

# Power Generation Business Strategies

October 30, 2020

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## ■ Business Overview

## ■ FY2020 Management Plan

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






**Contributions to realization of a sustainable society and development of high-value-added solutions for area of strength that is small to medium-sized power plants in conjunction with growing demand for decentralized power supplies**

|                  | Product Area  | Characteristics   |
|------------------|---|---|
| Renewable Energy | Geothermal power<br>(No. 1 global share*1)<br>Biomass power<br>(No. 1 domestic share*2) | <ul style="list-style-type: none"> <li>▪ Proposal capabilities by single interface</li> <li>▪ Industry-leading delivery track record</li> </ul> |
|                  | Hydropower<br>(No. 3 domestic share)  | <ul style="list-style-type: none"> <li>▪ Robust delivery track record</li> <li>▪ Ability to accommodate scrap and build demand</li> </ul>       |
|                  | Solar power<br>(No. 2 domestic share*3)<br>Wind power                                   | <ul style="list-style-type: none"> <li>▪ Electricity storage control technologies and high economic benefits</li> </ul>                         |
|                  | Thermal power   | <ul style="list-style-type: none"> <li>▪ Service-driven operations</li> </ul>   |
|                  | Nuclear power-related equipment   | <ul style="list-style-type: none"> <li>▪ Nuclear power plant decommissioning business</li> </ul>  |

\*1 For orders received after CY2000

\*2 For orders received after introduction of feed-in tariff scheme in FY2012

\*3 For deliveries of industrial PCSs with capacity of 500 KW or more after introduction of feed-in tariff scheme in FY2012

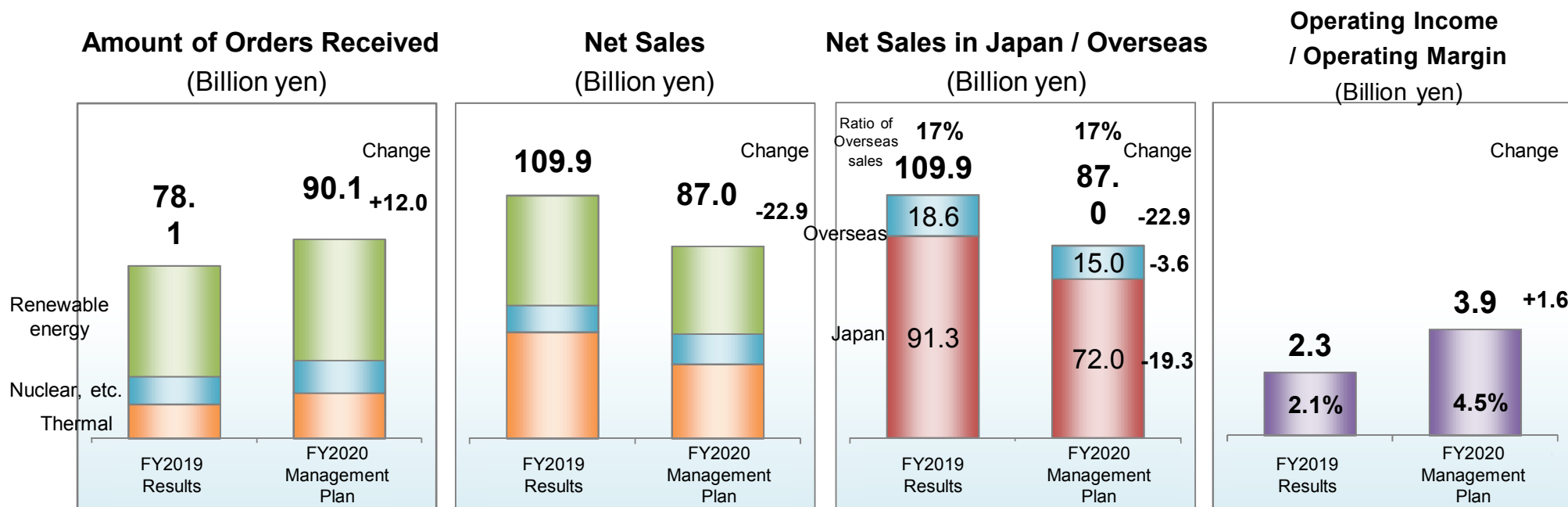
|                                 | Product Area  | YoY Change  | Market Outlook (FY2020)  |
|---------------------------------|---|---|--|
| Renewable Energy                | Geothermal power  |    | <ul style="list-style-type: none"> <li>● Japan: Plans being formulated after identifying and confirming accessibility of heat sources</li> <li>● Overseas: Concern for delays in plan formulation due to impacts of the COVID-19 pandemic</li> </ul>   |
|                                 | Hydropower  |    | <ul style="list-style-type: none"> <li>● Japan: Continuation of brisk demand for scrap and build projects targeting aged power plants primarily in the form of projects from power companies and municipal government agencies using feed-in tariff scheme</li> </ul>  |
|                                 | Solar power<br>Wind power   |    | <ul style="list-style-type: none"> <li>● Japan (solar power): Decrease in projects using feed-in tariff scheme, but anticipated start up of feasible yet inactive projects due to introduction of certification cancellation system</li> <li>● Japan (wind power): Ongoing business negotiations despite uncertainty regarding timing of agreement conclusion for onshore wind power systems, formation of offshore wind power market</li> <li>● Overseas (solar power): Full-fledged advancement of practical business negotiations for improving rate of renewable energy use in Southeast Asia</li> </ul> |
| Thermal power                   |  | <ul style="list-style-type: none"> <li>● Rapid market contraction in Japan and overseas due to global drive to eliminate carbon dependency</li> <li>● Impacts of the COVID-19 pandemic felt in overseas after sales businesses</li> </ul> |  |
| Nuclear power-related equipment |  | <ul style="list-style-type: none"> <li>● Continuation of nuclear power plant decommissioning business</li> </ul>  |  |

## Business Policies

Reform business portfolio in response to changing operating environment

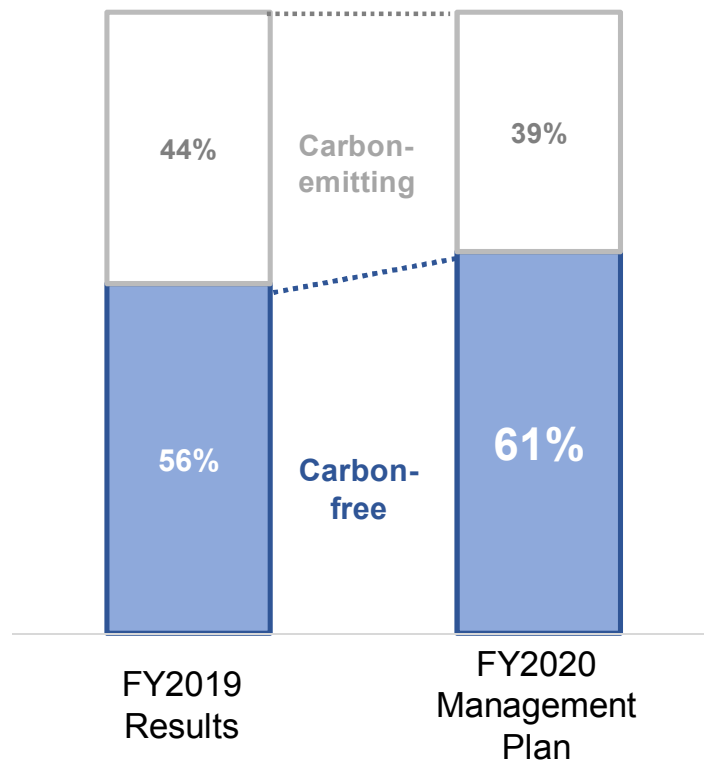
## Business Plan

Ongoing expansion of order acquisition in renewable energy fields but decrease in sales due to completion of large-scale projects (increased ratio of renewable energy)

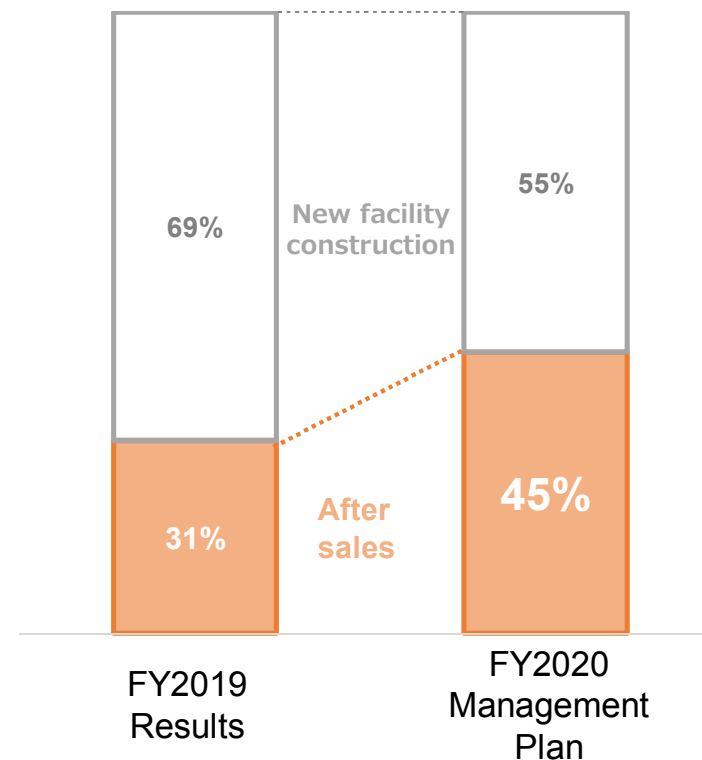


- **Focus on renewable energy and decentralized power supplies** (geothermal, hydropower, solar power, wind power)
- **Enhancement of after sales businesses**

**Sales Ratio by Market Need Category**  
**(Carbon-Free / Carbon-Emitting)**  
Increase ratio of sales of carbon-free systems



**Sales Ratio by Business Category**  
**(New Facility Construction / After Sales)**  
Increase ratio of sales of after sales services





Rendition of completed Onikoubechinetsu power station (Provided by Electric Power Development Co., Ltd.)



Muara Laboh Geothermal Power Plant (Photograph provided by PT. Supreme Energy Muara Laboh)

## Japan

Expansion of projects using feed-in tariff scheme

- Acquisition of orders for flash systems with less than 15 MW capacity by capitalizing on order track record
  - Proposal of ORC\* systems for projects with less than 5 MW capacity
- \*Organic Rankine Cycle: Generation method using fluids with low boiling points in place of water

## Overseas

- Ongoing order acquisition activities in Asia, Africa, and other promising locations
- Establishment of better market position through strategies with existing partners and reinforcement of supply chains
- Growth of profits through stronger project management and cost reduction measures

### ■ Topics

Project Name : Muara Laboh Geothermal Power Project - Stage I (Sumatra, Indonesia)

Generation Capacity: 84.5 MW

Generation Method : Double flash geothermal power generation (completed in December 2019)

Upgrade to triple flash (double pressure, completed in October 2020)



Sasadaira Power Station  
(Photograph provided by TEPCO  
Renewable Power, Inc.)

## Japan

### Effective incorporation of existing power plant after sales service projects (including output increases)

- Strengthening of project execution systems, acquisition of scrap and build projects by optimizing supply chains
- Differentiation of operations through application of new eco-friendly technologies

(Order backlog double that on April 1, 2019)

## ■ Topics

### Eco-Friendly Technology

#### 【 Hybrid Servo Systems 】 .....

Fuji Electric proposes electric servo systems, which do not use oil, and hybrid servo systems, which use minimal oil, in place of conventional hydraulic servos.

New Energy Award



New Energy Foundation  
Chairman's Award

Together with Electric Power Development, Fuji Electric has developed a new system that boasts a more than 90% reduction in oil use and that is compatible with large-diameter, large-capacity inlet valves and guide vane manipulation. This system is anticipated to make significant contributions to the environment.





## Solar Power

### Japan

- Approach targeting acquisition of orders related to inactive projects using feed-in tariff scheme

### Overseas

- Ongoing growth in solar power orders in Southeast Asia



Suzuran Kushiro-cho Solar Power Plant  
(Photograph provided by GPD Suzuran Solar K.K.)

#### ■ Topics

- **Completion of Suzuran Kushiro-cho Solar Power Plant (DC capacity of 92.2 MW, AC capacity of 59.9 MW, LiB capacity of 25.3 MWh), one of Japan's largest storage battery-equipped solar power generation facilities (compatible with output fluctuation mitigation standards required of plants under HEPCO jurisdiction), on February 1, 2020**
- **Receipt of orders and subsequently commencement of construction for two projects for building storage battery-equipped power plants with AC capacity of 5 MW in specially designated economic development areas of Southeast Asia in FY2019 (first overseas EPC projects for Fuji Electric)**

## Wind Power

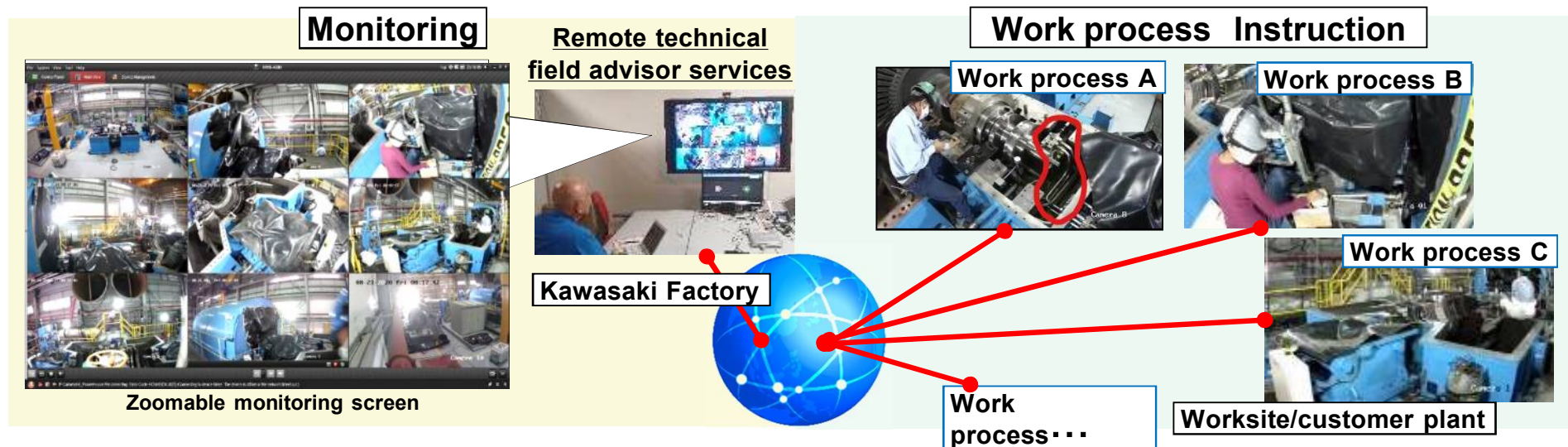
### Japan

- Support for swift business development
- Promotion of proposals using electricity storage and stabilization equipment and ultrahigh voltage and transformer technologies developed in solar power field and in which Fuji Electric specializes

- Expansion of proposal-based upgrade services
- Onshore and on-site service provision
- More extensive provision of remote technical services using online tools

## ■ Topics

- Remote technical field advisor services offered at three overseas plants  
Service details: Simultaneous, real-time monitoring of multiple process from Kawasaki Factory  
Accurate and timely guidance



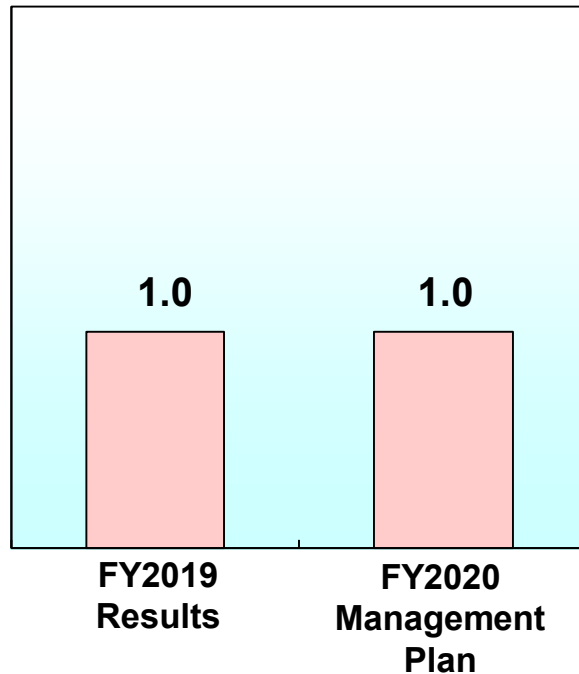
- Insulation aging analysis of generator (stator core) during operation Proposal of repair/upgrade services based on analysis results



# Capital Investment / Research and Development

## Capital Investment

(Billion yen)

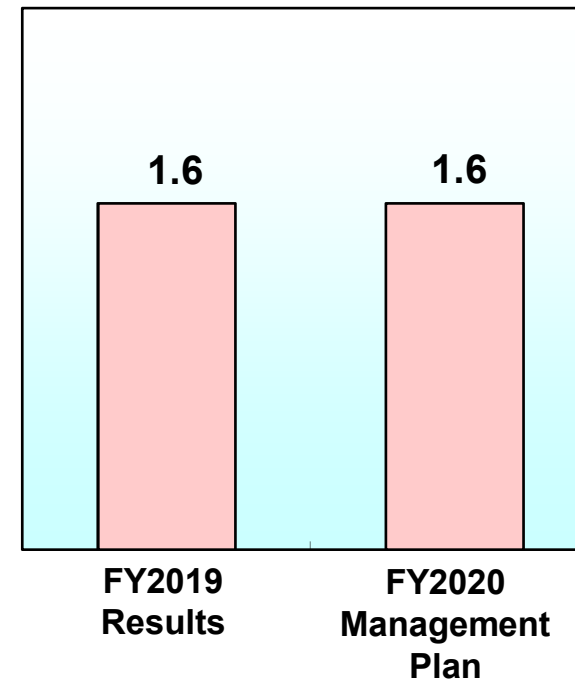


### Kawasaki Factory

- Production equipment upgrades/repairs
- Rationalization, etc

## Research and Development

(Billion yen)



- Development of products and enhancement of solutions for growing renewable energy operations and strengthening after sales businesses
- Development of electricity storage control technologies and products
- Enhancement of inspection and repair service lineup

Note: The 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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