

FY2015 Results

(from April 1, 2015 to March 31, 2016)

April 28, 2016



NGK INSULATORS, LTD.

This is a translation of materials used for the analyst meeting held in Tokyo, Japan on April 28, 2016

This document contains forward-looking statements that are based on management's expectations, estimates, projection and assumptions that were available and reasonable at the time of release. Actual future results and trends may differ materially from those in the forecasts due to a variety of factors.

Agenda

Summary of financial results for FY2015

(Ended March 31, 2016)

Forecast for FY2016

(End in March 31, 2017)

Segment Information

Capital Expenditure & Depreciation Cost

Mid-term Plan / Ratio of new products to total sales

New products / R&D

Priority Tasks

Financial Condition

| | (¥Bil.) | FY2014 | FY2015 | Growth ratio |
|---|---------|--------|--------|--------------|
| Net Sales | | 378.7 | 435.8 | +15% |
| Operating Income | | 61.6 | 80.9 | +31% |
| Ordinary Income | | 61.1 | 81.5 | +33% |
| Profit Attributable to Owners of Parent | | 41.5 | 53.3 | +28% |
| Exchange Rate | USD | ¥110 | ¥120 | +¥10 |
| | EUR | ¥139 | ¥132 | -¥ 7 |

Highest sales and income ever*

6 straight years of net sales growth, 3 straight years of income growth

* Net Sales ¥ 378.7 Bil (FY2014)
 Operating Income ¥ 69.4 Bil (FY2007)
 Ordinary Income ¥69.3 Bil (FY2007)
 Net Income ¥46.0 Bil (FY2007)

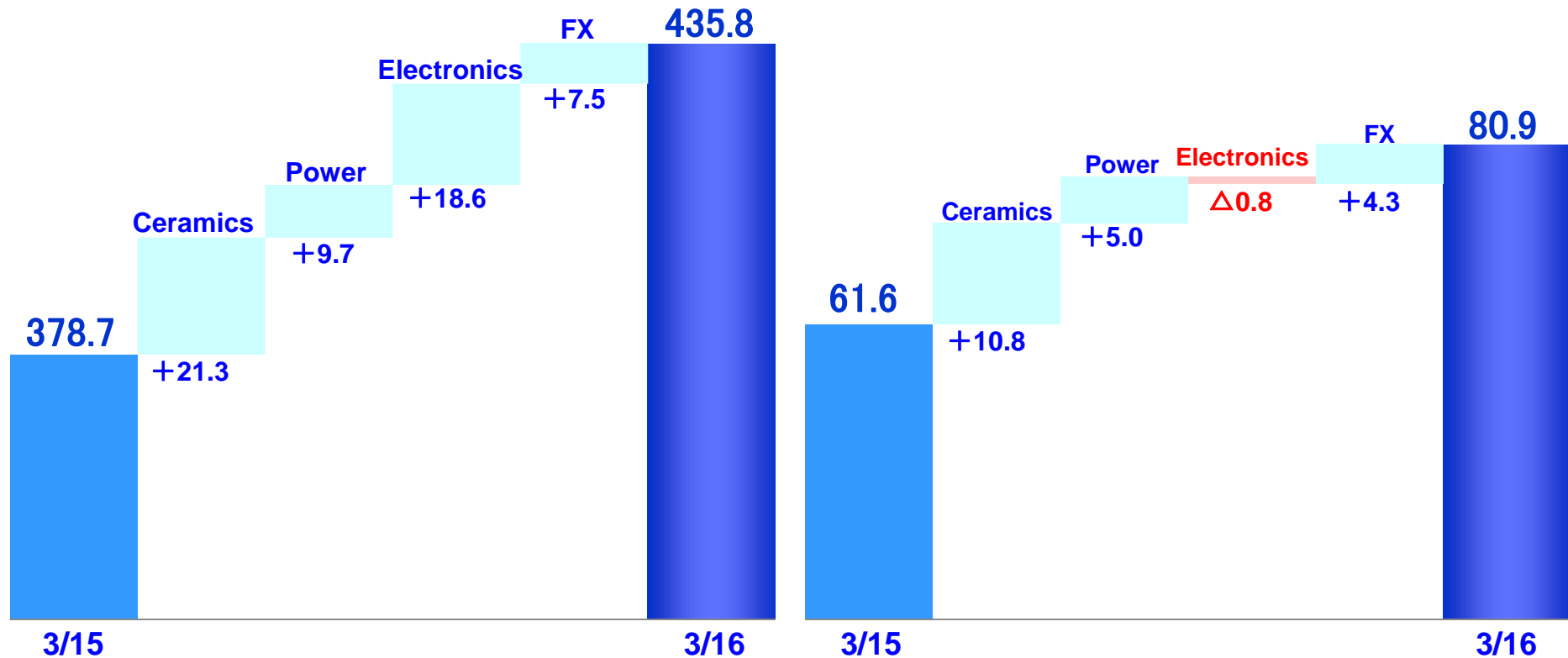
- **Ceramics** Demand for automotive-related products increased due to strong sales of passenger cars in the US and Europe, and trucks in the US.
Tax reduction measures on small passenger cars in China also contributed.
- **Electronics** Reflected the consolidated results of NGK Electronics Devices Inc., and demand for ceramics components for semiconductor manufacturing equipment grew.
- **Power** Shipment of large orders for NAS® batteries from domestics and overseas customers grew significantly.
- **Extraordinary Losses** We recorded provision for loss related to competition law of ¥7.1 billion and impairment loss of ¥4.5 billion.

Change Analysis for FY2015

(¥ Bil.)

Sales

Op. Income



| | 3/15 | 3/16 |
|---------|------------------------|------------------------|
| FX Rate | ¥110 /USD ¥139 /EUR | ¥120 /USD ¥132 /EUR |

Forecasts for FY 2016

| | (¥Bil.) | FY2015 | FY2016 | Growth ratio |
|---|---------|--------|--------|--------------|
| Net Sales | | 435.8 | 410.0 | −6% |
| Operating Income | | 80.9 | 60.0 | −26% |
| Ordinary Income | | 81.5 | 63.0 | −23% |
| Profit Attributable to Owners of Parent | | 53.3 | 44.0 | −17% |
| Exchange Rate | USD | ¥120 | ¥108 | −¥12 |
| | EUR | ¥132 | ¥120 | −¥12 |

Lower sales and income forecasts compared with the same period last year

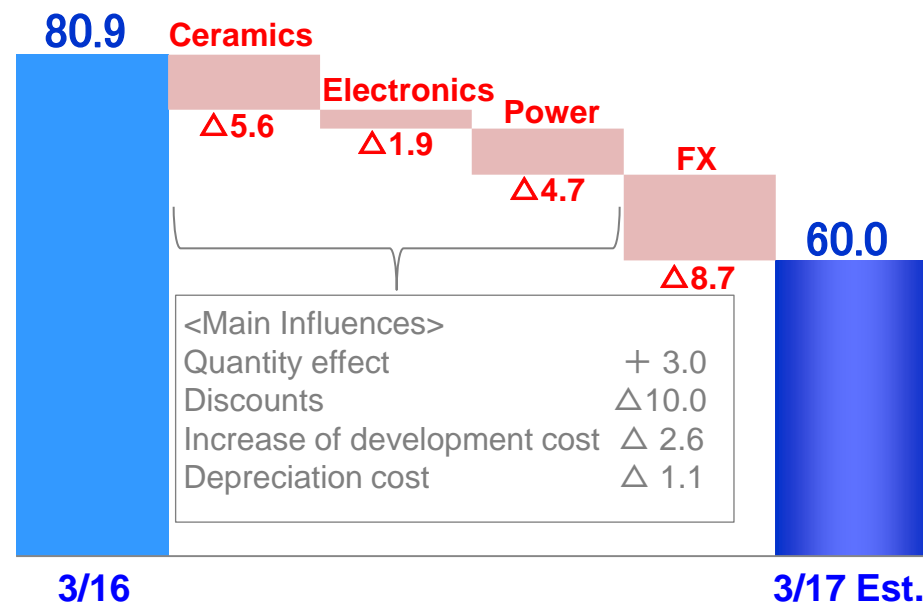
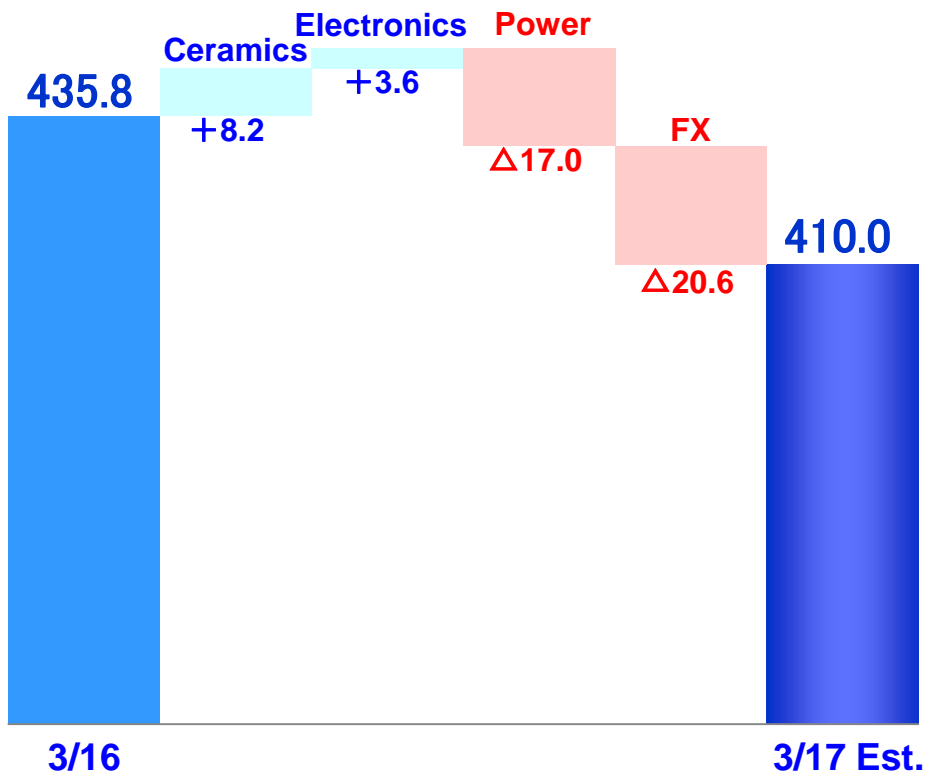
- **Ceramics** Demand growth is expected as a result of the increased sales of passenger cars in China, Europe, and the US, and tighter emission regulations. However, sales and income will decrease due to factors such as the stronger yen and higher development costs and startup costs.
- **Electronics** Sales and income forecast to decrease due to factors including the stronger yen and price reductions on ceramic components for semiconductor manufacturing equipment. Sales of wafer products increase as production gets fully underway.
- **Power** In the absence of large orders for NAS batteries, sales forecast to fall sharply and a loss is estimated. Insulators business will show a profit.

Change Analysis for FY2016

(¥ Bil.)

Sales

Op. Income

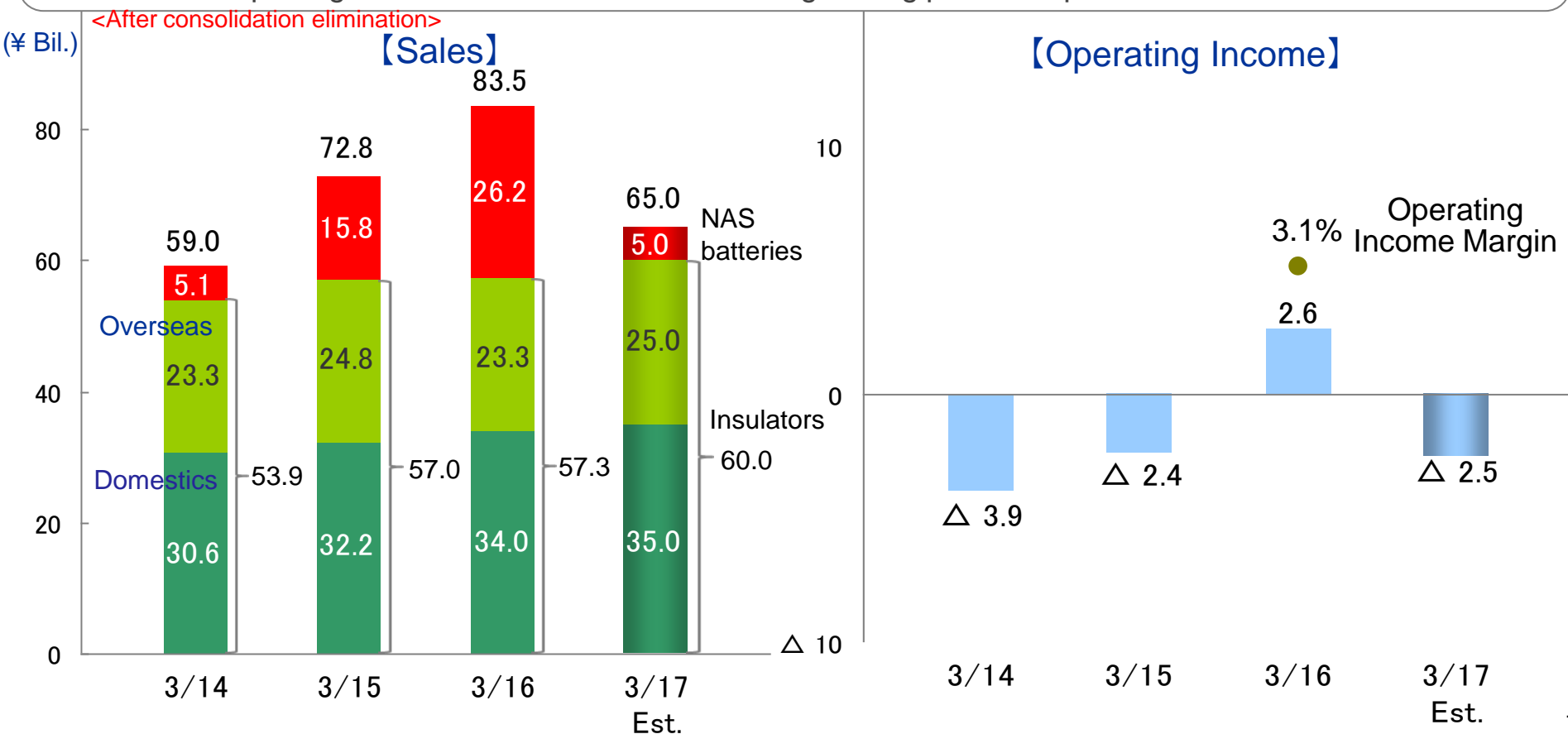


<Main Influences>

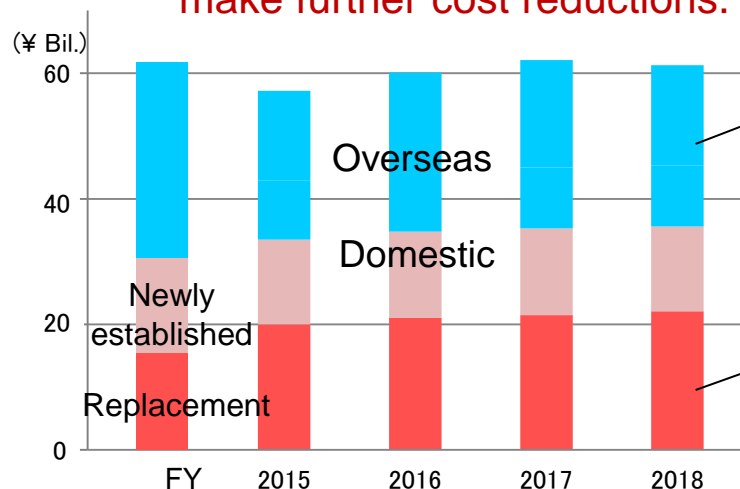
| | |
|------------------------------|-------|
| Quantity effect | + 3.0 |
| Discounts | △10.0 |
| Increase of development cost | △ 2.6 |
| Depreciation cost | △ 1.1 |

| | | |
|---------|-----------|-----------|
| | 3/16 | 3/17 Est. |
| FX Rate | ¥120 /USD | ¥108 /USD |
| | ¥132 /EUR | ¥120 /EUR |

- Insulators
 - In Japan, aim to improve earnings by capturing replacement demand for insulators installed in the 1970s to the 1990s, and making further cost reductions.
 - Overseas, aim to win large-scale orders in Asia and the Middle East, and aim to win direct current and ultra-high-voltage orders in China where the market is expected to grow.
- NAS
 - In the absence of plans for large-scale shipments in Japan and overseas, sales forecast to fall sharply and a loss is estimated.
 - Demand for long time use, the key feature of NAS batteries, is currently limited. We expect full-scale demand to arise around 2020. Aim to secure continuous demand by capturing new demand overseas and strengthening partnerships with customers.



Insulators Aim to maintain key overseas markets, capture domestic replacement demand and make further cost reductions.

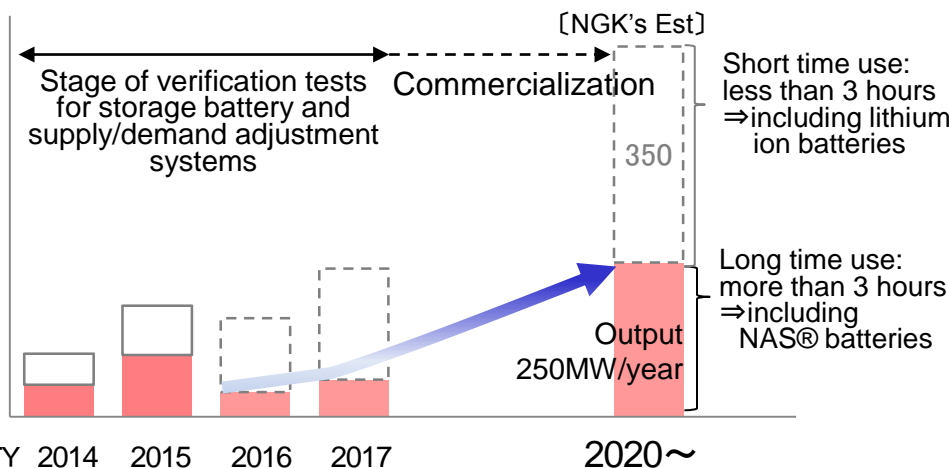


Maintain key overseas markets (North America, Asia, the Middle East, and China)
 • Aim to win orders of new projects.
 Differentiate from other products with high-quality specification.

Capture domestic replacement demand
 • Securely capture replacement demand for insulators and equipment installed in the 1970s to 1990s.

NAS® Batteries As a result of the increase in global renewable energy, demand for large-scale storage batteries will be actualized in the mid to long term due to factors such as a shortage of system capacity, frequency adjustments and the use of surplus power.

<Global market scale for large-scale storage batteries>



<Verification tests for system measures are currently in progress>

(Picture) Newly developed containerized NAS® batteries delivered to the Buzen Power Station of Kyushu Electric Power Co., Inc.



- World's largest battery (power output: 50,000kW / Storage capacity: 300,000 kWh)
- Installation lead time was one third that of conventional batteries
- Overwhelmingly superior large capacity and compact size

● Electronics Components

• Package products, for which shipment to mobile phone base stations had been stagnant, are in a recovery trend as a result of progress with inventory adjustments. Profit, however, forecast to decrease due to price reductions, increased depreciation costs and development costs. Sales of wafer products increase as production gets fully underway.

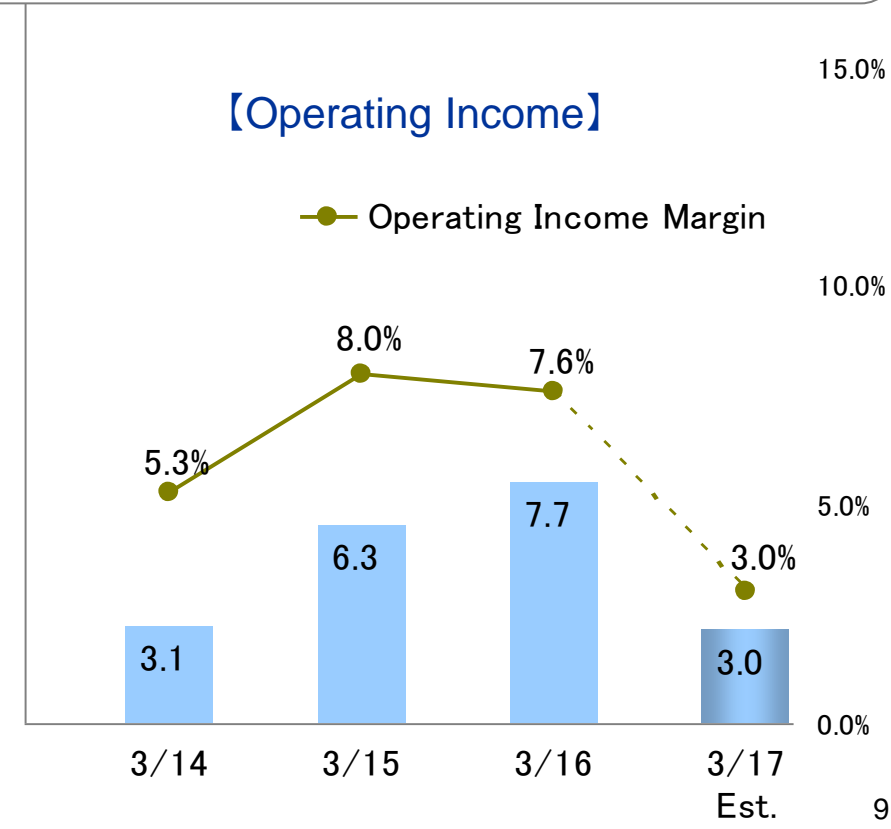
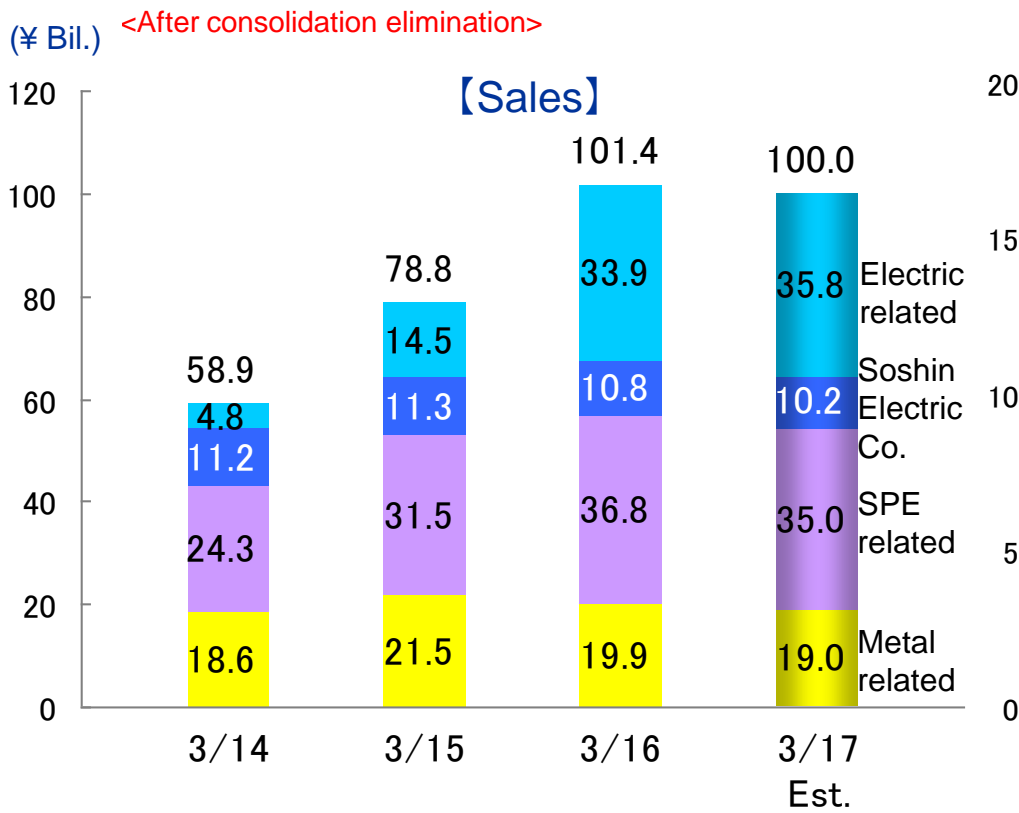
● Ceramics for Semiconductor Manufacturing Equipment (SPE-related products)

• Demand increases as semiconductor companies continue high-level investments for further multi-layering and miniaturization on the back of increased demand for semiconductors for data centers. Profit forecast to fall, however, due to factors such as the stronger yen and price reductions.

• Focus on cost reduction by working on technological advancement of products and establishing the use of innovative production methods.

● Metal Related Products

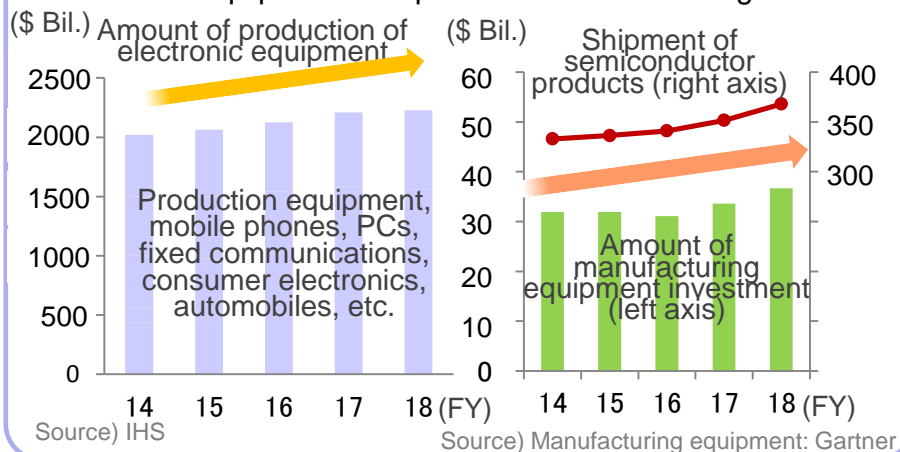
• Sales are decreasing slightly, partly due to the downturn in copper prices. Grow the business by facilitating the development of new materials and products with new uses.



■ Ceramic Components for Semiconductor Manufacturing Equipment



Demand for NAND memories used in memory devices, including Internet connection equipment and data servers, is growing as the result of advances with IoT.
Demand for related semiconductor manufacturing equipment is expected to remain at a high level.



■ Ceramic Package Business (Electronics Components)

RF package



- Demand for RF packages for mobile phone base stations was temporarily stagnant in the previous fiscal year. However, demand is currently showing signs of recovery as a result of progress with inventory adjustments of distribution stock.
- RF packages are expected to remain strong for the mid term as a result of growing demand for high-speed communications as well as infrastructure upgrades and expansion in emerging nations.

Quartz crystal package



- Demand is declining due to slowing demand for smartphones and the declining momentum of the market in China. Increasingly intense competition.
- Demand is expected to recover in the mid term as a result of the diffusion of IoT.

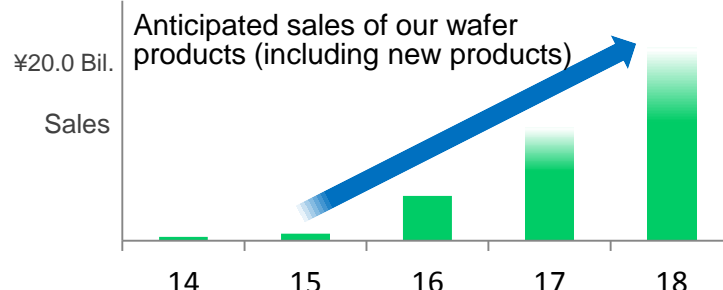
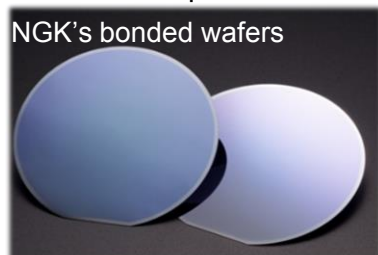
NGK Electronics Devices, Inc. and Corporate headquarter aim to increase profitability by strengthening collaboration and leveraging synergic effects toward further growth.

■ Wafer Products (Electronics Components)

Full-scale production of bonded wafers for SAW filters



- Demand for temperature-compensated SAW filters using our bonded wafers is anticipated to grow for LTE and next-generation LTE.
- We will make upfront investment in production expansion and start full-scale production from 2016.



New product

Gallium nitride (GaN) wafer

[Example of final products]

- Ultra-bright LED
- Next-generation power semiconductor
- Samples being evaluated at several major companies



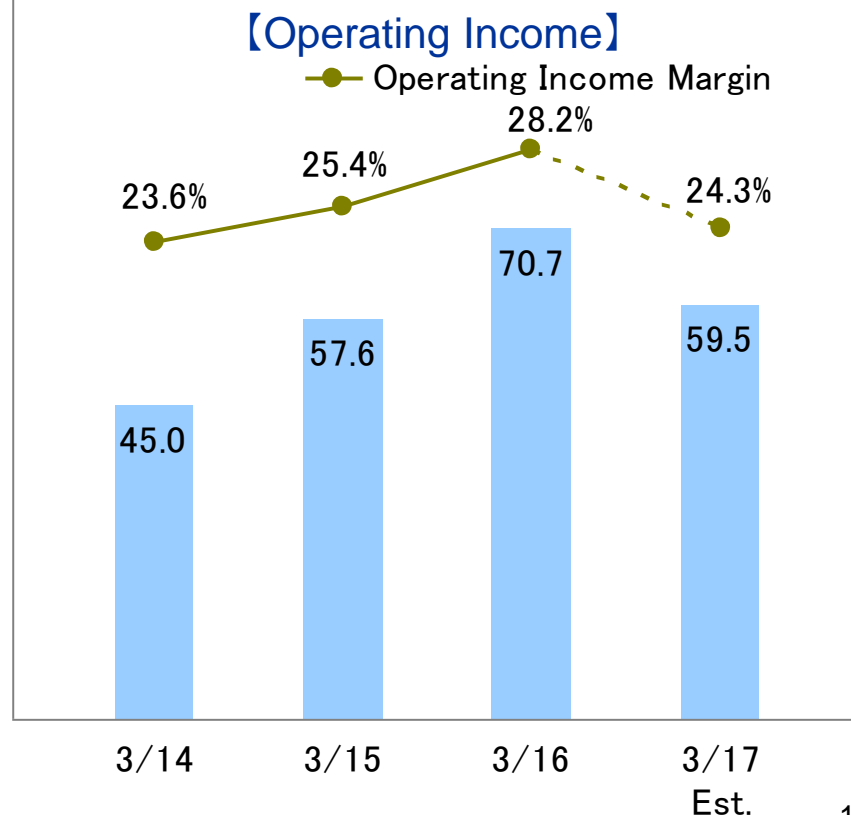
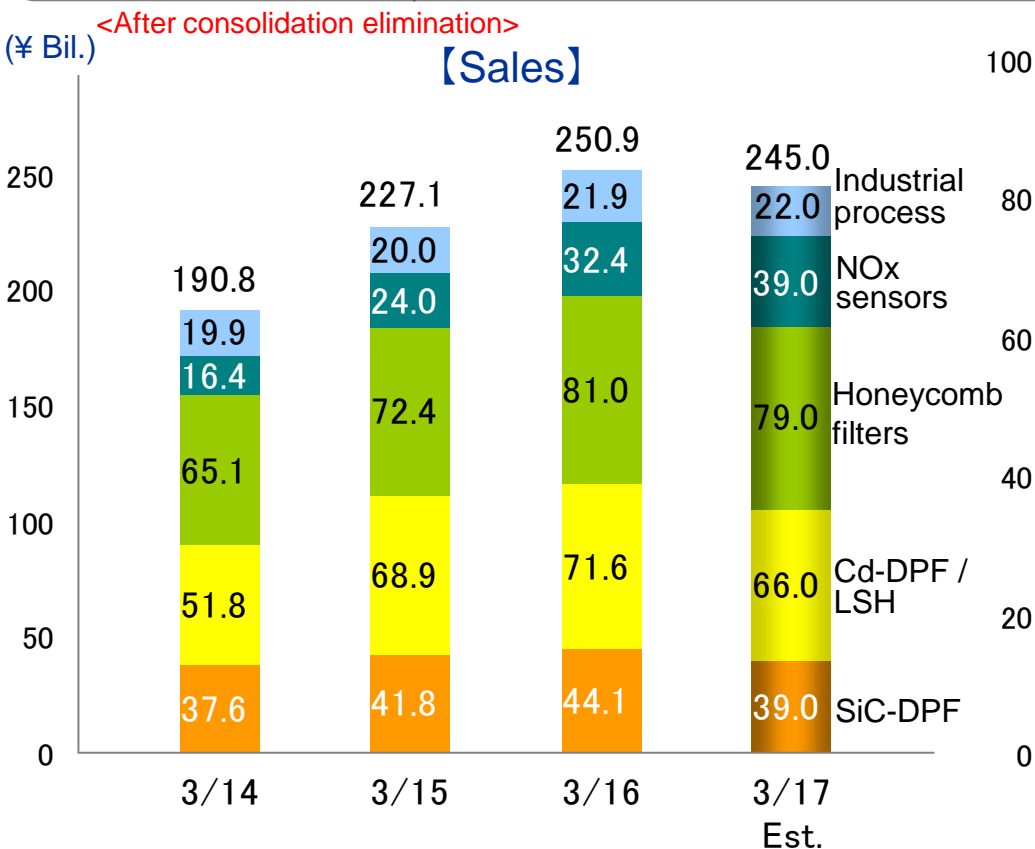
(Left :2 inches
Right:4 inches)

● Automotive-related

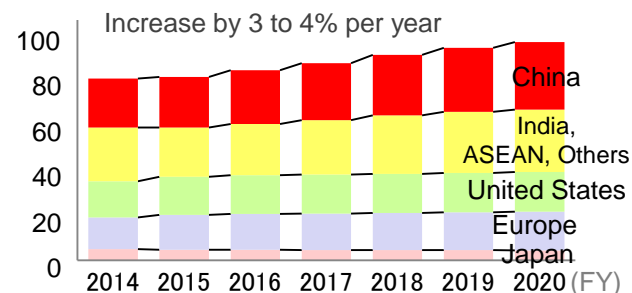
- Demand for NOx sensors increases due to the expanded application of regulations in Europe (Euro6) and China (China 4).
- Demand for honeycomb filters expands as the result of increased sales of passenger cars mainly in China, Europe and the US.
- Demand for LSH increases as the result of the recovery of truck sales in China and the expansion of vehicles subject to non-road emission regulations. Demand for Cd-DPF decreases since some vehicles switch to SiC-DPF.
- Sales and income are forecast to decrease due to price reductions and increases in startup costs and development costs in addition to the impact from the stronger yen.
- For the mid to long term, the global trend for tighter emission regulations is set to continue and demand for related products will increase. We will continue to focus on constructing a global production system.

● Industrial processes

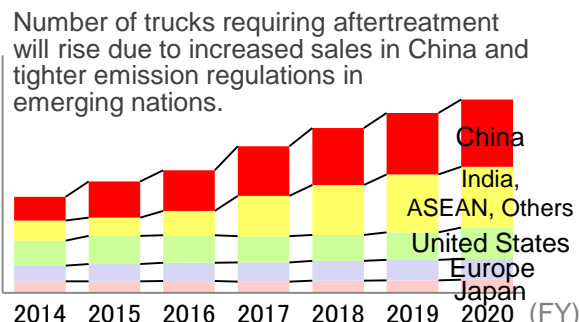
- Investment in the medical, chemical and automobile industries continues, and sales are forecast to remain level.



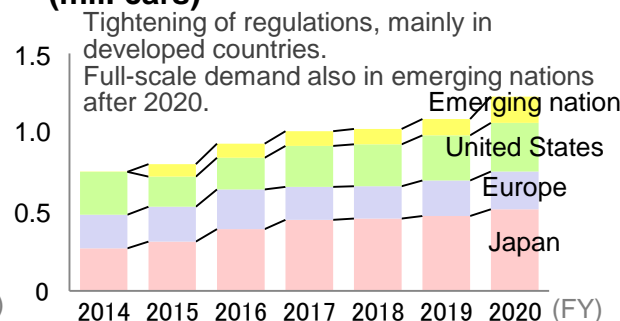
■ Sales of passenger cars (mil. cars)



■ Trucks requiring aftertreatment (mil. trucks)

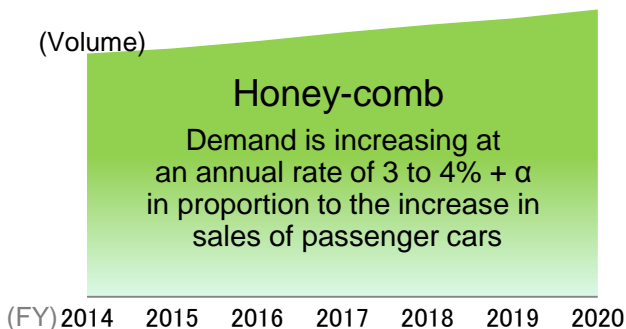


■ Non-roads requiring aftertreatment (mil. cars)

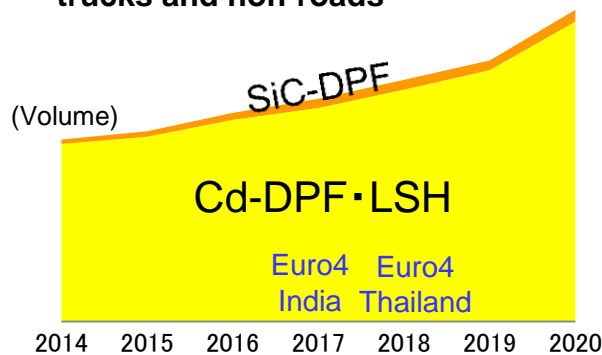


<Total demand forecast for products>

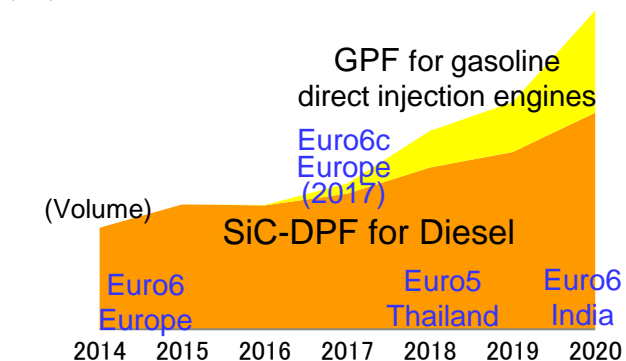
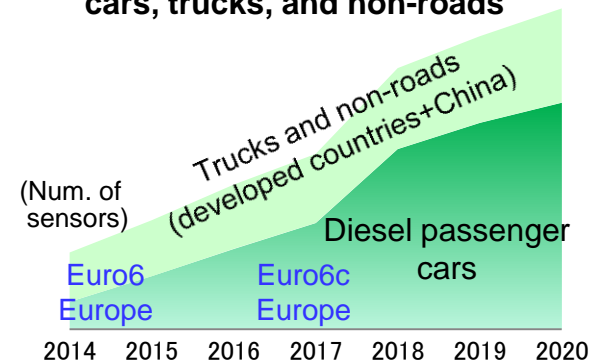
■ Honey-comb, GPF, SiC-DPF for passenger cars



■ LSH, Cd-DPF, SiC-DPF for trucks and non-roads



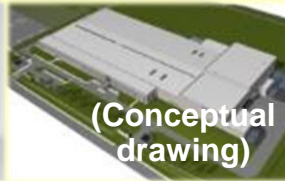
■ NOx sensor for diesel passenger cars, trucks, and non-roads



- The introduction of new RDE (Real Driving Emissions) regulations has been decided and demand for GPF and NOx sensors is forecast to increase from around 2018.
- Tightening of regulations is being brought forward and further enhanced in emerging nations as a result of environmental issues (China: introduction of China5 will be brought forward to 2017, regulations in India will be tightened from Euro5 to Euro6 in 2020).

● New bases

2nd plant in Poland



(Conceptual drawing)

Increase capacity of SiC-DPF (approx.. ¥17.0 Bil)
Production starts in **January, 2017**

Belgium ● Poland ●

1st plant in Poland



Increase capacity of LSH and Cd-DPF
Mass production of GPF (investment amount: approx.. ¥12.0 Bil.)
Production starts in 2016

Ishikawa Plant



Introduce state-of-the-art honeycomb production line Production started in November 2015 (approx.. ¥3.0 Bil)



Increase capacity of elements for NOx sensors
Production starts in **April, 2017** (approx.. ¥8.3 Bil)

Ishikawa ● China ● Nagoya ●

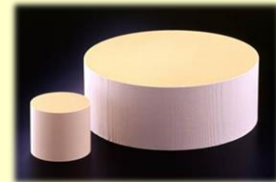
Mexico ● U.S. ●

Thailand ●

Indonesia ●

South Africa ●

New manufacturing base in Thailand

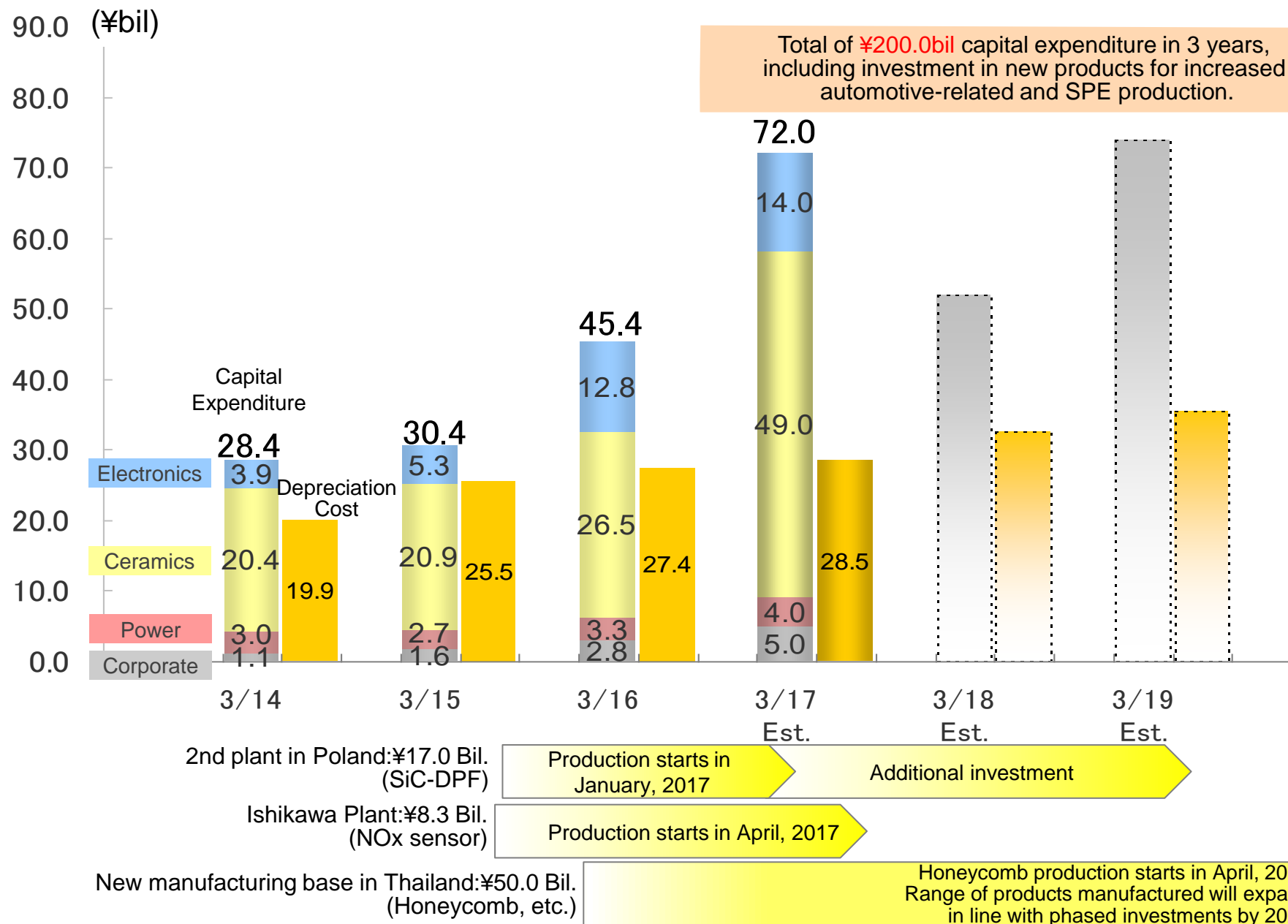


(Conceptual drawing)

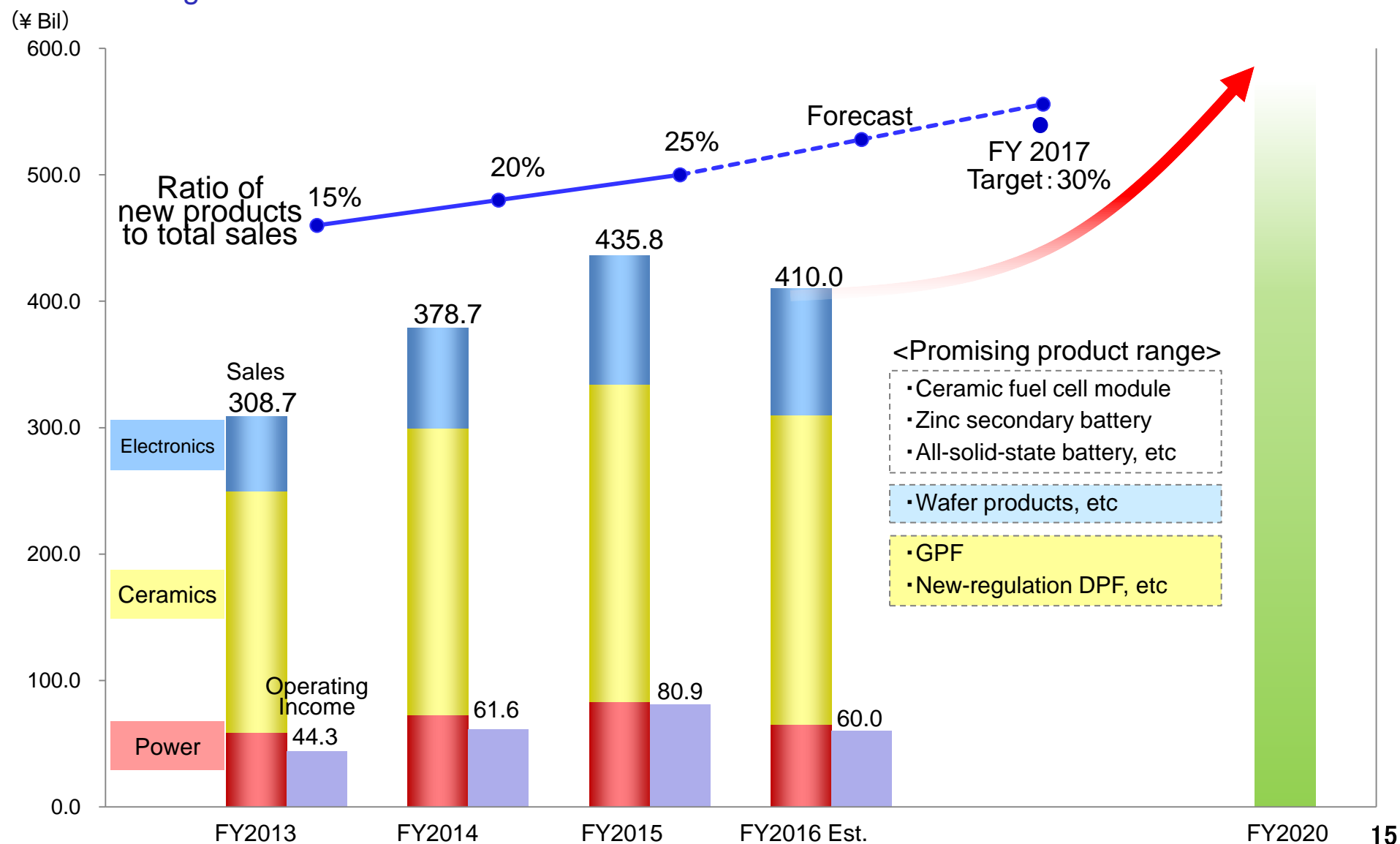
(investment amount by 2020: approx.. ¥50.0 Bil.)
Start of construction in spring 2016
Honeycomb production starts in **April, 2018**

Develop and introduce a state-of-the-art production line in Japan and expand to overseas bases.

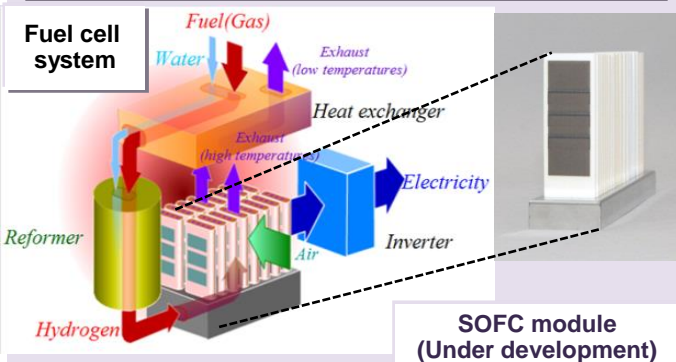
Further increase production capacity in each area, mainly in Poland (2nd plant), Ishikawa (NOx sensors) and the new manufacturing base in Thailand



Be forecast to achieve target ratio of new products to total sales in FY2017.
Reinforce existing products and tackle the quick commercialization of new products to ensure consecutive growth.



Ceramic fuel cell module SOFC (Solid-Oxide Fuel Cell) module



- Compact but highly efficient and durable power generation component made of ceramic enabled by proprietary configuration and ceramic material

Fuel cell system for a detached house and an apartment building
For next-generation fuel battery systems



- Being evaluated at major fuel cell system companies for commercialization

Zinc secondary battery

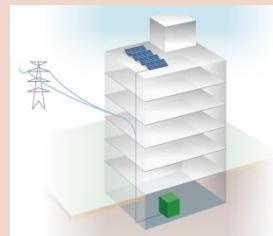


- Large capacity battery using proprietary OH ion-conducting ceramic materials in its separators
- Has high safety since it uses an aqueous electrolyte, and can be installed in various locations

Household-type storage battery (10kWh class)



Indoor-type storage battery (500kWh class)
For buildings, hospitals and commercial facilities, etc.



- Being evaluated for long-term durability, for commercialization in 2017

All-solid-state battery



- All-solid-state battery which are ultra-slim, high energy dense and operable under high temperatures

Wearable devices



Smart cards



IoT wireless modules



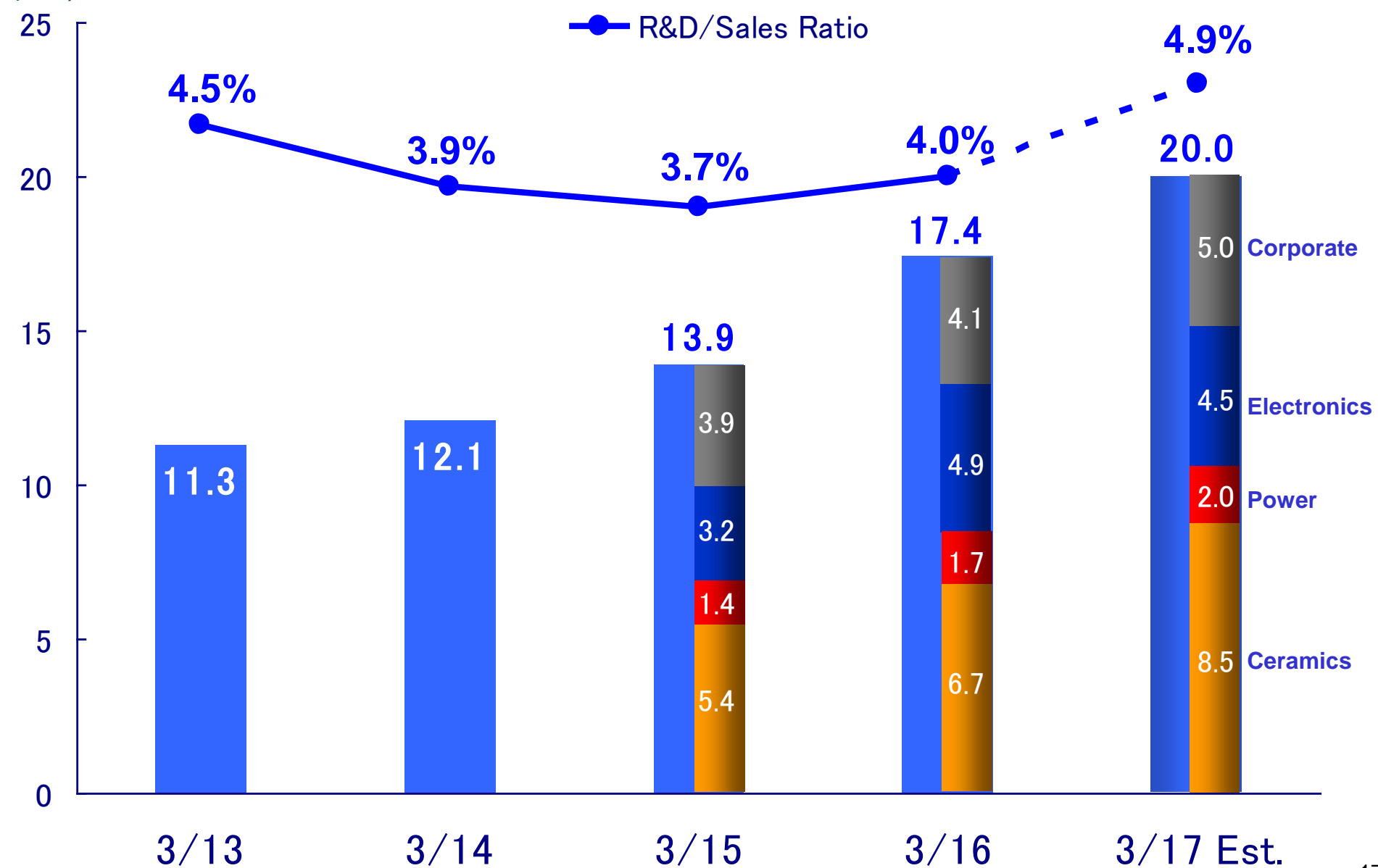
On board power unit



- Samples being evaluated at more than 10 companies

Launched a company-wide ceramic battery project.
Accelerating commercialization

(¥ Bil.)



Respond to demand expansion

Enhance the competitiveness of the product

Break dependence on Automotive-related products

Strengthen system to respond Global expansion

Strengthen global productivity

- Planning world wide production increase, mainly automotive-related products
- Coinstantaneous world wide plant establishment

Enhance the competitiveness of existing products
New Structural Innovation of Manufacturing

- Increase the value of the products by advanced technology
- Reduce cost and shorten lead time by establishing innovational manufacturing process.

Create new product and business
2017 Challenge 30

- Raise the ratio of new products to total sales to 30%
- Broaden the range of new wafer products
- Set up the new department to reinforce the marketing and experimental production
- Accelerate the commercialization of new battery products

Enlarge the global management
Upgrade the cooperate headquarter

- Rapid response to the change of business conditions, and legal requests

Further Enhancement of Governance framework
Commit Stronger Regulatory Compliance

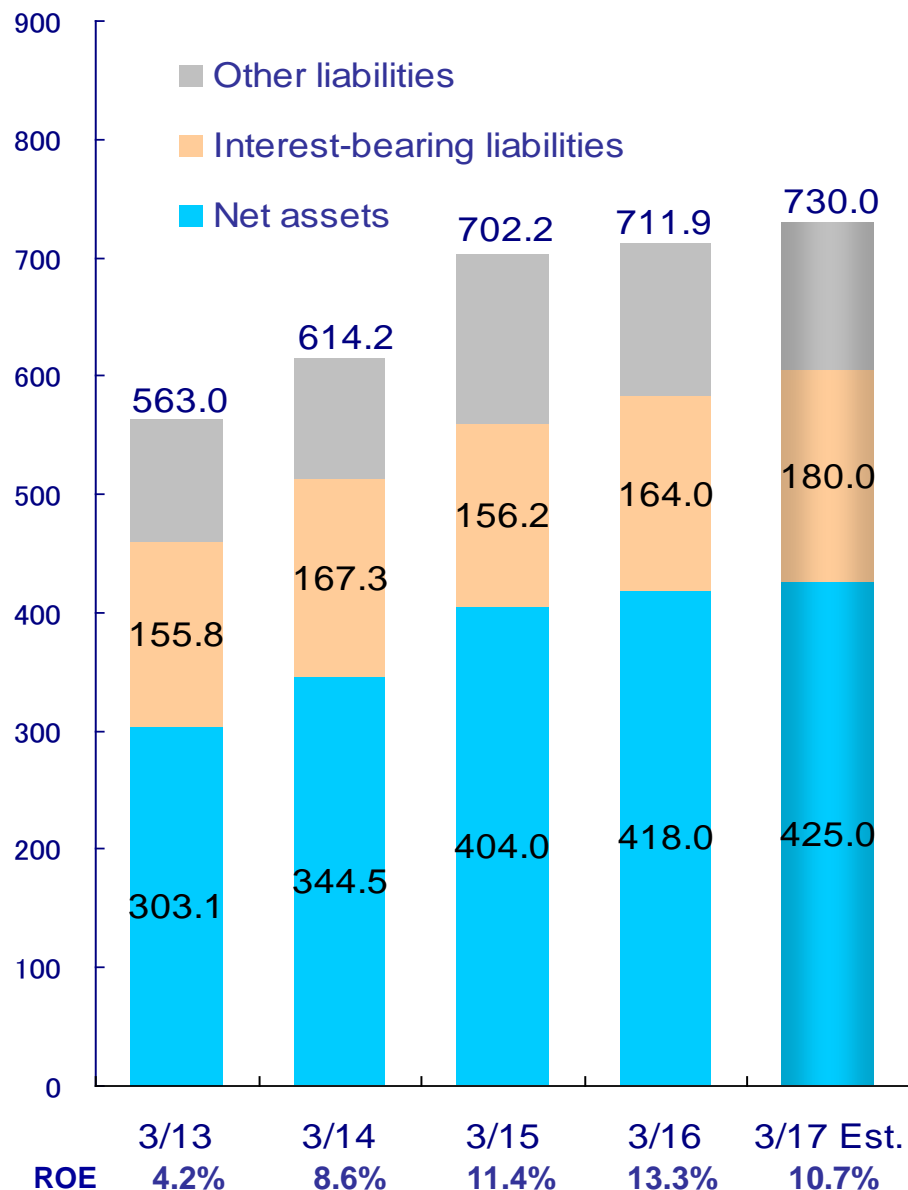
Become a world-class global company

Summary of Cash Flow

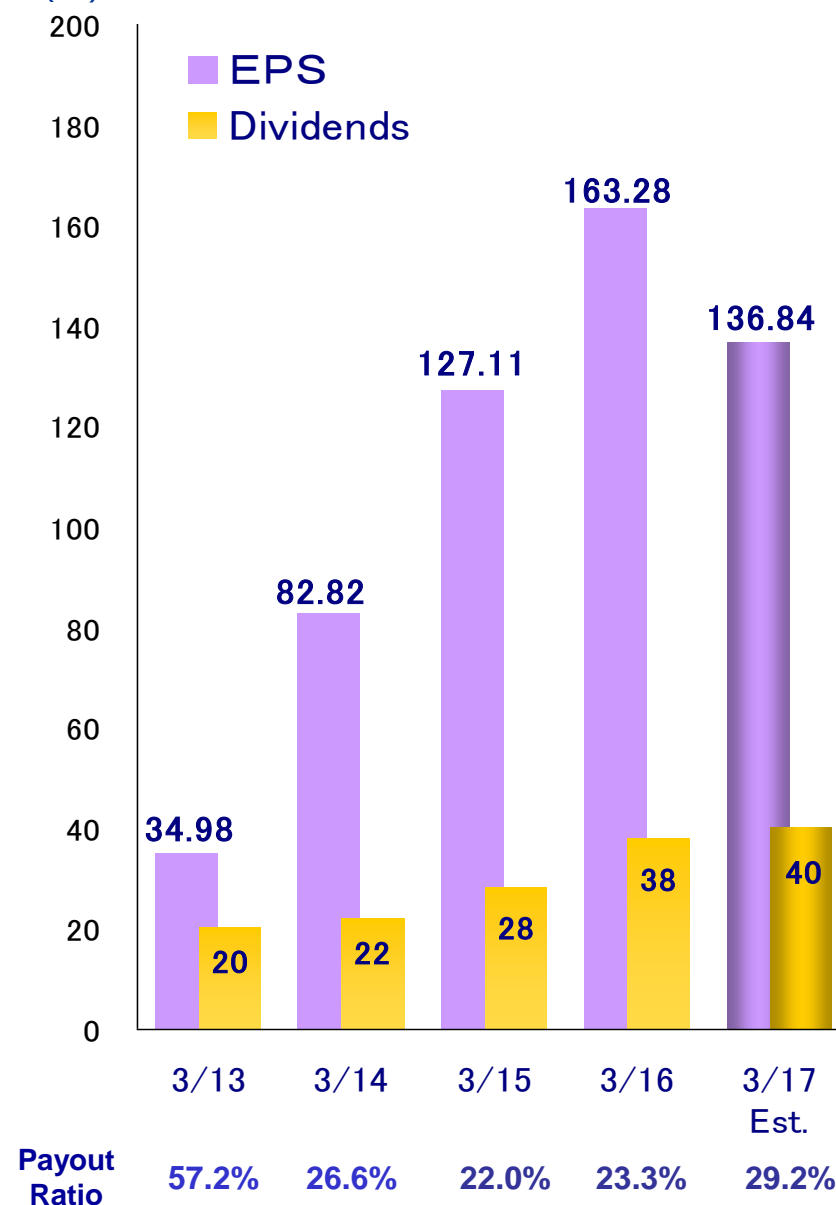
(¥ Bil.)

| | 3/15 | 3/16 | 3/17 Est. |
|--------------------------------|-------|-------|-----------|
| Operating Activities | 73.0 | 59.4 | 79.0 |
| Investing Activities | -39.5 | -47.8 | -72.0 |
| Financing Activities | -26.0 | -0.4 | -16.0 |
| Effect of exchange rate change | 1.3 | -3.9 | -2.0 |
| Net Change in Cash &Eq- | 8.8 | 7.4 | -11.0 |
| Cash & Eq- at the End of Year | 128.6 | 136.1 | 125.1 |

(¥ Bil.)



(¥)



Sales by Product (Annual)

<After Consolidation Elimination>

(¥ Bil.)

| | 3/14 | 3/15 | 3/16 | 3/17 Est. |
|----------------------|-------|-------|-------|-----------|
| Insulators | 53.9 | 57.0 | 57.3 | 60.0 |
| NAS | 5.1 | 15.8 | 26.2 | 5.0 |
| Power Business | 59.0 | 72.8 | 83.5 | 65.0 |
| Honeycomb filters | 65.1 | 72.4 | 81.0 | 79.0 |
| SiC-DPF | 37.6 | 41.8 | 44.1 | 39.0 |
| Cd-DPF / LSH | 51.8 | 68.9 | 71.6 | 66.0 |
| Sensors | 16.4 | 24.0 | 32.4 | 39.0 |
| Industrial Process | 19.9 | 20.0 | 21.9 | 22.0 |
| Ceramics Business | 190.8 | 227.1 | 250.9 | 245.0 |
| Metal related | 18.6 | 21.5 | 19.9 | 19.0 |
| SPE related | 24.3 | 31.5 | 36.8 | 35.0 |
| Electric Related | 4.8 | 14.5 | 33.9 | 35.8 |
| Soshin Electric CO. | 11.2 | 11.3 | 10.8 | 10.2 |
| Electronics Business | 58.9 | 78.8 | 101.4 | 100.0 |
| Total | 308.7 | 378.7 | 435.8 | 410.0 |

Sales by Product (Semi Annual)

<After Consolidation Elimination>

(¥ Bil.)

| | 3/16 | | 3/17 Est. | |
|----------------------|------------------------|------------------------|------------------------|------------------------|
| | 1 st . Half | 2 nd . Half | 1 st . Half | 2 nd . Half |
| Insulators | 27.9 | 29.4 | 28.5 | 31.5 |
| NAS | 5.9 | 20.3 | 0.5 | 4.5 |
| Power Business | 33.8 | 49.7 | 29.0 | 36.0 |
| Honeycomb filters | 39.1 | 41.8 | 38.5 | 40.5 |
| SiC-DPF | 22.1 | 22.0 | 20.0 | 19.0 |
| Cd-DPF / LSH | 37.0 | 34.6 | 33.5 | 32.5 |
| Sensors | 14.9 | 17.4 | 18.0 | 21.0 |
| Industrial Process | 9.6 | 12.3 | 10.0 | 12.0 |
| Ceramics Business | 122.7 | 128.1 | 120.0 | 125.0 |
| Metal related | 10.6 | 9.3 | 9.5 | 9.5 |
| SPE related | 18.7 | 18.2 | 18.5 | 16.5 |
| Electric Related | 19.5 | 14.4 | 18.1 | 17.7 |
| Soshin Electric CO. | 5.4 | 5.4 | 4.9 | 5.3 |
| Electronics Business | 54.1 | 47.4 | 51.0 | 49.0 |
| Total | 210.6 | 225.2 | 200.0 | 210.0 |

The purpose of this brief is information disclosure for better understanding of NGK Group's policies, projections and financial condition. This brief does not solicit buying and selling of NGK's shares.

The figures included in this brief, including the business performance targets and figures, are all projected data based on the information currently available to the NGK Group, and are subject to variable factors such as economic conditions, competitive environments and future demands.

Accordingly, please be advised that the actual results of business performance may differ substantially from the projections described here.



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