
Power Systems and Energy Solutions Business Strategy

Hitachi IR Day 2015

June 11, 2015

Katsumi Nagasawa

Vice President and Executive Officer
President & CEO, Power Systems Company
Power & Infrastructure Systems Group
Hitachi, Ltd.

Masaaki Nomoto

President & CEO, Energy Solutions Company
Hitachi, Ltd.

Power Systems and Energy Solutions Business Strategy

Contents

- 1. Business Overview**
2. Market Environment
3. Growth Strategy for the Energy Solutions Business
4. Strategy of Power Infrastructure Business for Generating Higher Earnings in the Next Growth Stage
5. Business Performance Trends
6. Conclusion - FY2015 Targets -

Strengthen front engineering capabilities in response to market changes

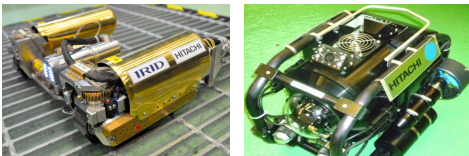
Power Systems Company

Energy Solutions Company Established April 2015

Nuclear Power Business



Nuclear Power Plants(ABWR) *2

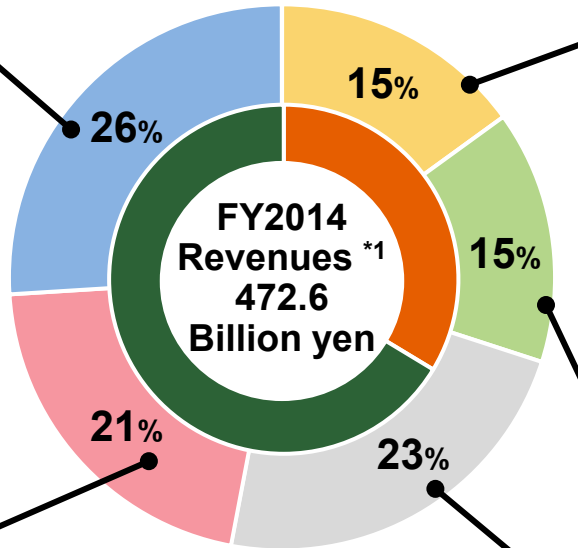


Fukushima pressure containment vessel exploration robot*3

Power Generation Solutions Business



Preventive maintenance for GTCC *4 power plants



Transmission & Distribution Business



Supervisory control systems(EMS)



Gas Insulated Switchgear



Substation facilities

Others



Remote monitoring



Predictive diagnosis system

Renewable Energy Business



Photovoltaic power generation systems*5



Wind power generation systems

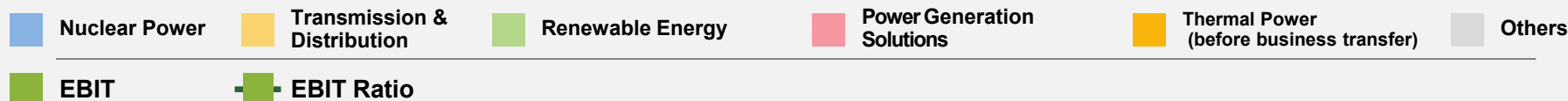
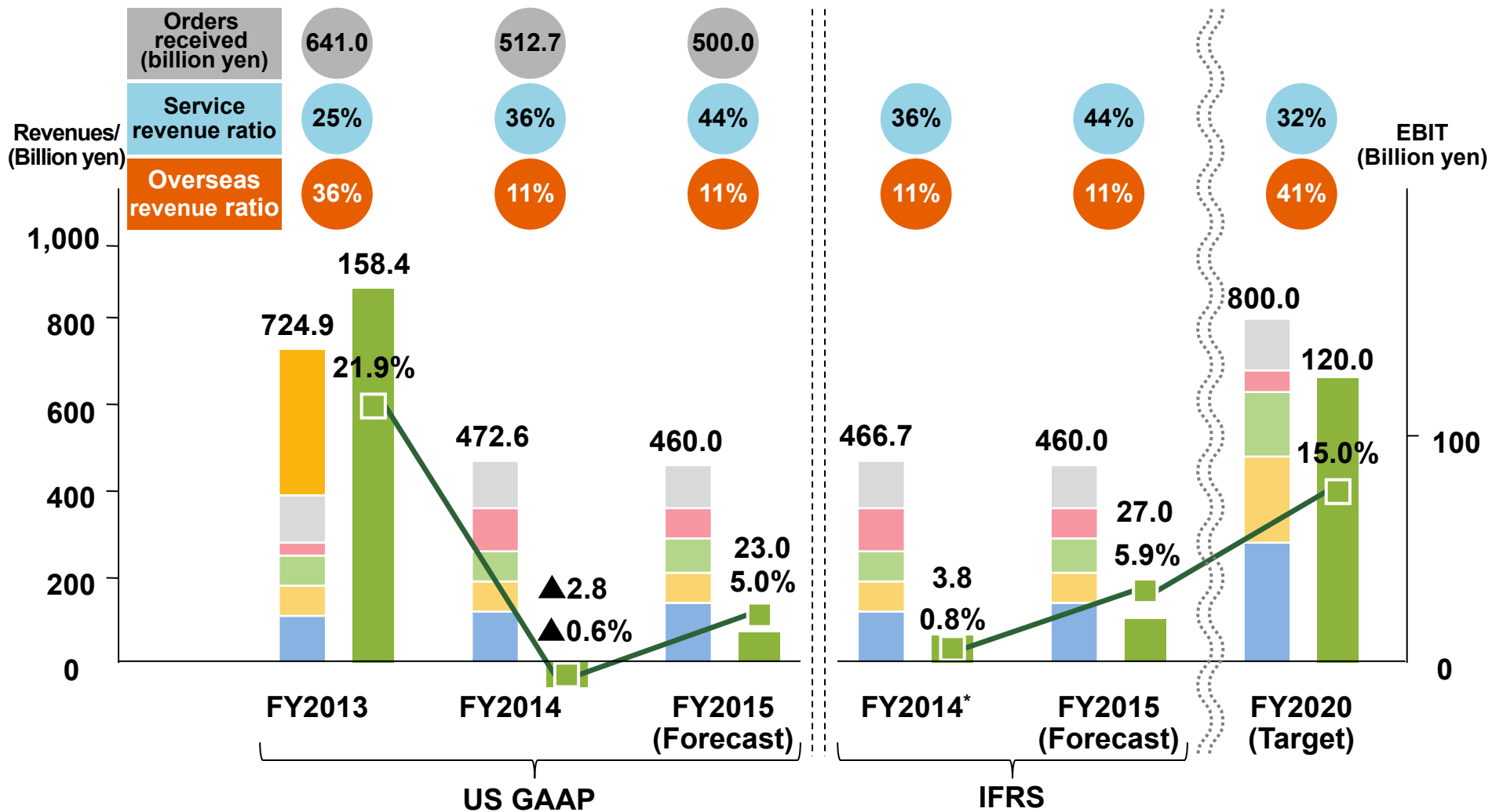
*1 US GAAP

*2 Advanced Boiling Water Reactor

*3 Developed as part of the operations of the International Research Institute for Nuclear Decommissioning (IRID) with subsidies from the Agency for Natural Resources and Energy for expenses related to developing decommissioning and safety technologies for nuclear reactors for power generation, etc.

*4 Gas Turbine Combined Cycle *5 Oita Solar Power

1-2. Business Performance Trends



* Unaudited

1-3. Progress on 2015 Mid-term Management Plan

Status of progress on Mid-term Management Plan and future outlook

	FY2013 (US GAAP)	FY2014		FY2015 (Forecast)		Year Over Year (US GAAP)
		(US GAAP)	(IFRS)*	(US GAAP)	(IFRS)	
Revenues	724.9 Billion yen	472.6 Billion yen	466.7 Billion yen	460.0 Billion yen	460.0 Billion yen	97%
EBIT ratio	21.9%	▲0.6%	0.8%	5.0%	5.9%	+5.6 points
Overseas revenue ratio	36.0%	11.2%	11.4%	11.0%	11.1%	▲0.2 points
Service revenue ratio	25.1%	35.6%	36.1%	43.6%	43.6%	+8.0 points

1-4. Differences From Previous Forecast

<US GAAP>

	FY2015 (Forecast)	Previous forecast*	Difference
Revenues	460.0 Billion yen	520.0 Billion yen	▲60.0 Billion yen
EBIT ratio	5.0%	8.5%	▲3.5 points

<Main reasons for differences>

Revenues and EBIT are both expected to be lower than the previous forecasts based on intensified market competition in the transmission & distribution business and slower-than-anticipated growth in the renewable energy market.

1-5. Status of Progress on Thermal Power Projects

Specific activities	<ul style="list-style-type: none">■ Steady execution and completion of remaining work and commissioning■ Negotiations with customers on compensation for delays in the start of operations and other issues
Regions	Status of progress
Europe	<ul style="list-style-type: none">■ Operations had been started by FY2014, except for certain plants■ The remaining plants are scheduled to enter service during the first half of FY2015
Japan	<ul style="list-style-type: none">■ Specific countermeasures at all plants have been decided and are being executed in stages
Collaboration with Mitsubishi Hitachi Power Systems, Ltd.	<ul style="list-style-type: none">■ Held regular executive-level meetings, meetings to discuss individual projects, and project review meetings

Work to minimize risk by strengthening collaboration with Mitsubishi Hitachi Power Systems, Ltd. and implementing preemptive management

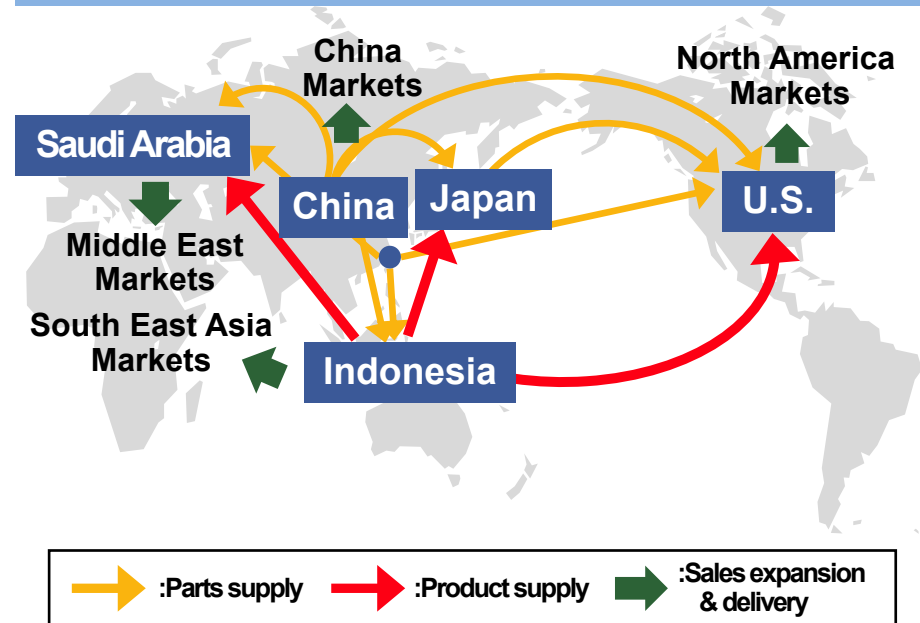
Reasons for declining performance

- Intensified price competition worldwide
- Continued product development investment and upfront global SCM investment
- Recording of business structural reform expenses

Business enhancement measures

- Boldly implement business structure reforms
 - Develop a resilient business framework in Japan, centered on mother factories
 - Streamline and strengthen overseas sites
- Relentlessly strengthen product competitiveness
 - Accelerate product development by enhancing the development framework
 - Strengthen and accelerate cost-cutting activities through global procurement
 - Optimize global SCM

Transmission & Distribution Business Global SCM



- Strengthen the competitiveness of power transmission and transformation components
- Expand business by enhancing system products
- Contribute to the solution business

Power Systems and Energy Solutions Business Strategy

Contents

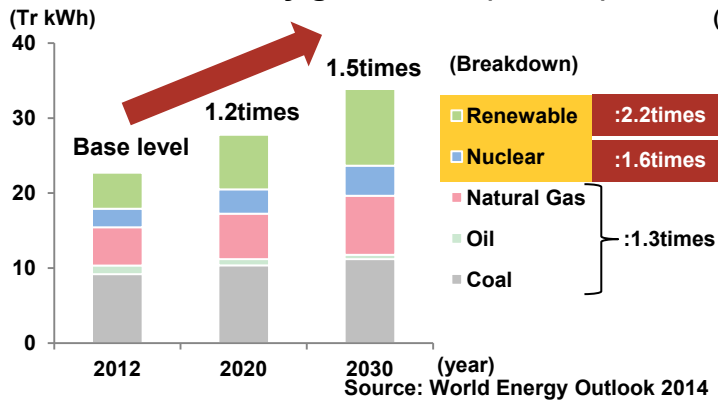
1. Business Overview
- 2. Market Environment**
3. Growth Strategy for the Energy Solutions Business
4. Strategy of Power Infrastructure Business for Generating Higher Earnings in the Next Growth Stage
5. Business Performance Trends
6. Conclusion - FY2015 Targets -

Market trends

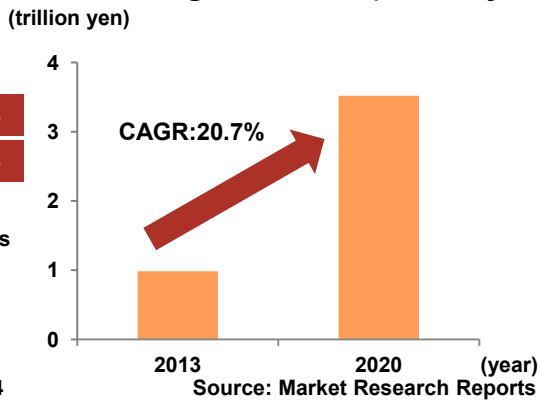
Overseas	Nuclear Power	<ul style="list-style-type: none"> Many countries going ahead with plans Strong needs for safety and a solid track record 	Japan	Nuclear Power	<ul style="list-style-type: none"> Positioned as an important power source Increased capital investment to restart nuclear power plants
	Transmission & Distribution/ Renewable Energy	<ul style="list-style-type: none"> Increased demand for power grid updates and grid stabilization systems in accordance with renewable energy expansion Increased replacement demand for aging substations Capital investment in micro grid construction 		Coal Fired Thermal Power	<ul style="list-style-type: none"> New construction plans in major urban areas (Secure power sources for electric system liberalization)
				Transmission & Distribution/ Renewable Energy	<ul style="list-style-type: none"> Electricity system reforms, entrants from different sectors Development of a full-scale services market following the continuation of the FIT system and its expanded introduction to the wind power market

Market prospects

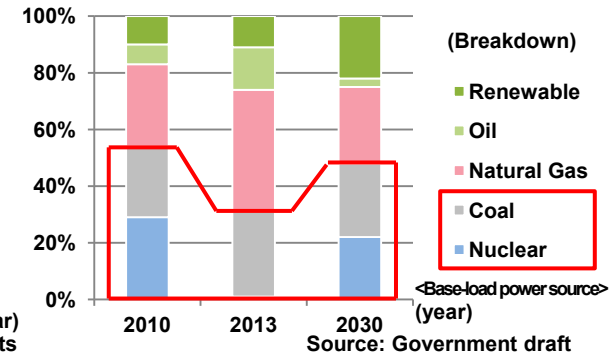
World electricity generation (Tr kWh)



Global micro grid market (trillion yen)



Japan's energy mix

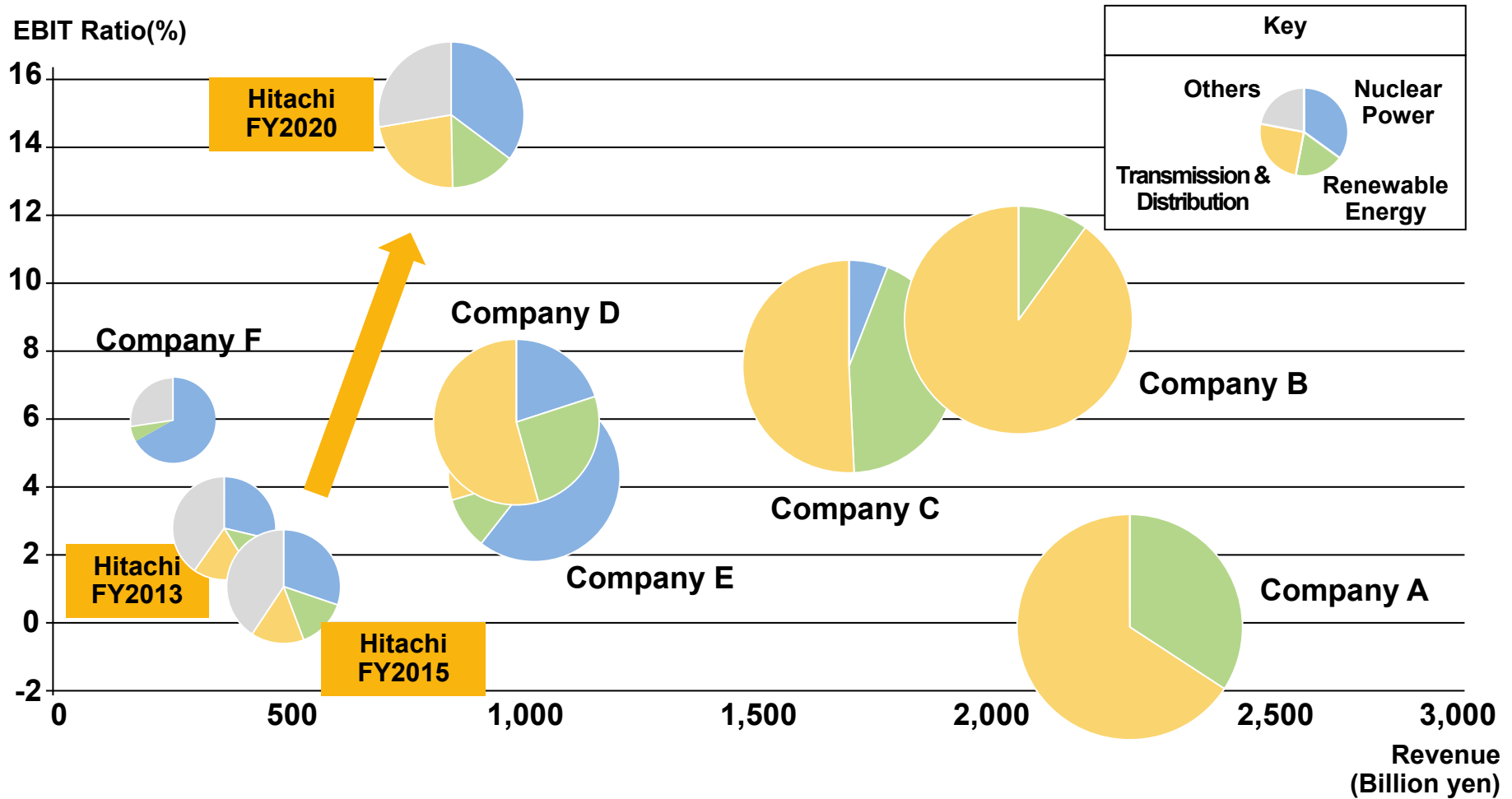


New markets expansion of IT + grid systems

Renewable energy and base-load power source markets continue expansion

2-2. Target Position

Aim for growth and high earnings by providing solutions that integrate “OT” and “IT” in step with market changes



* Hitachi's estimates of each company's revenues (excluding thermal power business) and EBIT ratio (size of pie chart indicates revenue size)

* Operating income ratio for companies A, C, D, E and F, and EBITDA margin for Company B

Energy solutions based on collaborative creation that are tailored to the new market
Highly reliable systems and key components aimed at the power infrastructure market

Energy Solutions Company [Established April 2015]

- Solution Systems Business
- Transmission & Distribution Business
- Renewable Energy Business

Grow in step with market changes

- Strengthen the ability to propose solutions by establishing a frontline framework (sales and engineering)
- Expand the Transmission & Distribution Business by harnessing global SCM
- Maintain the top share of Japan's market for wind power generation systems by shifting from solar to wind power

Power Systems Company

- Nuclear Power Business
- Power Generation Solutions Business
- Service Business
- Key components (power transmission and transformation, renewable energy)

Strengthen competitiveness to reach the next growth stage

- Establish a global nuclear power framework
- Shift emphasis from product to solution businesses
- Expand IT-driven service businesses

Provide solutions to all customers in the energy value chain

Power Systems and Energy Solutions Business Strategy

Contents

1. Business Overview
2. Market Environment
- 3. Growth Strategy for the Energy Solutions Business**
4. Strategy of Power Infrastructure Business for Generating Higher Earnings in the Next Growth Stage
5. Business Performance Trends
6. Conclusion - FY2015 Targets -

Diversification of customers and markets due to electricity system reforms Issues caused by rapid integration of different energy value chains

FY 2015

- Establishment of the Organization for Cross-regional Coordination of Transmission Operators, Japan
- Phase 1 revisions to the Electricity Business Act

FY 2016

- Full liberalization of the retail market
- Phase 2 revisions to the Electricity Business Act

FY 2020

- Legal unbundling of transmission & distribution sector
- Phase 3 revisions to the Electricity Business Act

Power generation

Power Transmission and Distribution

Consumers

Previous

Large-scale integrated power sources

National grid(national and regional)

Energy saving at each building and plant



Future

Distributed power sources
(wind power, solar power)

Micro grid
(specific localities)

Energy management and demand
response at the regional level

Trends and issues faced by PPSs in the run-up to retail liberalization

Gas and oil companies

- Entry into the power generation business
- Expand energy supply areas

Telecommunications companies

- Secure electric power to meet the company's energy consumption requirements
- Bundled sales of communications and electric power

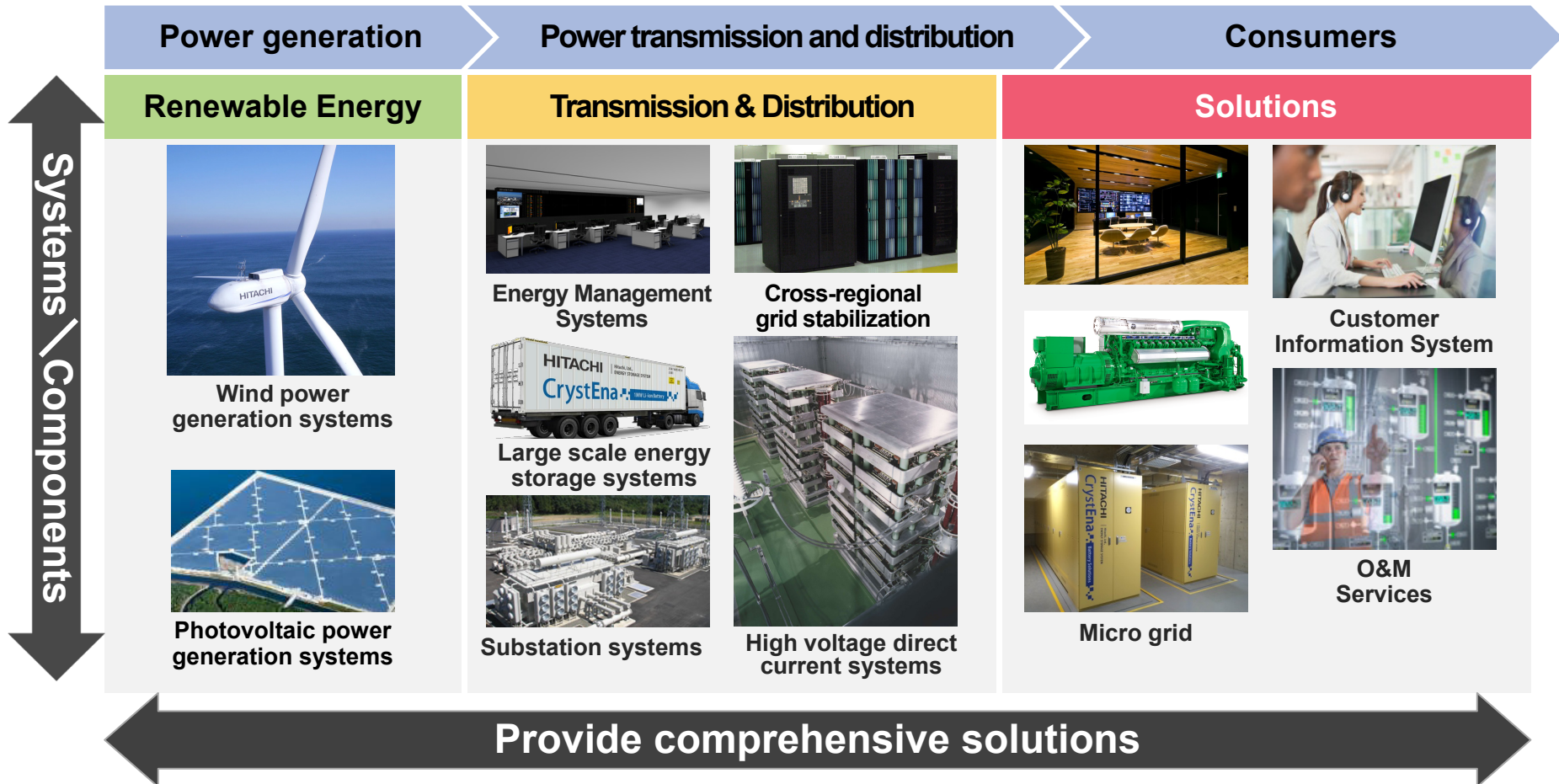
- Address supply-demand management tasks such as adjusting supply and demand and electric power exchange

- Create businesses matched to customer needs, such as billing structures in line with lifestyles and preferences

3-2. Promote the Energy Solutions Business

Established the Energy Solutions Company

- Stay on top of changes in business models and customer needs in the market
- Enhance market-oriented front engineering functions



Establish a global position by vertically starting up IT-driven businesses

Energy solutions market

Provide optimal solutions
by integrating “OT” and “IT”

Vigorously push
ahead with the energy
solutions business

Components markets +

Counter intensified competition

Strengthen core
product
competitiveness

Domestic

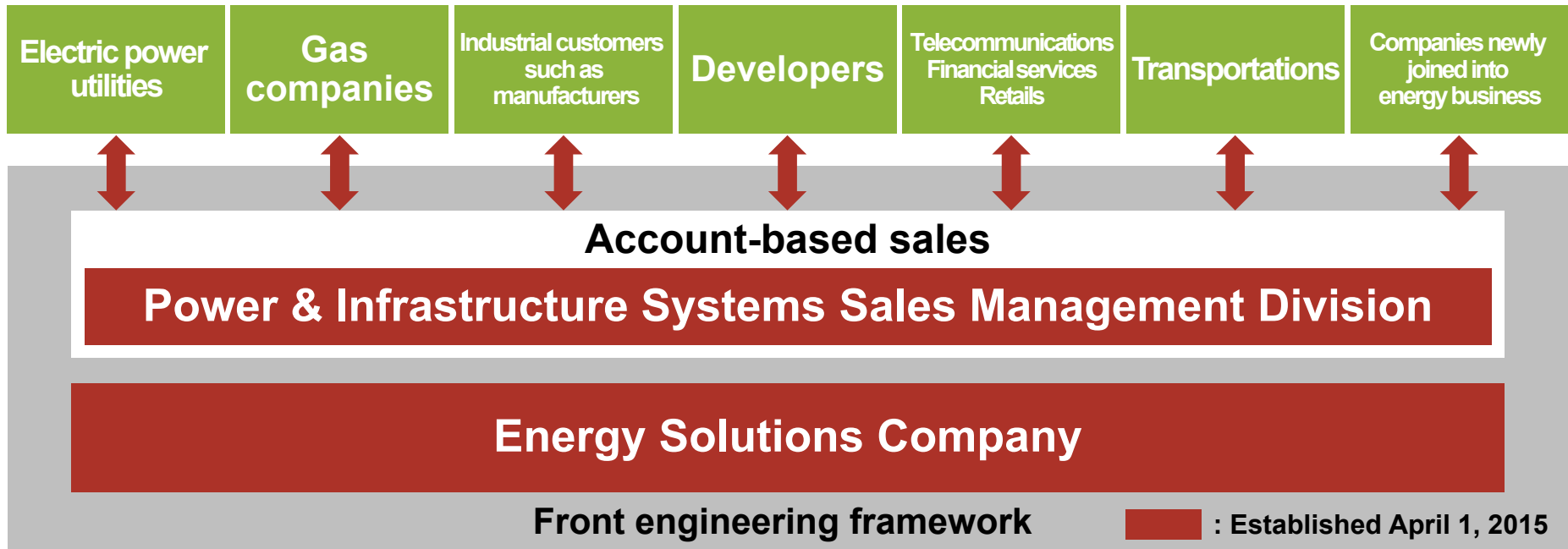
- Expand the grid stabilization business in response to growing adoption of renewable energy
- Expand business centered on a system for the Organization for Cross-regional Coordination of Transmission Operators, Japan
- Expand the solutions business targeting PPSs

Overseas

- Develop the grid stabilization business in North America into a viable operation by leveraging strengths in “OT” and “IT”
- Accelerate business development by executing M&As and establishing joint ventures

3-4. Energy Solutions Business Promotion Structure

Engage in collaborative creation with an increasingly diverse range of customers by bolstering front engineering



Collaborate group-wide and with partner companies

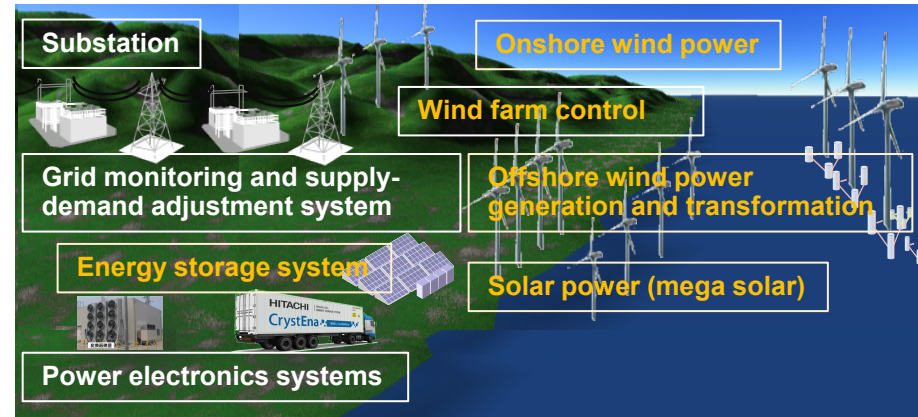
Mitsubishi Hitachi Power Systems, Ltd.	Hitachi Mitsubishi Hydro Corporation	ABB Ltd. others	Power Systems Company	Industrial Products Company	Infrastructure Company	Information & telecommunication Systems Company
--	--------------------------------------	-----------------	-----------------------	-----------------------------	------------------------	---

Provide optimal solutions based on collaborative creation by integrating “OT” and “IT”

Projection of Japanese market in 2030

Share of renewable power generation	Approx. double (11%⇒22~24%)*1
Adoption of solar power	Approx. 5 times (12.8TW⇒64.0TW)*2
Adoption of wind power	Approx. 3.5 times (2.8TW⇒10.0TW)*2

Optimal solutions for increasing grid capacity



Photovoltaic power generation systems

- Cloud-based sensor-free panel defect assessment service
- 24-hour remote monitoring service
(Maintenance support bases at around 340 locations nationwide)

Wind power generation systems

- Downwind-type wind turbines optimal for offshore wind power generation
- Developed a model featuring a maximum output of 5 MW
(Commercial operations to begin in summer 2015)



Fukushima wind power station in Kashima, Japan (5MW)

*1 Vs. 2013 Hitachi estimate sources from the website of the Agency for Natural Resources and Energy

*2 Vs. 2014 Hitachi estimate sources from the website of the Agency for Natural Resources and Energy

Grid stabilization systems in response to growing adoption of renewable energy

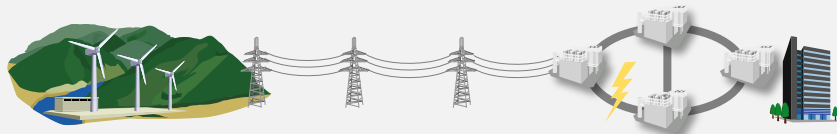
Cross-regional grid stabilization systems

Demonstration projects in the U.S. and Poland

Mass introduction of renewable power generation capacity

Long-distance transmission

Large-scale, complex power grid



Impact of complex output fluctuations

Operational restrictions assuming worst-case grid faults

Difficult to assess the impact of grid faults caused by lightning and other factors

- Prevent major power outages due to the flow-on effects of grid faults
- Maximize the use of facility capacity and optimize capital investment

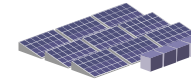
Expand business to countries and regions that will require the strengthening, upgrading and expansion of power transmission networks going forward

Energy storage systems

Demonstration projects in the U.S.

Renewable energy

Output fluctuations



Photovoltaic power generation systems



Wind power generation systems



Grid stabilization demonstration project now under way in the frequency regulation market

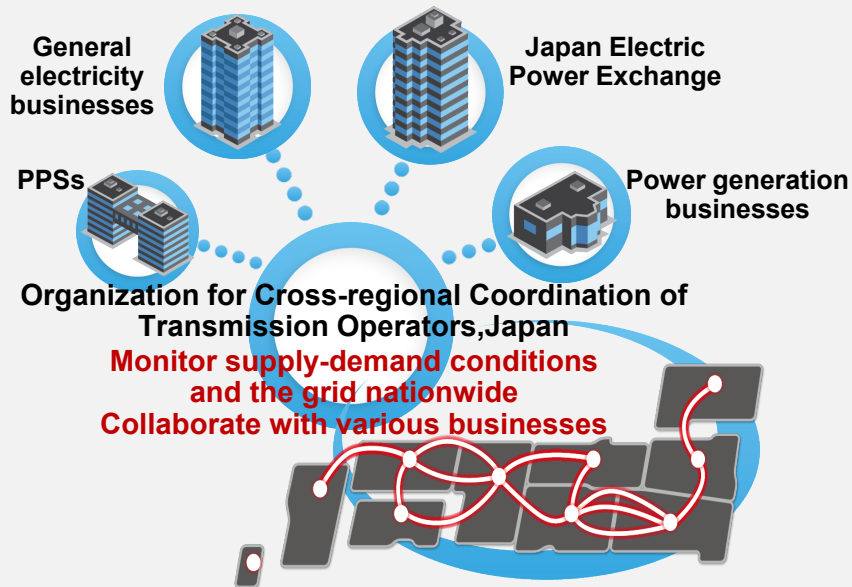
Provide solutions to address the capacity market and the peak time-shift market

* A market to trade electric power supply capacity (kW) several years into the future

Develop a system for the Organization for Cross-regional Coordination of Transmission Operators, Japan that supports the inter-regional use of electricity
Expand the solution business in response to the increase in PPSs (PPSs: 663 companies (as of May 21, 2015))

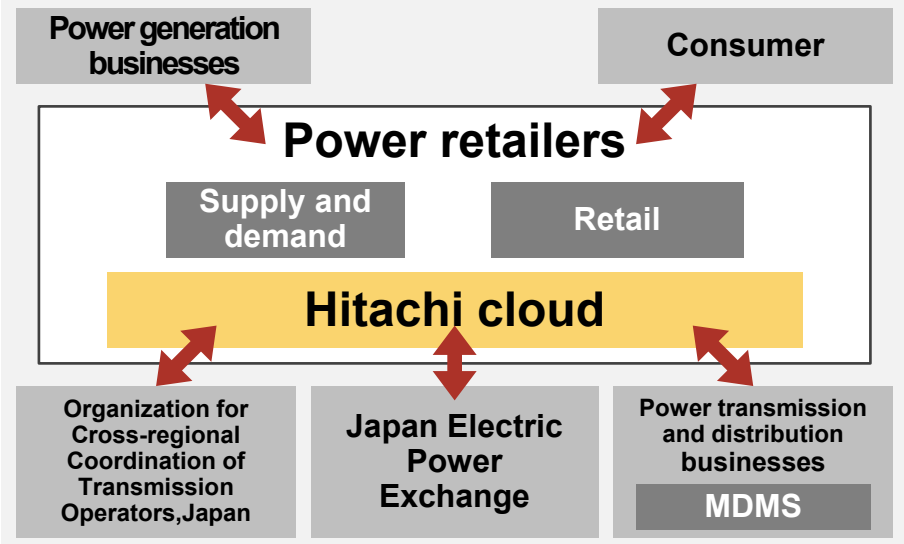
Backbone system of the Organization for Cross-regional Coordination of Transmission Operators, Japan
 (Scheduled to start operations in April 2016)

- Steady development leveraging an extensive track record
- Stable operation utilizing highly reliable hardware and software
- Scalability needed to flexibly respond to future functional expansion



IT systems that cover all PPS operations

- Solutions for PPSs
 - Control supply and demand and power trading
 - Customer-based management
 - Services for consumers, etc.



Provide optimal solutions by integrating “OT” and “IT” for various customers

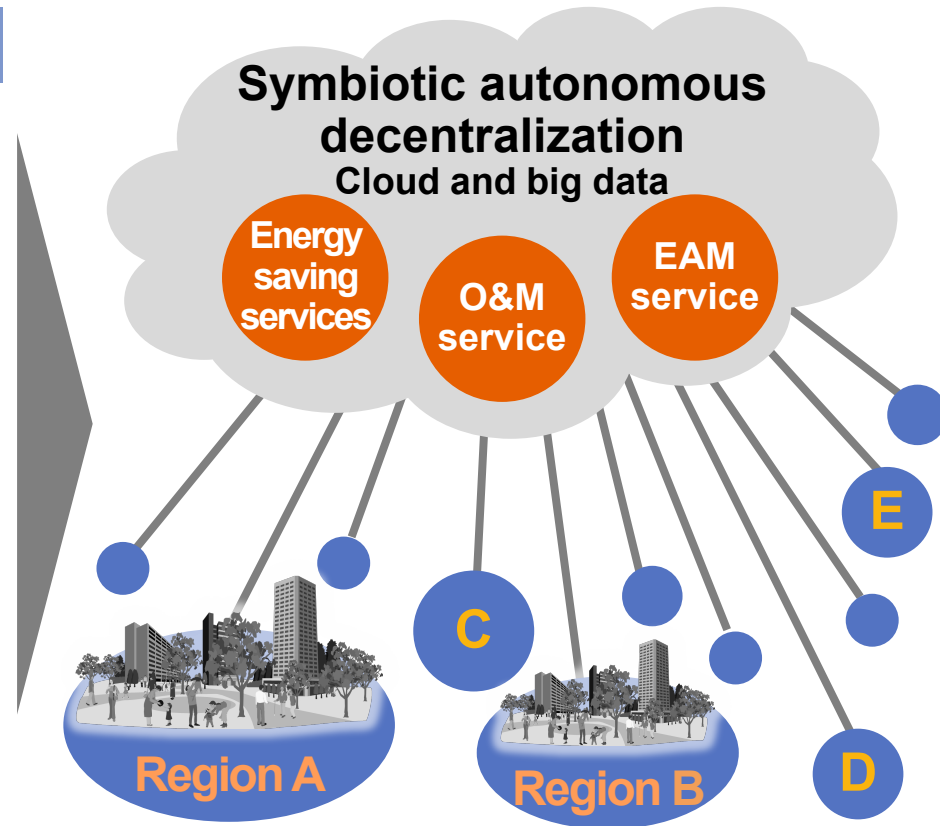
3-8. New Energy Services Through Symbiotic Autonomous Decentralization

Achieve small to large-scale micro grids according to customer needs
Provide services according to various environment and other needs through symbiotic autonomous decentralization

Commercial and demonstration projects

- Kashiwa-no-ha Smart City, Japan
- JUMP Smart Maui in Hawaii, U.S.
- Smart community in Greater Manchester, UK

BCP support	Peak-time shift	Promote renewable energy usage
Reduce fossil fuel usage	Reduce CO ₂ emissions	Energy saving



Provide optimal solutions via collaborative creation with customers by harnessing symbiotic autonomous decentralization

Power Systems and Energy Solutions Business Strategy

Contents

1. Business Overview
2. Market Environment
3. Growth Strategy for the Energy Solutions Business
- 4. Strategy of Power Infrastructure Business for Generating Higher Earnings in the Next Growth Stage**
5. Business Performance Trends
6. Conclusion - FY2015 Targets -

Facilitate the resume operations of nuclear power plants and the restoration of the Fukushima Daiichi Nuclear Power Plant, while prioritizing safety

Efforts to strengthen safety and respond to new regulatory requirements

- Continued promotion of measures to improve the margin of the safety
 - Promote fire protection and seismic reinforcement work
- Early resume operations of nuclear power plants by strengthening response to assessments based on new regulatory requirements
 - Strengthening framework aimed at full-scale BWR assessment



Seismic reinforcement work on fuel handling machine

Measures in the Fukushima Daiichi decommissioning business

- Development of new technology for use in Fukushima Daiichi decommissioning
 - Demonstration experiment of technology for internal surveys of pressure containment vessel
 - Development of spent fuel and fuel debris removal
 - Contaminated water treatment facilities (high-performance multi-nuclide removal equipment, etc.)
- Strengthen framework to respond to decommissioning
 - Decommissioning work that utilized overseas knowledge



Exploration robot*1



Internal survey of Fukushima pressure containment vessel*2

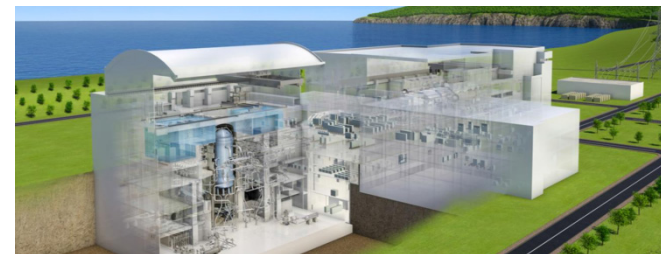
*1 Developed as part of the operations of the International Research Institute for Nuclear Decommissioning (IRID) with subsidies from the Agency for Natural Resources and Energy for expenses related to developing decommissioning and safety technologies for nuclear reactors for power generation, etc.

*2 Achieved by the operations of IRID with subsidies for business expenses for decommissioning and contaminated water treatment measures from the Agency for Natural Resources and Energy

Extend global management and expand business

UK: Horizon Nuclear Power project

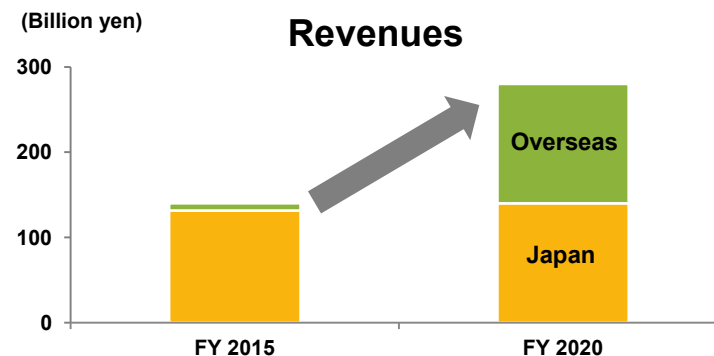
- Push ahead with Generic Design Assessment (GDA) and Front End Engineering and Design(FEED)
 - Scheduled to complete GDA STEP 3 in August 2015
 - Establish a local project promotion framework in the UK
- Execute the Horizon project development plan
 - Finance, power sales, O&M, etc.
 - Collaboration with the UK government and various European institutions
- Establish global standard safety-enhanced ABWR technology
 - Open the European Nuclear Research Centre



ABWR for overseas markets

Lithuanian project

- Accelerate private-public sector discussions to move the project forward
- Advance preparations for establishing a Project Company (PCO)
 - Enter into a Memorandum of Understanding to establish a provisional PCO



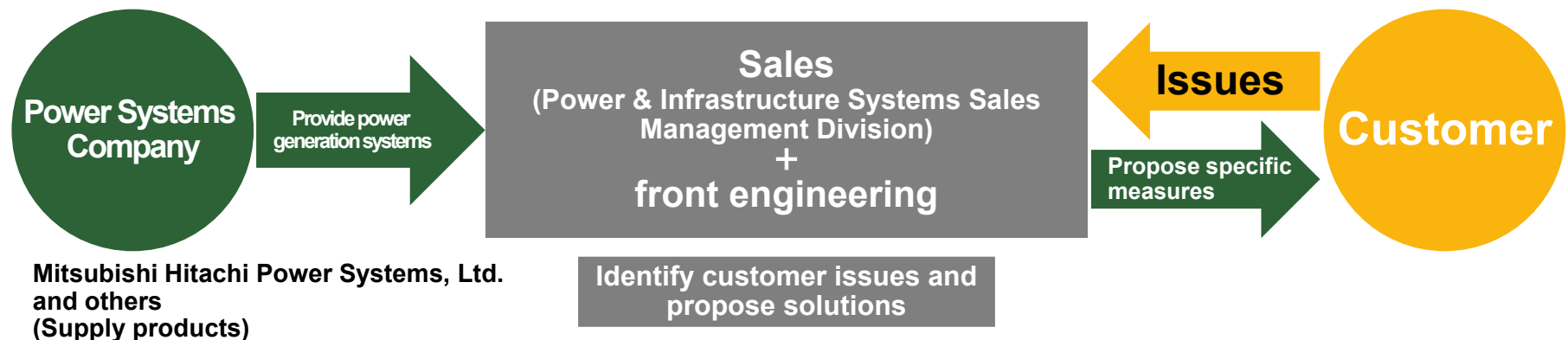
Drive significant growth overseas from revenue base in Japan

4-3. Power Generation Solutions Business

Ensure solid revenues and earnings through power generation solutions and preventive maintenance

Power generation solutions	Provide power generation systems and engineering as energy solutions
GE gas turbines	Support for replacements, expand orders for repairs of high-temperature parts
Control equipment	Win orders for replacement projects for monitoring control and gas turbine control systems
Electricity sales business	Amass operating expertise, reduce operating expenses and expand supply of heat and power

【Power generation solutions】



Shift emphasis from product businesses involving power generation facilities to related solutions businesses

4-4. Strengthen the Service Business

Expand business and generate high earnings, by developing advanced service business and utilizing IT systems

Strengthen development of advanced service business

- Increase applications of the predictive diagnosis system HiPAMPS (Expand to production facilities, motors, solar power systems, etc.)
- Availability guarantee service business for renewable energy generating facilities
- Supporting service business for maximizing the sales amount of electricity
- Assessment services for aging power transmission and distribution facilities

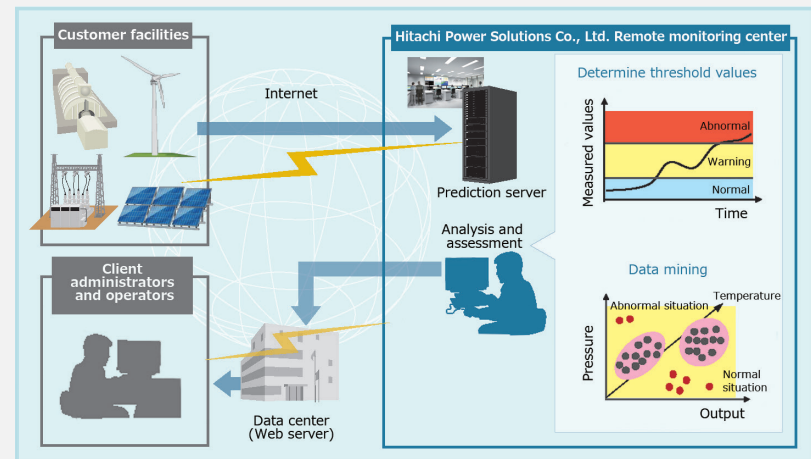
Power Systems Company common service platform

- Strengthen cross-organizational functions by establishing “Service Business Development & Management Division” (April 2015)
- Build the Hitachi common service cloud

Strengthen IT and service networks

- Upgrade and enhance the functions of the remote monitoring center (Introduce advance IT systems, start of operations planned for October 2015)

Coordination between monitoring services and maintenance and support bases
Reliable, speedy and accurate maintenance services



Example of remote monitoring center operation

Power Systems and Energy Solutions Business Strategy

Contents

1. Business Overview
2. Market Environment
3. Growth Strategy for the Energy Solutions Business
4. Strategy of Power Infrastructure Business for Generating Higher Earnings in the Next Growth Stage
- 5. Business Performance Trends**
6. Conclusion - FY2015 Targets -

Cost reduction benefits: Outlook for FY2015: ¥9.5 billion FY2011-FY2015 cumulative: ¥53.0 billion*1

Progress status

Cash generation

- Visualization of cash flows by adopting IT system
- Optimize delivery periods for projects subject to process revisions
- Bring forward revenue recognition and generate cash inflow by means including entering into formal contracts at an early stage

Production Cost

- Upgrade production technologies of global manufacturing bases
- Strengthen development capabilities in core production technology at mother factories

Direct materials Cost

- Rebuild global supply chain and expand overseas procurement ratio
FY2012 11%*3 → FY2015 21%

Indirect Cost

- Conduct far-reaching business process reforms and raise efficiency by boldly implementing business structural reforms
- Continuous review of business operations, SG&A*4 and fixed cost reduction activities

Cost reduction

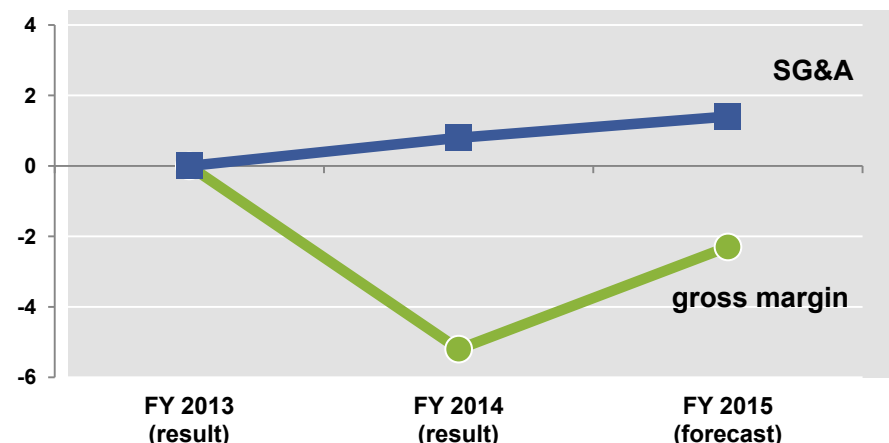
Improve CCC*1*2

- Execute cash flow management by shortening lead times from an end-to-end perspective

FY2013 (Results)	FY2014 (Results)	FY2015 (Forecast)
112.3Days	123.1Days	110.0Days

Improve the gross margin and SG&A expenses*1

Improvements



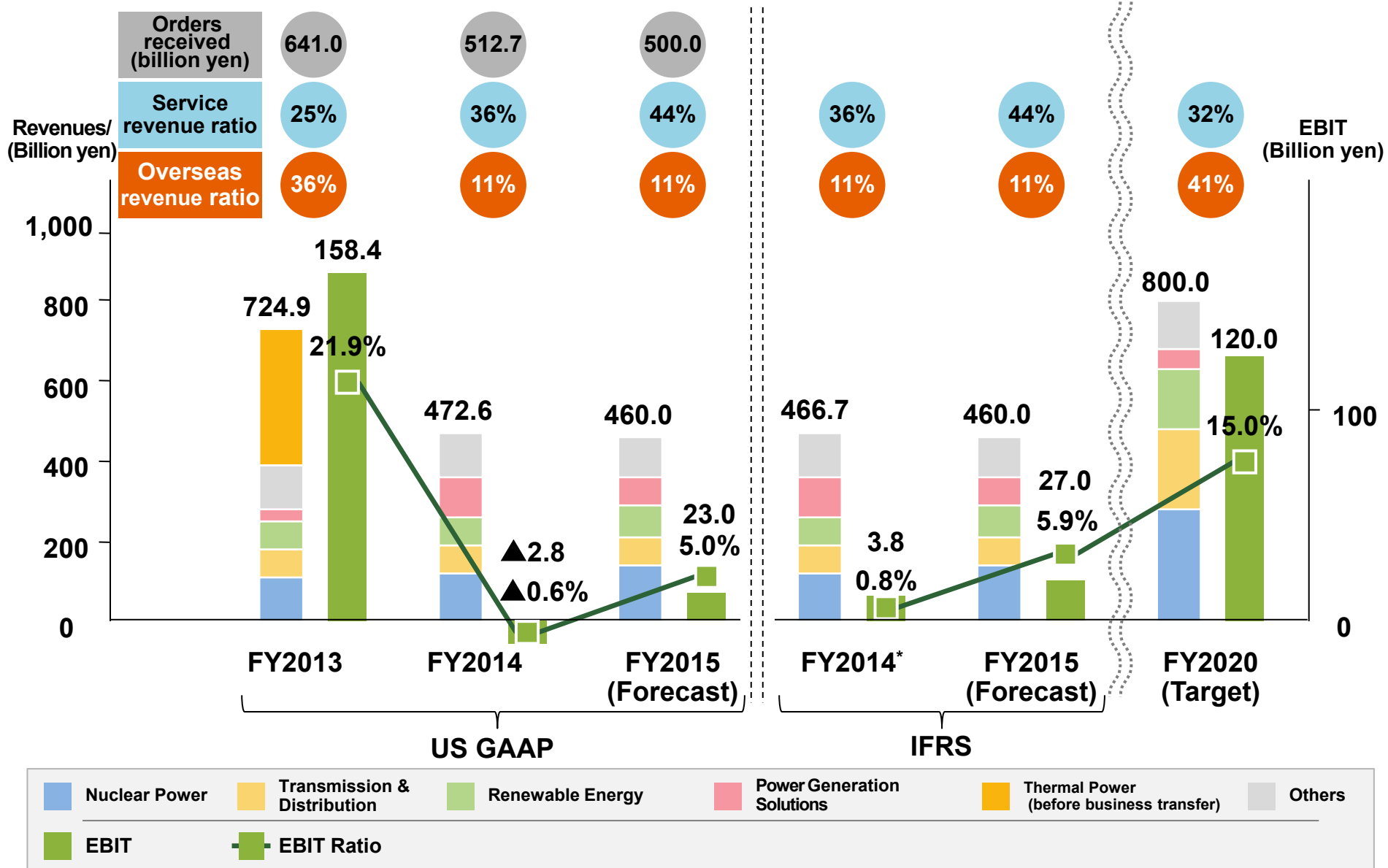
*1 US GAAP

*3 Excluding thermal power business

*2 CCC(Cash Conversion Cycle)

*4 SG&A(Selling and Generally Administrative expenses)

5-2. Business Performance Trends



* Unaudited

Power Systems and Energy Solutions Business Strategy

Contents

1. Business Overview
2. Market Environment
3. Growth Strategy for the Energy Solutions Business
4. Strategy of Power Infrastructure Business for Generating Higher Earnings in the Next Growth Stage
5. Business Performance Trends
- 6. Conclusion - FY2015 Targets -**

FY2015 Targets

	US GAAP	IFRS
Revenues(Billion yen)	460.0	460.0
Overseas revenue ratio	11.0%	11.1%
EBIT ratio	5.0%	5.9%
Benefits of Hitachi Smart Transformation Project (US GAAP)	<ul style="list-style-type: none"> ■ Improve the gross margin 2.3 point deterioration (Vs. FY2013) ■ SG&A expenses 1.4 point improvement (Vs. FY2013) 	

Provide solutions to all customers in the energy value chain

- Energy solutions based on collaborative creation that are tailored to the new market
- Highly reliable systems and key components aimed at the power infrastructure market

Certain statements found in this document may constitute “forward-looking statements” as defined in the U.S. Private Securities Litigation Reform Act of 1995. Such “forward-looking statements” reflect management’s current views with respect to certain future events and financial performance and include any statement that does not directly relate to any historical or current fact. Words such as “anticipate,” “believe,” “expect,” “estimate,” “forecast,” “intend,” “plan,” “project” and similar expressions which indicate future events and trends may identify “forward-looking statements.” Such statements are based on currently available information and are subject to various risks and uncertainties that could cause actual results to differ materially from those projected or implied in the “forward-looking statements” and from historical trends. Certain “forward-looking statements” are based upon current assumptions of future events which may not prove to be accurate. Undue reliance should not be placed on “forward-looking statements,” as such statements speak only as of the date of this document.

Factors that could cause actual results to differ materially from those projected or implied in any “forward-looking statement” and from historical trends include, but are not limited to:

- economic conditions, including consumer spending and plant and equipment investment in Hitachi’s major markets, particularly Japan, Asia, the United States and Europe, as well as levels of demand in the major industrial sectors Hitachi serves, including, without limitation, the information, electronics, automotive, construction and financial sectors;
- exchange rate fluctuations of the yen against other currencies in which Hitachi makes significant sales or in which Hitachi’s assets and liabilities are denominated, particularly against the U.S. dollar and the euro;
- uncertainty as to Hitachi’s ability to access, or access on favorable terms, liquidity or long-term financing;
- uncertainty as to general market price levels for equity securities, declines in which may require Hitachi to write down equity securities that it holds;
- uncertainty as to Hitachi’s ability to continue to develop and market products that incorporate new technologies on a timely and cost-effective basis and to achieve market acceptance for such products;
- rapid technological innovation;
- the possibility of cost fluctuations during the lifetime of, or cancellation of, long-term contracts for which Hitachi uses the percentage-of-completion method to recognize revenue from sales;
- fluctuations in the price of raw materials including, without limitation, petroleum and other materials, such as copper, steel, aluminum, synthetic resins, rare metals and rare-earth minerals, or shortages of materials, parts and components;
- fluctuations in product demand and industry capacity;
- uncertainty as to Hitachi’s ability to implement measures to reduce the potential negative impact of fluctuations in product demand, exchange rates and/or price of raw materials or shortages of materials, parts and components;
- increased commoditization of and intensifying price competition for products;
- uncertainty as to Hitachi’s ability to achieve the anticipated benefits of its strategy to strengthen its Social Innovation Business;
- uncertainty as to the success of acquisitions of other companies, joint ventures and strategic alliances and the possibility of incurring related expenses;
- uncertainty as to the success of restructuring efforts to improve management efficiency by divesting or otherwise exiting underperforming businesses and to strengthen competitiveness;
- uncertainty as to the success of cost reduction measures;
- general socioeconomic and political conditions and the regulatory and trade environment of countries where Hitachi conducts business, particularly Japan, Asia, the United States and Europe, including, without limitation, direct or indirect restrictions by other nations on imports and differences in commercial and business customs including, without limitation, contract terms and conditions and labor relations;
- uncertainty as to the success of alliances upon which Hitachi depends, some of which Hitachi may not control, with other corporations in the design and development of certain key products;
- uncertainty as to Hitachi’s access to, or ability to protect, certain intellectual property rights, particularly those related to electronics and data processing technologies;
- uncertainty as to the outcome of litigation, regulatory investigations and other legal proceedings of which the Company, its subsidiaries or its equity-method affiliates have become or may become parties;
- the possibility of incurring expenses resulting from any defects in products or services of Hitachi;
- the potential for significant losses on Hitachi’s investments in equity-method affiliates;
- the possibility of disruption of Hitachi’s operations by natural disasters such as earthquakes and tsunamis, the spread of infectious diseases, and geopolitical and social instability such as terrorism and conflict;
- uncertainty as to Hitachi’s ability to maintain the integrity of its information systems, as well as Hitachi’s ability to protect its confidential information or that of its customers;
- uncertainty as to the accuracy of key assumptions Hitachi uses to evaluate its significant employee benefit-related costs; and
- uncertainty as to Hitachi’s ability to attract and retain skilled personnel.

The factors listed above are not all-inclusive and are in addition to other factors contained in other materials published by Hitachi.

HITACHI
Inspire the Next