

Power and New Energy Business Strategies

May 25, 2017

Fuji Electric Co., Ltd.

Power and New Energy Business Group

■ Business Overview

■ Review of FY2016

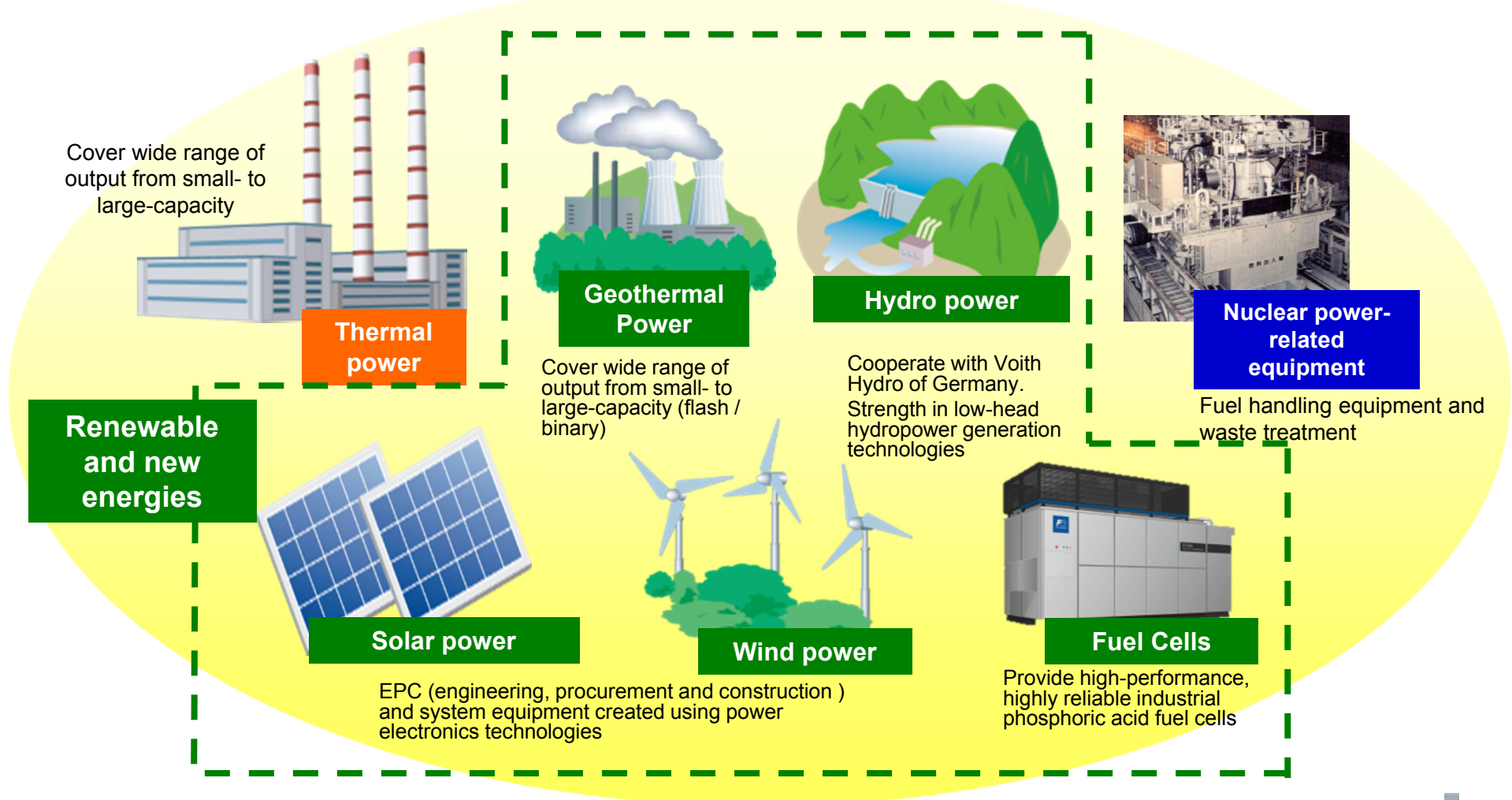
■ FY2017 Management Plan

- Business Policies
- Business Plan
- Market Trends
- Priority Measures
- Capital Investment / Research and Development

Business Overview

Business Overview

Contribute to the realization of a sustainable society by stably creating safe and secure energy
~Develop businesses with maximized environmental performance, efficiency, economic benefits, value, and innovation~



Review of FY2016

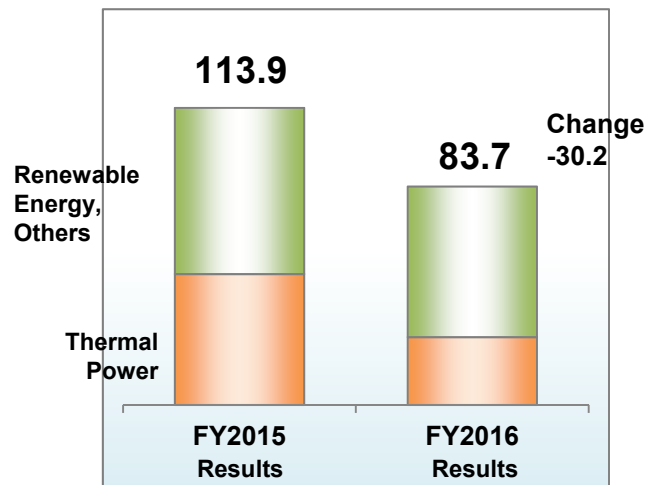
Initiative Results in FY2016

- Expanded after sales businesses through acquisition of RTS
- Finished construction of first binary geothermal power plant
- Continued receiving orders and sales for hydroelectric power generation facilities
- Completed delivery of large-scale order for solar power generation facilities

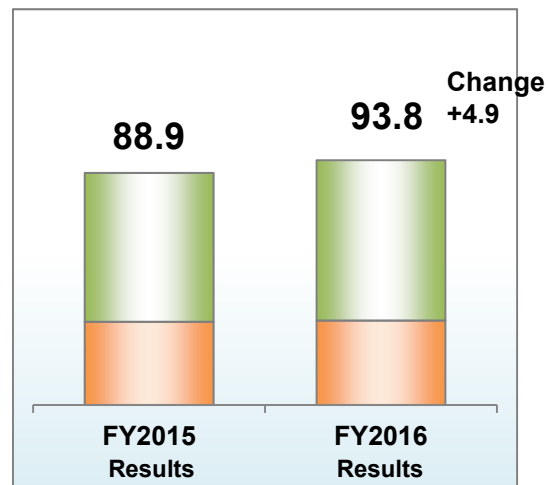
Challenges to Be Tackled in FY2017

- Expansion of orders for thermal, geothermal, and solar power generation facilities

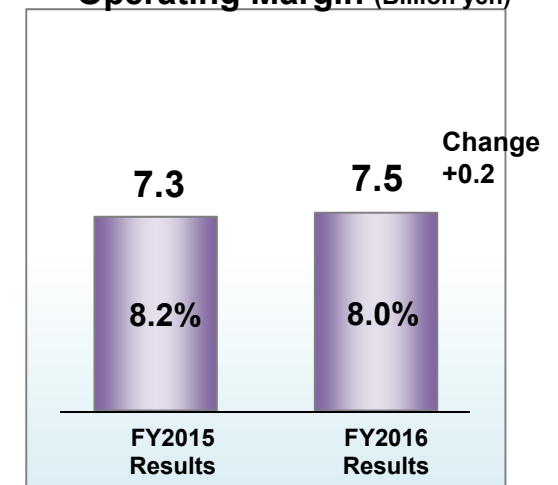
Amount of Orders Received (Billion yen)



Net Sales (Billion yen)



Operating Income / Operating Margin (Billion yen)

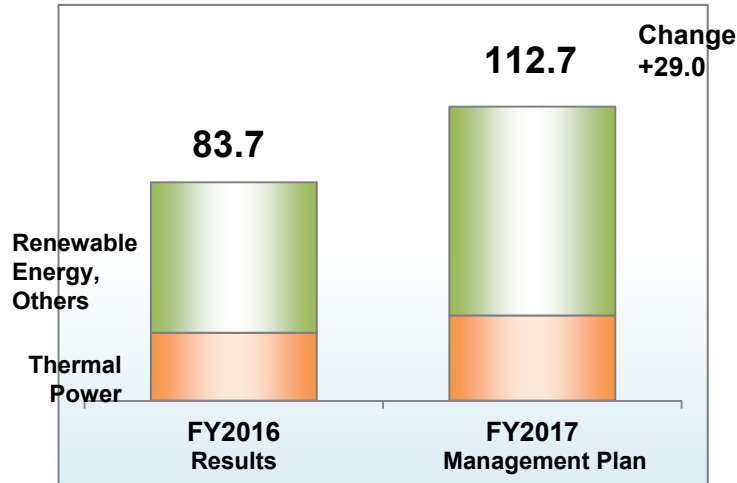


FY2017 Management Plan

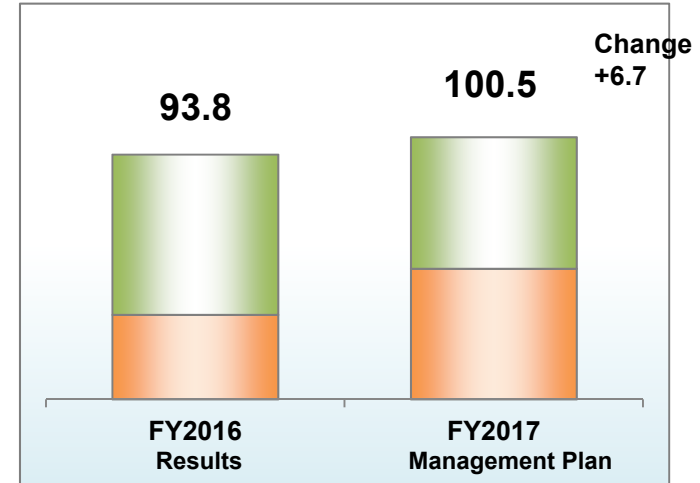
Pursue stable and continuous business growth by accurately addressing increase in power demand (particularly for renewable energy) with integrated operation structure specializing in power plants and consolidating related sales divisions

- Expand orders (thermal, geothermal, and solar power generation facilities)
- Secure stable earnings by expanding after sales businesses
- Enhance project management capabilities

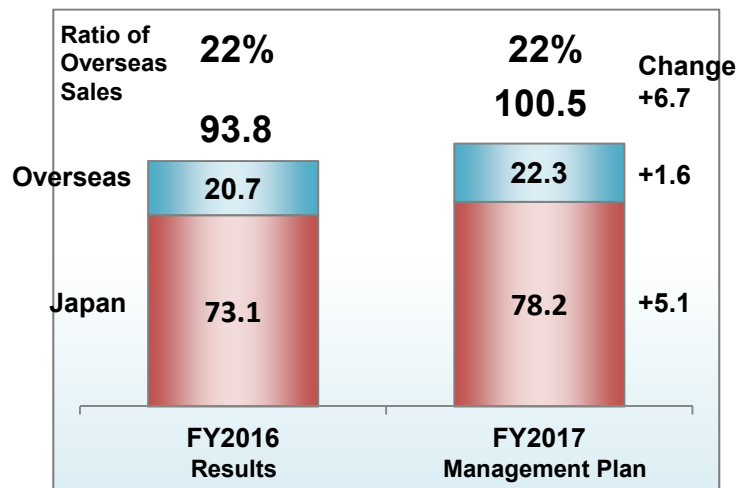
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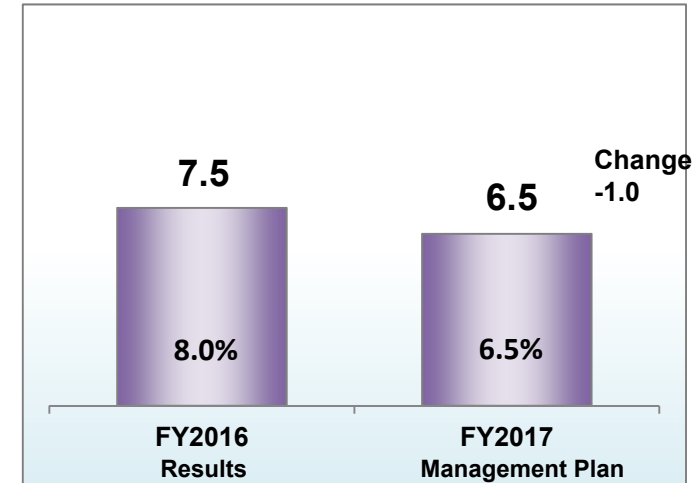
Net Sales (Billion yen)



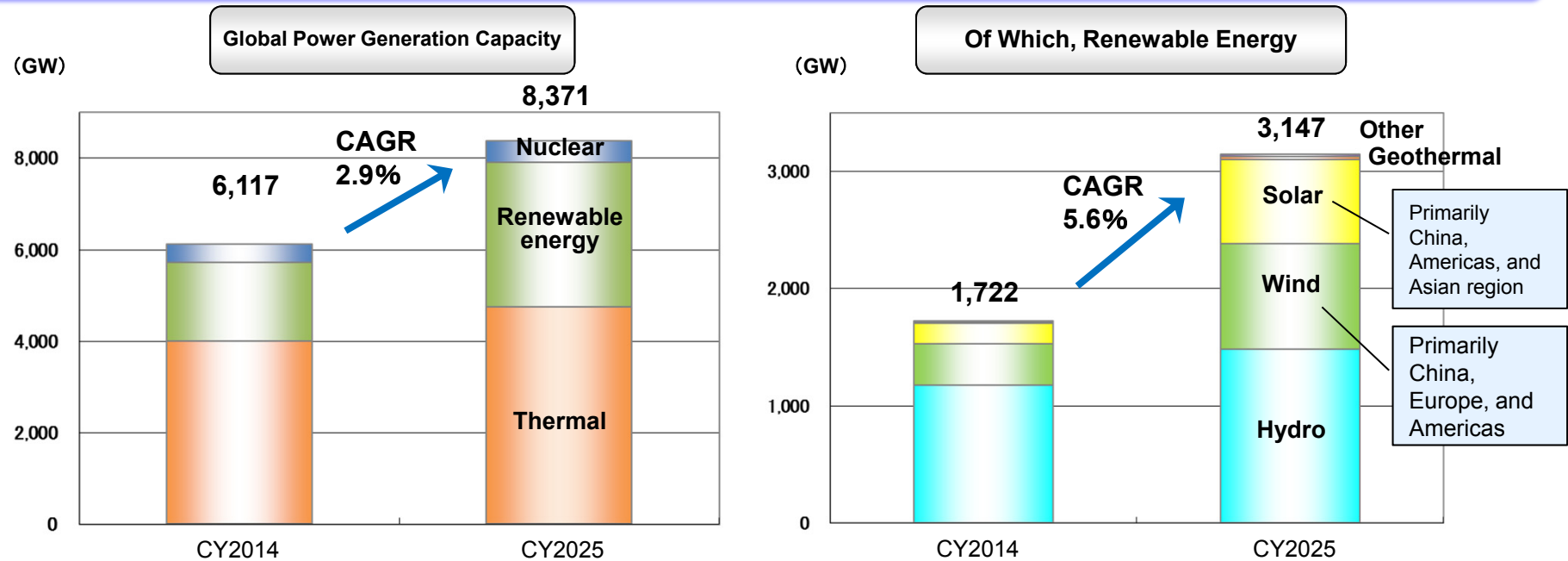
Net Sales in Japan / Overseas (Billion yen)



Operating Income / Operating Margin (Billion yen)



Continuing global growth in electricity demand and increasing installation of generation facilities



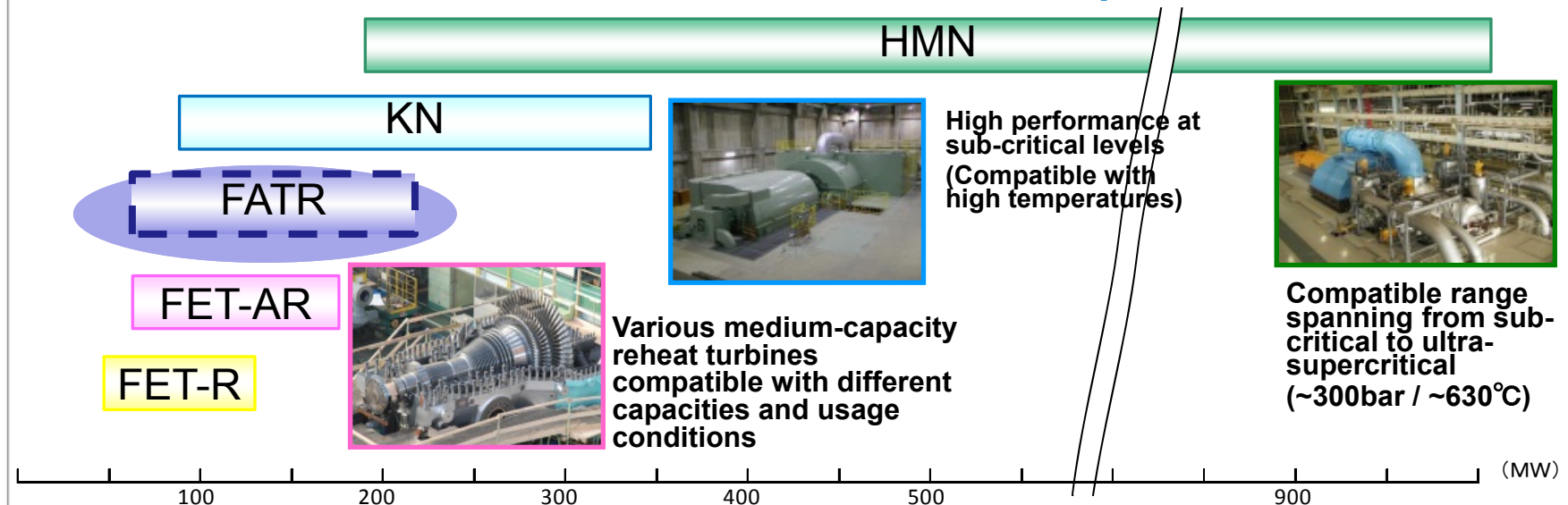
- Annual growth rate (CY2014–CY2025) of 2.1% for global energy demand*
 - Developed nations: 0.7% annual growth
 - Emerging nations: 3.1% annual growth
- Improvement of economic performance through higher efficiencies and reduction of environmental impact
- Promotion of geothermal power generation plant introduction by government measures and subsidies
 - Rising demand in Africa following trend in Indonesia

* Source: IEA World Energy Outlook 2016

Thermal Power—Priority Measures

- Continually acquire orders for thermal power generation (IPP, PPS)* in Japan (acquire additional orders from existing customers and approach new customers)
 - Advance ongoing initiatives related to combined-cycle and ultra-supercritical coal-fired thermal power generation plants
- Expand orders in Asia and the Near and Middle East through acquisition of new customers (utilize bases and collaborate with local partners)
- Promote development ventures for bolstering product lineup and increasing efficiency
 - Expand range of application of reheat turbine model series (FATR)
 - Achieve compatibility with high-temperature and high-pressure plants to realize increased cycle efficiency
- Promote extensive risk management and secure income by enhancing project management capabilities

<Reheat Turbine Product Lineup>



* IPP: Independent power producer, PPS: Power producer and supplier

- **Continue acquiring orders in Asia and expand orders in the African and Central and South American markets**
 - Coordinate with existing partners (Asia) and new partners (Africa and Central and South America)
 - Improve plant efficiency
- **Expand orders for flash and binary geothermal power generation facilities and hot spring power generation facilities in Japan**
 - Leverage existing track record to promote sales of binary geothermal power generation facilities

< Binary Geothermal Power Generation >

Robust product lineup covering capacities up to and exceeding 10 MW



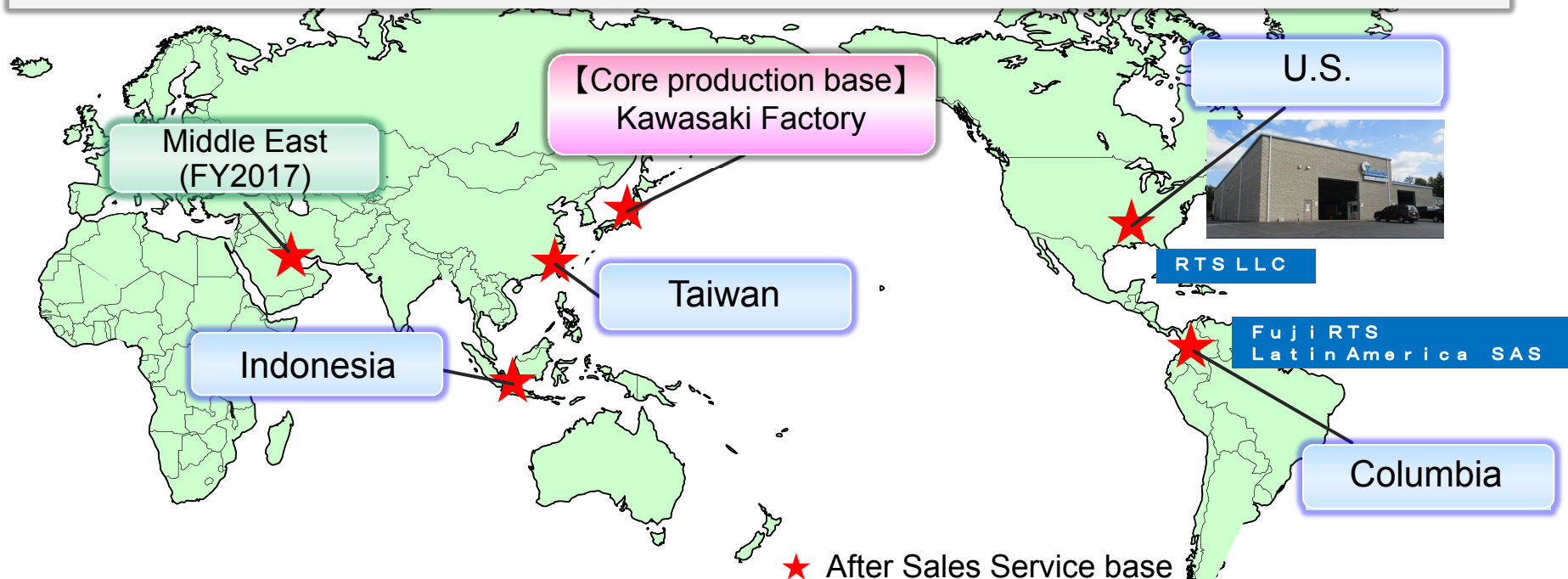
Takigami Binary Geothermal Power Plant of Idemitsu Oita Geothermal Co., Ltd.

- Start of commercial operation: March 1, 2017
 - Location: Kokonoe Town, Kusu-gun, Oita Prefecture
 - Generation capacity: 5,050 kW
- Annual generation capacity: 31 million kWh**
- Generation conducted utilizing hot water exhaust from Takigami Power Station of Kyushu Electric Power Co., Inc.

Expansion of After Sales Businesses (Thermal and Geothermal Power)

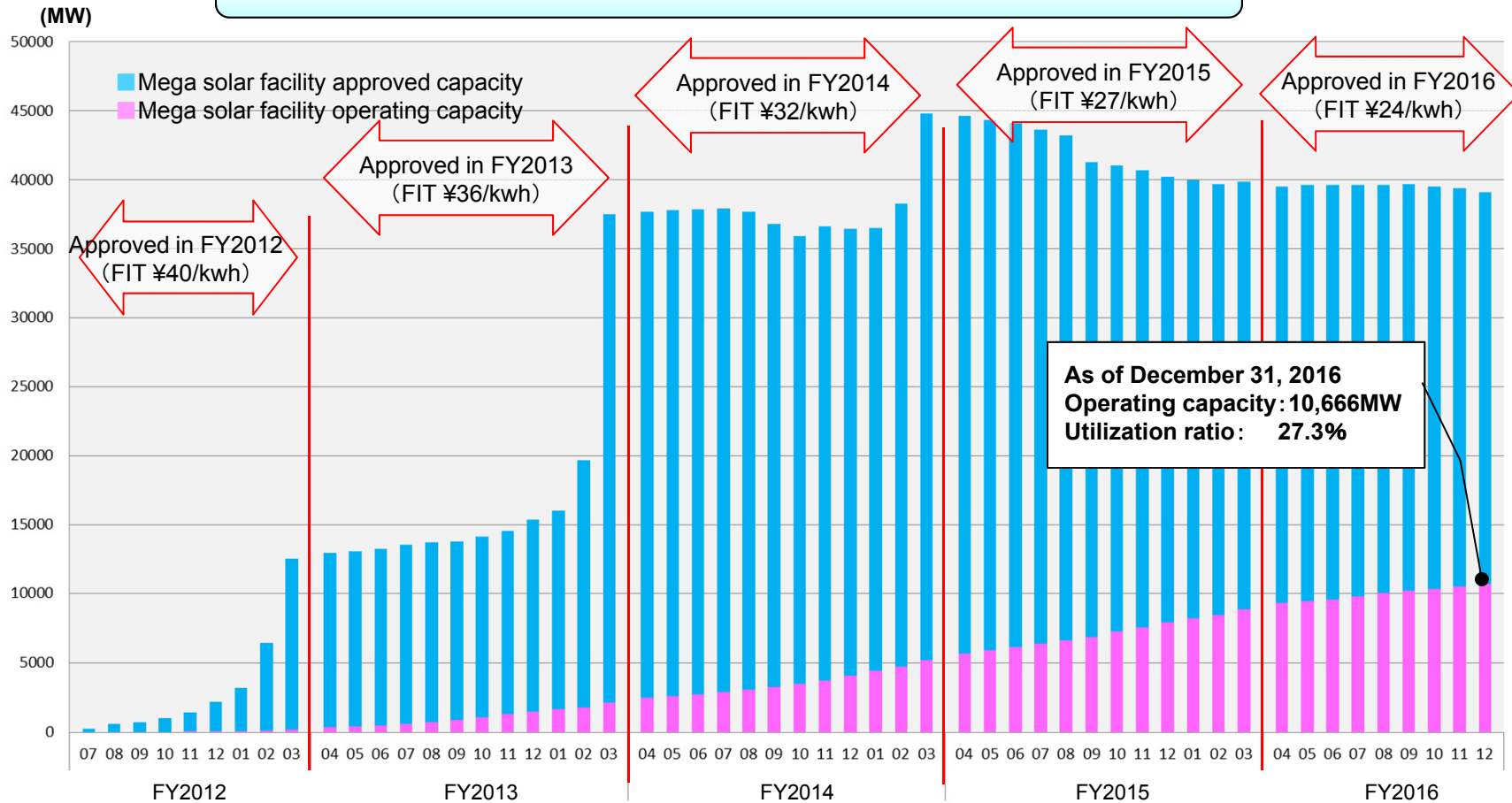
- Complete global service network and enhance capabilities of each base
- Convert to proposal-based approach for maintenance and repair projects
 - Expand lineup of offerings for optimizing plant lifecycles
 - Bolster service lineup and broaden scope (local repair, construction)
- Establish dedicated sales divisions for after sales services and dedicated technological proposal divisions
- Cultivate local engineers

Portion of total sales attributable to after sales businesses (thermal and geothermal power):
30% on average over past 3 years → 40% in FY2018



Mega Solar—Market Trends

Japanese Mega Solar Facility Approval and Operational Status



Source: Agency for Natural Resources and Energy

- Only 27% of approved generation facilities operational (as of December 31, 2016)
- Ongoing demand for construction expected to last through 2018, but number of projects to decline gradually following abolition of approval system

Solar Power—Priority Measures

■ Step up initiatives targeting large-scale EPC projects

- Acquire orders for large-scale mega solar projects

Advance order acquisition activities for projects that entail attached electricity storage facilities

- Thoroughly management progress of large-scale mega solar projects and reduce costs

■ Increase sales volumes through the introduction of new products

- Expand sales volumes of system equipment by launching new power conditioning sub-systems (PVI1000BJ-3P/1000)

■ Prepare for overseas expansion of solar power operations (target Asian market as first step)

- Coordinate with overseas sales companies and develop products for global market



Mega solar plant in Hikari City, Yamaguchi Prefecture owned by Hikari Energy LLC
EPC project with annual generation capacity of 14 MW completed in January 2017



Kamikita Rokkasho Solar Power Plant of Mirai Power (Kamikita Rokkasho) Corporation (subsidiary of Sojitz Corporation)
EPC project with annual generation capacity of 51 MW completed in March 2017

■ Wind Power

- Promote sales targeting EPC projects for small-scale plants that are exempt from environmental assessments

Wind Power Generation System Delivered



Nishime wind power plant of Fuji Green Power Co., Ltd.

■ Fuel Cells

- Utilize patents of Fuji N2telligence to promote sales in German fire prevention market through collaboration with fire prevention equipment manufacturers
- Quickly launch SOFCs* that will serve as high-efficiency distributed power sources (FY2018) * SOFCs: Solid oxide fuel cells

Fuel Cell Delivered in Germany



100 kW fuel cell for cold storage warehouse of Wolf Butterback KG (completed in 2016)

■ Nuclear Power-Related Equipment

- Enter into plant decommissioning field with Europe's cutting-edge solidification technology (SIAL®)*
- Steadily produce MOX fuel manufacturing equipment compatible with new standards

* SIAL® is a registered trademark of AMEC Foster Wheeler plc of the United Kingdom.



SIAL® solidified body



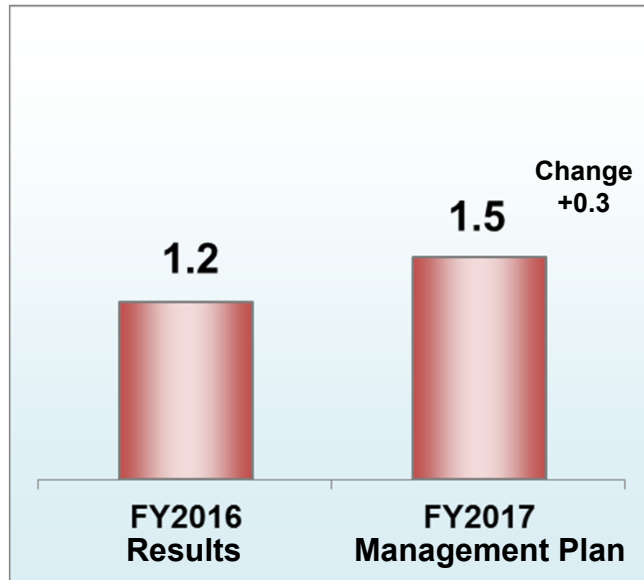
SIAL® solidified sample



Capital Investment / Research and Development

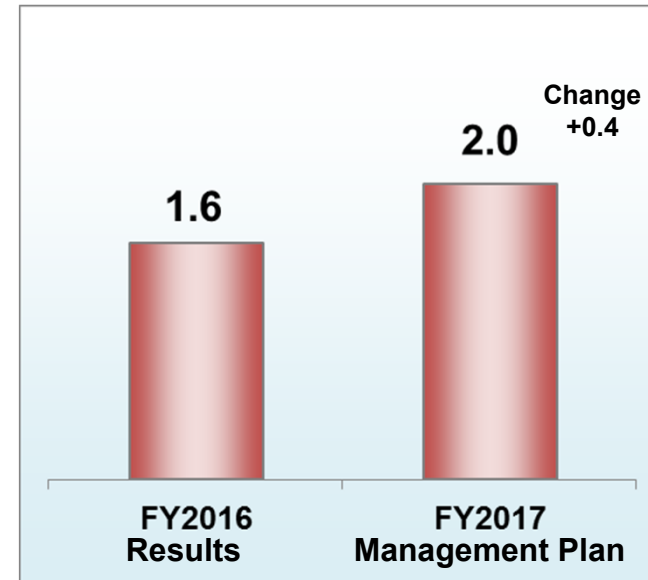
Invest in strengthening manufacturing capabilities and developing competitive, high-value-added products to continually and stably expand business

Capital Investment (Billion yen)



- Manufacturing equipment at Kawasaki Factory (rationalization, etc.)
- Enhancement of equipment at RTS

Research and Development (Billion yen)



- Efficiency increases for thermal turbines
- Development of new power conditioning sub-systems for solar power
- Next-generation fuel cell (SOFC) development

* R&D expenditure figures above represent expenditures that have been allocated to segments based on theme and may therefore differ from figures contained in consolidated financial reports.

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