | 100 |
| Waste Treatment Amount in Southeast Asia | 76 | 75 | 100 |
| Treatment Volume in Electric Equipment Recycling business | 117 | 127 | 100 |

Progress of Key Measures in Midterm Plan



Waste treatment, automobile recycling and home electrical appliance recycling

The amount of waste recycling in Japan is on the rise after China toughened its environmental regulations.

Respond to market changes and increase the treatment volume by operating multiple sites, wide acceptance and collecting from a larger area.

Melting/recycling

There is a shift from melting/recycling treatment by local governments to the treatment commissioned through private companies.

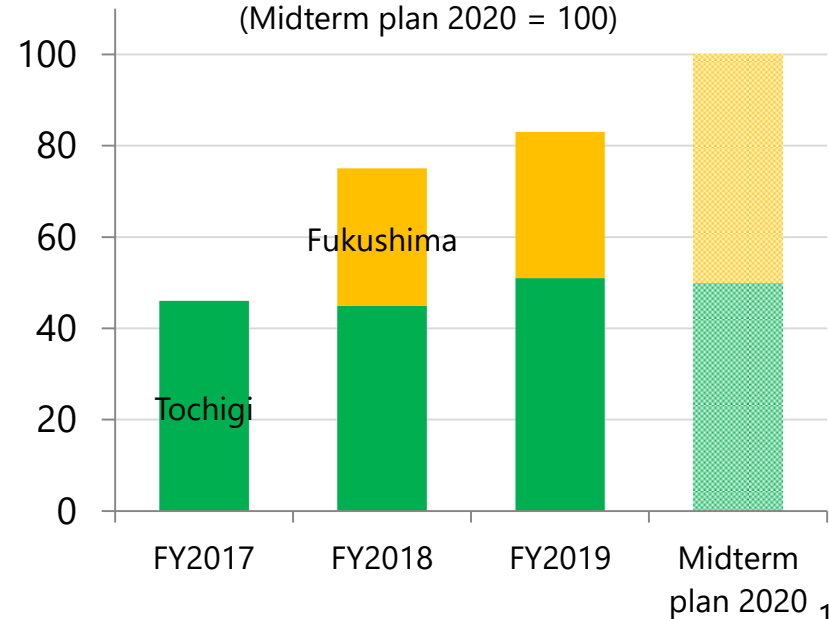
- Capture demand with two sites in Tochigi and Fukushima.
- Start construction of material pretreatment facilities with a view to increasing treatment capacity. The facilities are scheduled to come into operation early in 2021.

Trends in the Group's treatment volumes
 (FY2017 = 100)

| | FY2017 | FY2018 | FY2019 |
|---|--------|--------|--------|
| Intermediated Waste Treatment Volume in Japan | 100 | 99 | 103 |
| Treatment Volume in Automobiles Recycling business | 100 | 104 | 103 |
| Treatment Volume in Electric Equipment Recycling business | 100 | 108 | 117 |

↑ Regulations toughened in China

Trends in melting/recycling treatment volume
 (Midterm plan 2020 = 100)



Business Expansion in Indonesia, New Business Development

Business expansion in Indonesia

- Incinerator: Construction commenced towards the start of operation in FY2021
- Second landfill facility: Environmental impact assessment finished, and construction will start shortly
- = Capture needs for proper treatment of waste unsuitable for landfill and contribute to increase landfill capacity.



The country's only operator to engage comprehensively in hazardous waste treatment

-> Capture potentially growing needs for hazardous waste treatment.



Incinerator set to be introduced to Indonesia (the same type as the incinerator in Singapore)

New business development

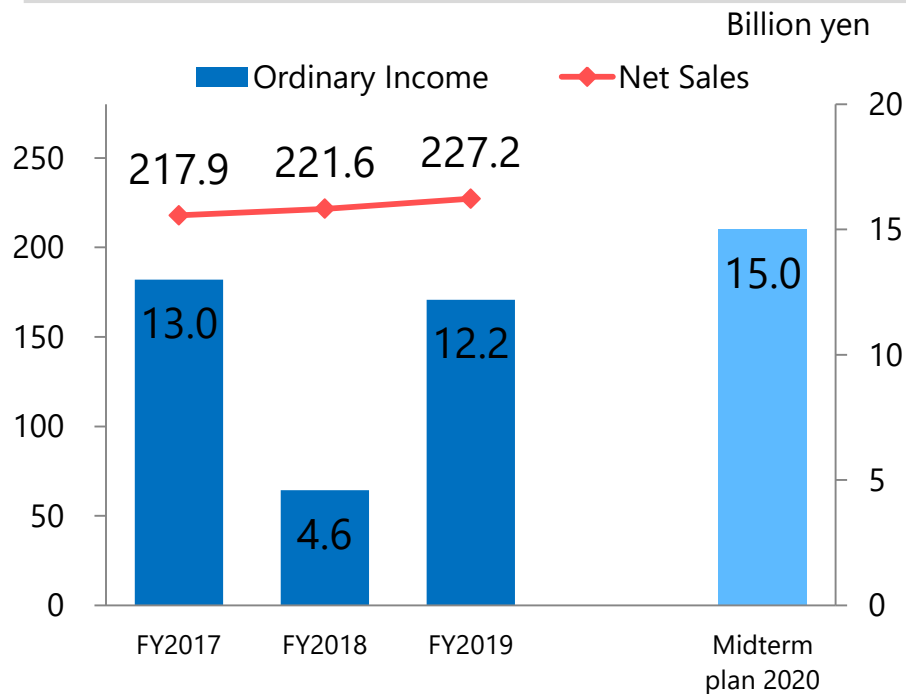
- Biomass power generation from food waste: Operation to commence in April 2021
- Detoxification of lithium-ion batteries
- ✓ Heat treatment to remove risks of electric shock and ignition (positioned as pretreatment before recycling)
- ✓ Already in operation at sites in Akita, Chiba and Okayama
- > Push ahead with strengthening of subsequent processes and development of recycling technologies

Business Overview (review of FY2019)

Changes of Business Environment (against Midterm plan)

- Demand for metals: Demand for copper was as predicted in the Midterm plan 2020 while that for zinc declined.
- Metal prices: Decreasing for base metals, and soaring for precious metals including platinum group metals (PGMs)
- Raw material procurement: The environment for the procurement of zinc concentrate and recycling materials (electronic circuit board scrap and used automotive exhaust gas purification catalyst) improved.

KPI Trend

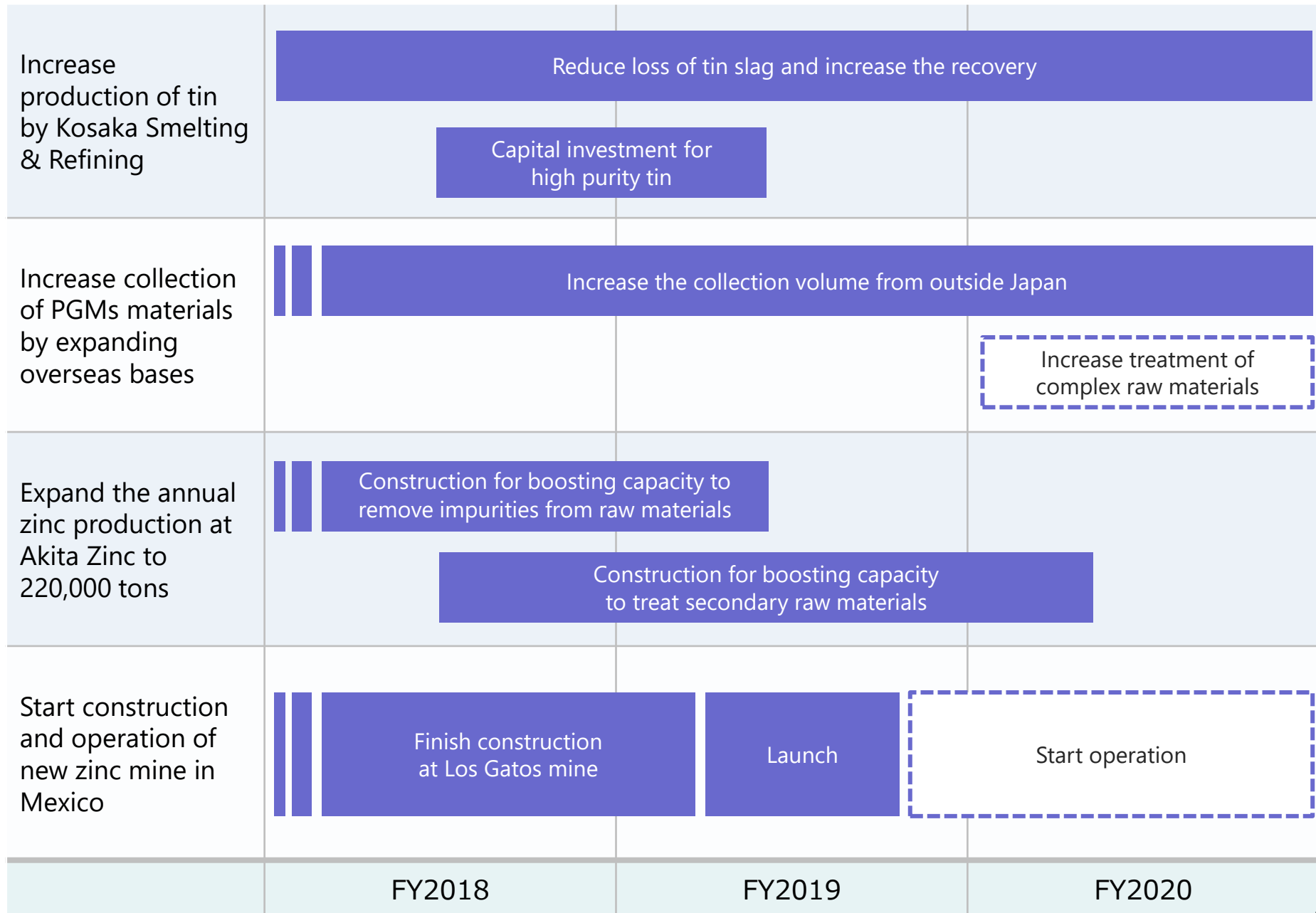


[Major Product Trends]

(Midterm plan 2020=100)

| | FY2018 | FY2019 | Midterm plan 2020 |
|------------------------------------|--------|--------|-------------------|
| Copper Production (Kosaka・Onahama) | 91 | 93 | 100 |
| Gold Production (Kosaka) | 98 | 104 | 100 |
| Zinc Production (Akita) | 95 | 92 | 100 |

The Progress of Major Actions on Midterm plan



Business Development

Advantage of the recycling and smelting complex

Combining multiple processes to recover around 20 different valuable metals, including precious metals at high efficiency

Improve profitability with the help of improvement in purchase conditions for zinc raw materials and rising prices of precious metals

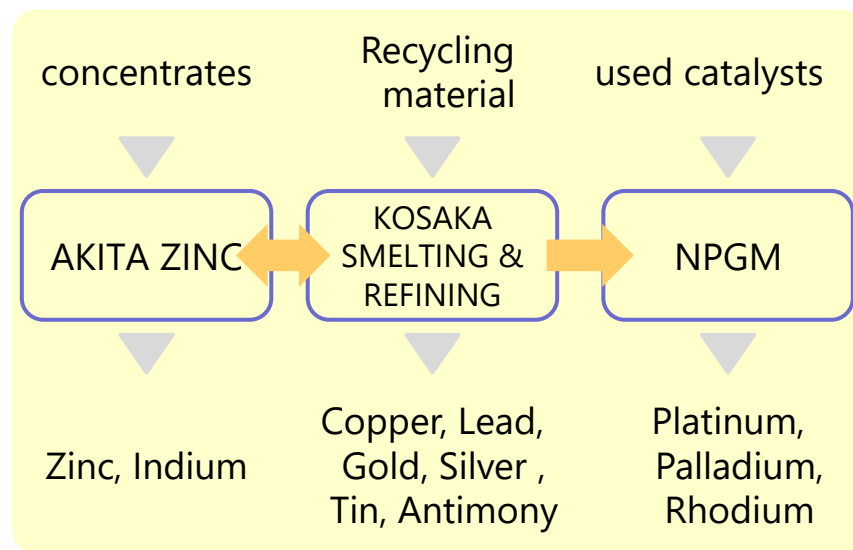
Expansion of Platinum Metals Recycling

The target of collection/treatment 1,000 tons per month set by the Midterm plan 2020 was achieved ahead of schedule.

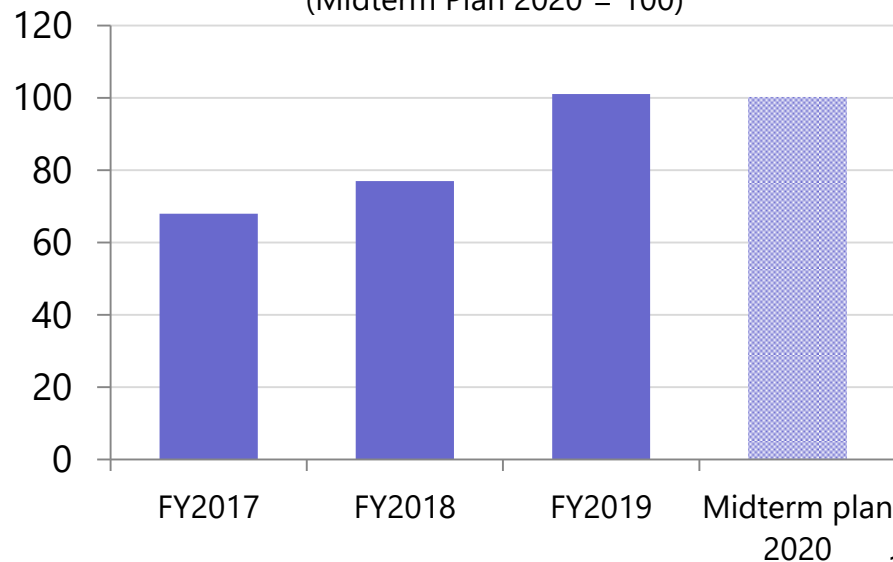
Take the following measures to continue to stably collect more than 1,000 tons per month

- Expand overseas collection sites and cultivate new customers
- Increase treatment of complex raw materials
- Increase productivity of the sampling process

The recycling and smelting complex



Trend in treatment volume in PGMs Recycling (Midterm Plan 2020 = 100)



Changes in Circumstances Surrounding the Zinc Business

Changes in zinc market

Demand for zinc metal contracted and the metal price dropped.

Purchase conditions for raw materials are expected to continuously improve in 2020.

Start of Los Gatos mine

Concentrate production commenced in July 2019.

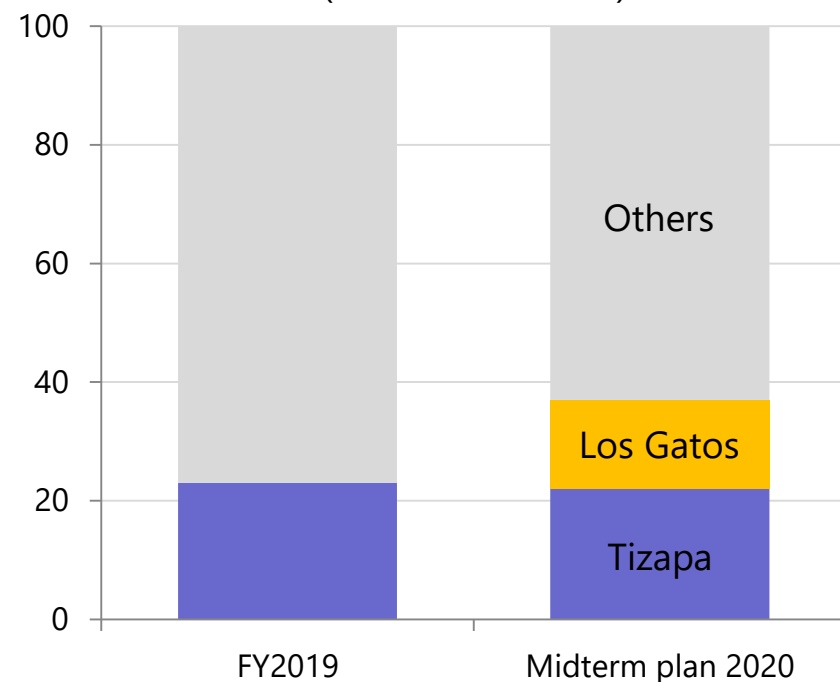
Current production almost reached 2,500 tons per day, as estimated in the feasibility study.

-> Take actions to accelerate drilling to reach a zone with high metal content.

Akita Zinc's response to impurities in raw materials

- Boost capacity to remove impurities from raw materials and produce the investment effect of increasing treatment of secondary raw materials.
- Plan additional investment in increasing the capacity to address impurities with a view towards medium- and long-term enhancement in production.
- > Continue efforts to boost the capacity to address impurities in raw materials.

Percentage of procurement from own mines in zinc smelting ore ratio (ore raw materials)

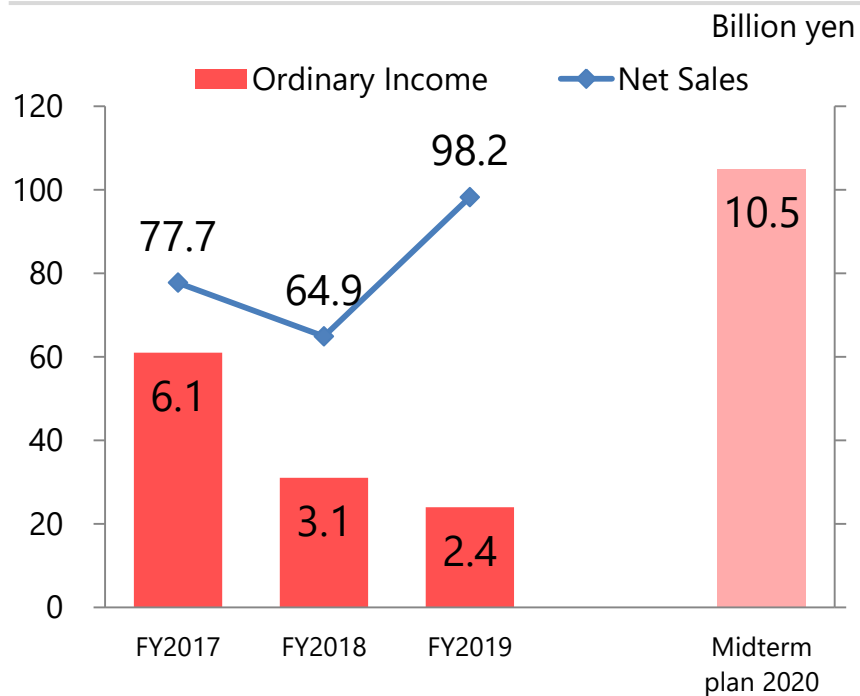


Business Overview (review of FY2019)

Changes in business environment (from the Midterm Plan)

- LED [Smartphones] The product life cycle of LEDs for proximity sensors ended and the development of the market for LEDs for freshness sensors is delayed.
- [Wearable devices] Mounting needs for multiple functions based on health consciousness are a sign of rising demand.
- Silver powder [Solar panels] New panels with higher power generation efficiency help expand renewable energy.
- New Products
Development of the market is delayed despite the fulfillment of quality requirements and the acquisition of customer approval. MLCCs and other electronic parts face weak demand in the automotive market. Demand for them at communication base stations is growing.

KPI Trend



[Major Product Trends]

(Midterm plan 2020=100)

| | FY2018 | FY2019 | Midterm plan 2020 |
|---|--------|--------|-------------------|
| LED Sales Volume | 62 | 48 | 100 |
| Silver Powder Sales Volume | 68 | 86 | 100 |
| Income from new products (e.g. evaluation sample incomes) | 12 | 19 | 100 |

Progress of Key Measures in Midterm Plan

| | | | |
|--|---|--|--------------------------------------|
| Increase line of conductive materials | Nano-Silver Powder | Develop applications and build facilities for mass production | |
| | Conductive Atomized Powder | Develop applications and build facilities for mass production | |
| Develop and mass produce New LEDs | Complete development of Short-Wavelength-Infrared LEDs | Commercialize new products for freshness sensors, blood sugar level sensors and others | Build facilities for mass production |
| Expand sales of deep-ultraviolet LED | Promote deep ultraviolet LEDs | Development of market for LEDs for sterilization is delayed. Promote medical applications and differentiate products with high optical output and reliability. | |
| Maintain a high market share of silver powder for solar panels | Keep up with the trend towards thinner cell wiring for new panels with higher power generation efficiency | | |
| | FY2018 | FY2019 | FY2020 |

Progress of New Products (1)

Fuel Cell Materials

Demand for fuel cells for emergency power supplies is expected to grow due to overseas policies encouraging the introduction of new energy.

-> Continue the sales expansion of materials for positive electrode.

Nano-Silver Powder

As an increasing number of smaller-sized electronic components is used, there is growing demand for lower-cost electromagnetic wave shields for the prevention of malfunction.

-> Match the product with the processes of customers, placing higher priority on cost to gain approval.

That will lead to the actual start of mass production.

Conductive Atomized Powder

Amid the market shift to 5G models, demand for MLCCs is growing. The Group's powder has been adopted, and it will receive more orders.

-> Endeavor to increase productivity and production capacity.

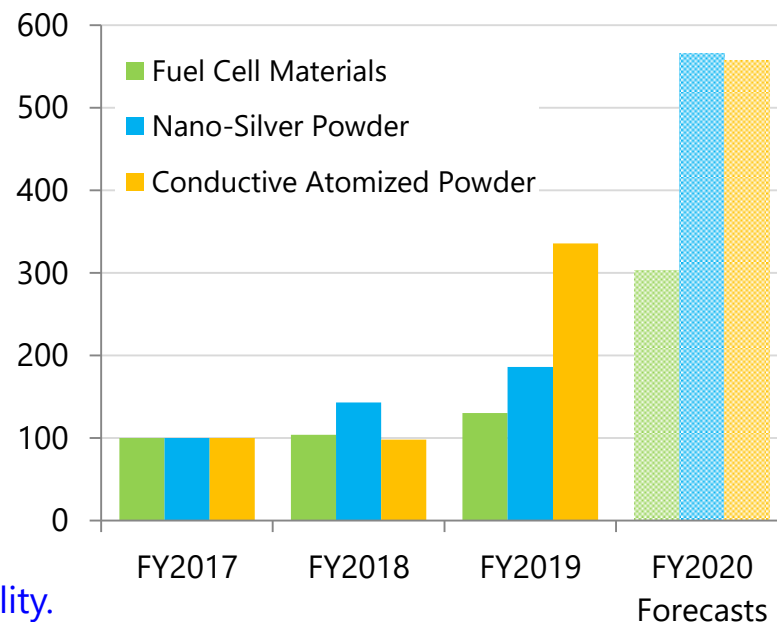


After the rise of the market, enter the stage for securing profitability.



Emergency power supply

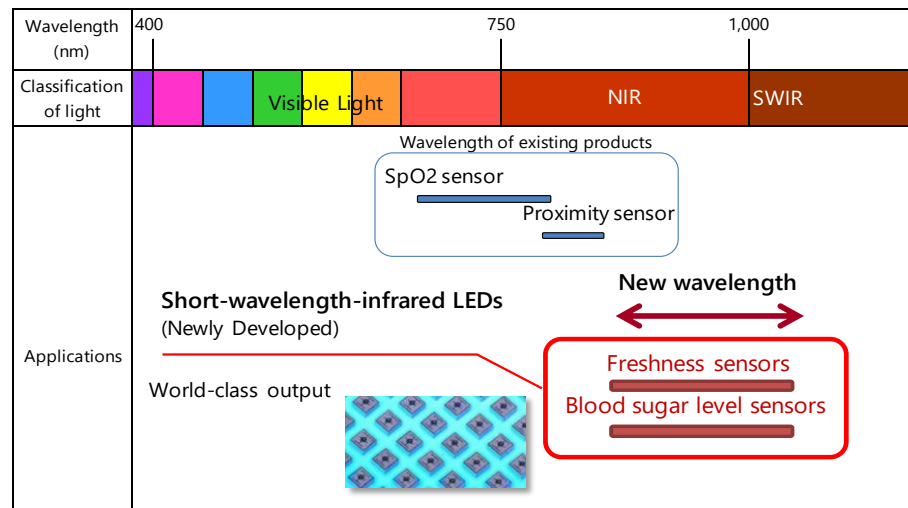
Net Sales/Income from New Products
(FY2017 = 100)



Progress of New Products (2)

Short-Wavelength-Infrared LEDs

- In the healthcare market, demand is rising for optical sensors for measuring moisture, glucose and other contents.
- LEDs that produce outputs in a new wavelength range, in which it was difficult to produce outputs from conventional LEDs, have been developed and commercialized for freshness sensors and for blood sugar level sensors.



-> The possibility of introduction to wearable devices has come into view.

Achieve the adoption of devices before the competition.

Wearable devices that may be incorporated into the new LEDs



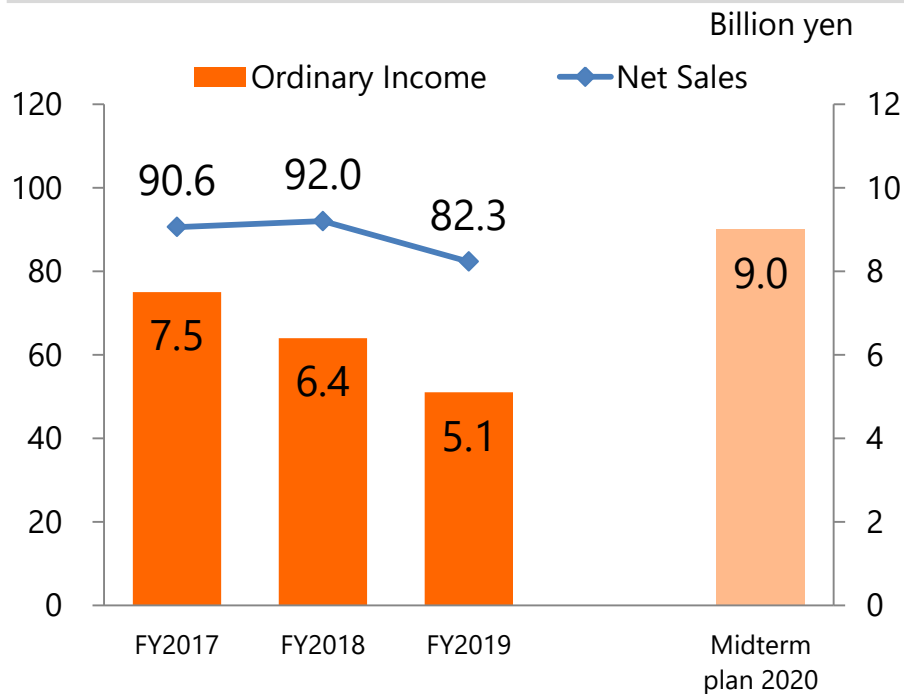
Quickly achieve fulfillment of the LED with customers' quality requirements and formulate a plan to invest in the construction of mass production facilities.

Business Overview (review of FY2019)

Changes in business environment (from the Midterm Plan)

- Automotive components: The U.S.-China trade dispute triggered a global slowdown in automobile sales. Following the expansion of the environmental vehicle market, demand for power modules, which are key components to electric vehicles, grew.
- Consumer equipment: The market was dull throughout FY2019, while higher hopes are placed on applications for 5G-ready information and communication equipment.
- Industrial machinery: Demand was weak for industrial robots.
- Rolling stock: Demand is on a mild upward trend, due to replacement demand in developed countries and new line construction projects in emerging countries.

KPI Trend

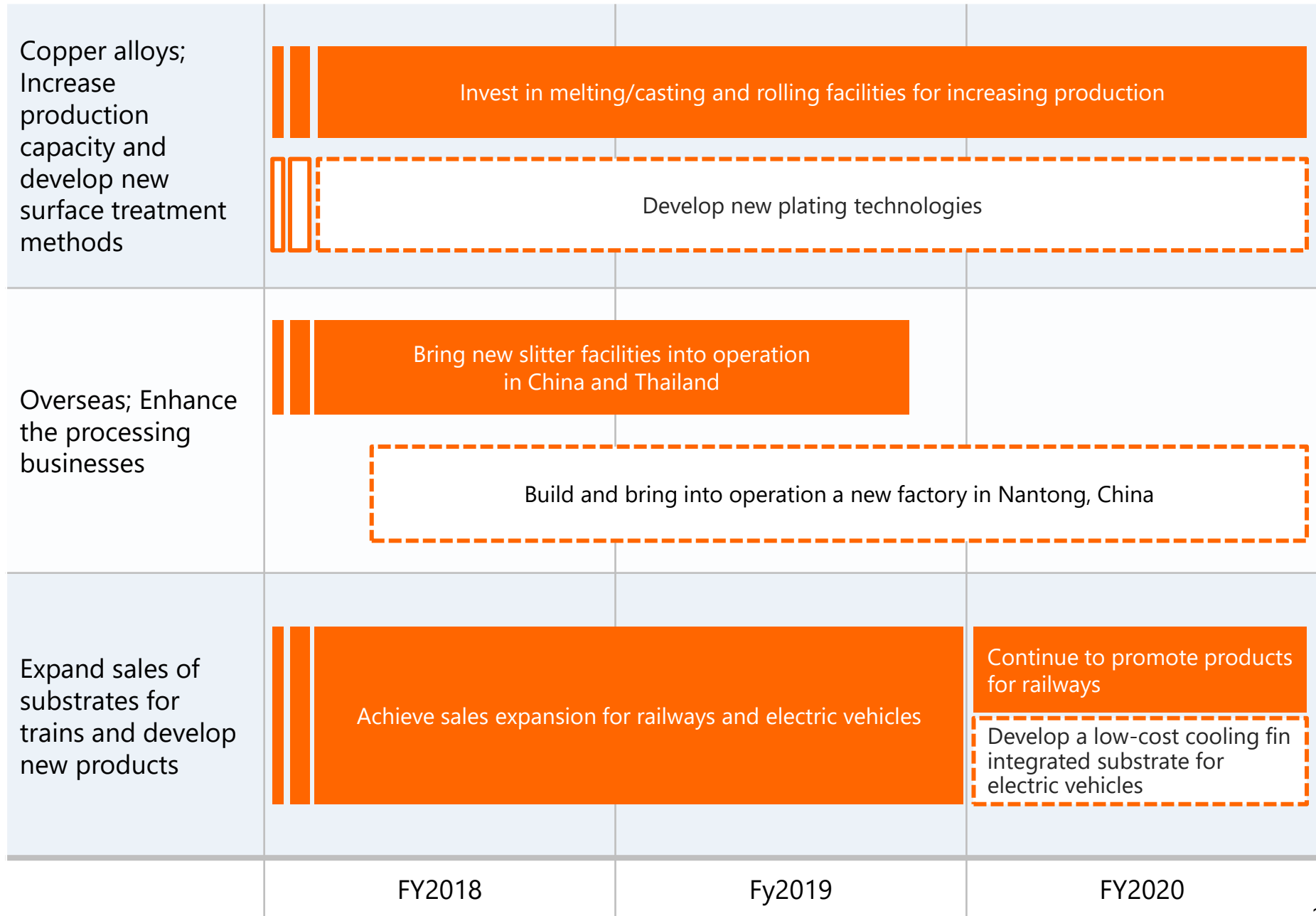


[Major Product Trends]

(Midterm plan 2020=100)

| | FY2018 | FY2019 | Midterm plan 2020 |
|---|--------|--------|-------------------|
| Copper Alloy Sales Volume (For Automobile) | 93 | 86 | 100 |
| Copper Alloy Sales Volume (For information and communication equipment) | 78 | 69 | 100 |

Progress of Key Measures in Midterm Plan



Actions in View of Medium- and Long-Term Market Growth

■ Copper alloy strips

Japan: Continue to invest for increasing production of high-performance copper alloy to boost production capacity by 20% from the FY2017 level.

China: Expand local processing and delivery sites to capture new demand in China.

The tin plating plant in Nantong, which is the second site in China, is expected to start operation within FY2020.

■ Newly Development

- Development of new plating technologies

New STAR plating

Respond to the needs of automobile manufacturers for enhanced productivity amid the trend towards multiple electrodes of automotive connectors.

-> Reduce friction during connection to a connector by 30% to facilitate insertion.

Silver-carbon alloy plating

Improve reliability in the repeated use of power recharging sockets for electric vehicles.

-> Increase durability by more than five times while reducing the plating thickness to one-tenth of the current level

- Cooling fin integrated substrate

Develop low-cost substrate as the market for power modules for electric vehicles is growing to boost profitability.

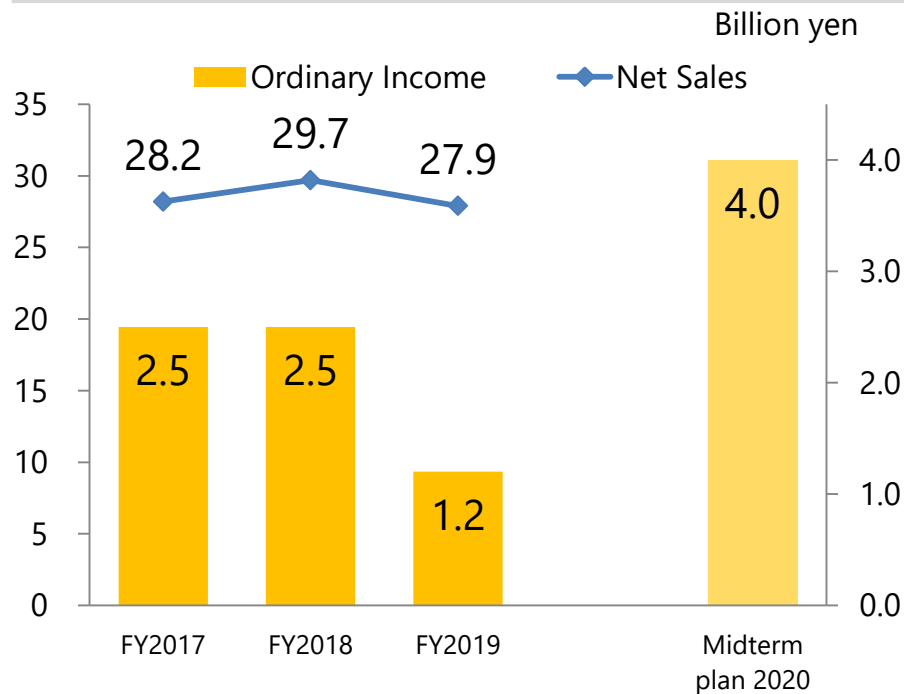


Business Overview (review of FY2019)

Changes in business environment (from the Midterm Plan)

- Automobile production has been declining since the late of 2018. Customers' overseas production and local procurement are delayed.
- Slowdown is remarkable in overseas regions where business expansion was pursued, such as India, Mexico and ASEAN countries.
- As automobile manufacturers reduce production or suspend operations around the world, orders received by domestic and overseas sites have been shrinking since the start of 2020. The outlook is even more uncertain.

KPI Trend

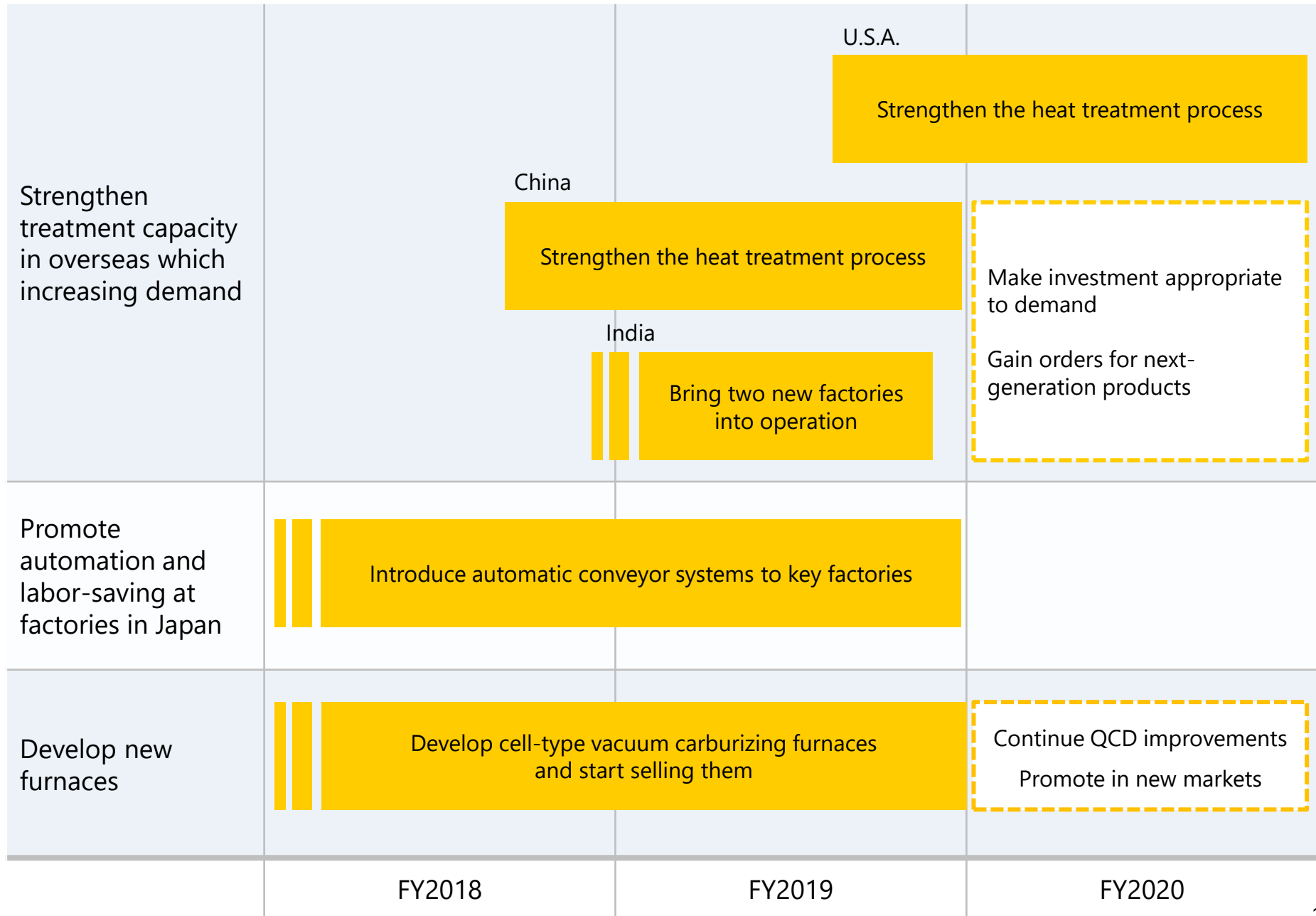


[Major Product Trends]

(Midterm plan 2020=100)

| | FY2018 | FY2019 | Midterm plan 2020 |
|----------------------------------|--------|--------|-------------------|
| Heat Treatment Sales Amount | 84 | 80 | 100 |
| Industrial Furnaces Sales Amount | 99 | 89 | 100 |

Progress of Key Measures in Midterm Plan



Actions for Boosting Business Competitiveness

■ Response to overseas demand for local procurement

- Automotive component manufacturers maintain plans to increase production in China and in U.S.A.
- > Support facilities at overseas sites in line with the pace of expansion of demand for heat treatment.

China

- Facility enhancement was commenced in FY2018. Customers' plans to increase production were revised downwards.
- > Revise the enhancement plan to curb investment and focus on the acquisition of customer approval in the foreseeable future.

U.S.A.

- A decision was made to enhance facilities in FY2019.
- > New facilities are under construction. Prepare for mass production in and after the second half of FY2020.

■ Acquisition of new projects

- Automobile related companies will commence the mass production of electric drive units widely applicable to EVs and HVs within several years.
- > Capitalize on strengths in the global production system and the track record of winning orders to gain new orders for next-generation items.
- Automobile and component manufactures reconstructing domestic and overseas production structures
- > Promote cell-type vacuum carburizing furnaces and atmosphere carburizing furnace to capture maintenance demand.

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.