Energy & Environment
Business Plan

Senior Executive Vice President, President and CEO,
Energy & Environment

Hisayuki FUJIHARA

June 10, 2016

MITSUBISHI HEAVY INDUSTRIES, LTD.
1. Business Overview
   1-1. Domain Statement
   1-2. Business Overview
   1-3. Review of FY2015
   1-4. Major Projects and Orders in FY2015
   1-5. Progress of FY2015 Business Plan

2. FY2016 Business Policies and Strategies
   2-1. Forecast for FY2016
   2-2. Business Policies and Strategies (Measure1-5)

3. Business Strategies
   3-1. Thermal Power Plant, Environmental Plant
       GTCC, Gas turbines converted from aircraft engines, Environmentally friendly coal-fired thermal plants, Environmental plant
   3-2. Engineering Headquarters
       Chemical plant
   3-3. Nuclear Power Plant
   3-4. Renewable Energy
       Offshore wind power, Geothermal power generation plant, ORC, SOFC
   3-5. Cross Domain Initiatives
       Energy total solution, Initiatives targeted at the Oil & Gas market

4. Summary
Table of Contents

1. Business Overview
   1-1. Domain Statement
   1-2. Business Overview
   1-3. Review of FY2015
   1-4. Major Projects and Orders in FY2015
   1-5. Progress of FY2015 Business Plan

2. FY2016 Business Policies and Strategies
   2-1. Forecast for FY2016
   2-2. Business Policies and Strategies (Measure1-5)

3. Business Strategies
   3-1. Thermal Power Plant, Environmental Plant
         GTCC, Gas turbines converted from aircraft engines, Environmentally friendly coal-fired thermal plants, Environmental plant
   3-2. Engineering Headquarters
         Chemical plant
   3-3. Nuclear Power Plant
   3-4. Renewable Energy
         Offshore wind power, Geothermal power generation Plant, ORC, SOFC
   3-5. Cross Domain Initiatives
         Energy total solution, Initiatives targeted at the Oil & Gas market

4. Summary
1-1. Domain Statement

Philosophy of Domain Statement

Built from elements of Group Statement announced on May 9, 2016 relevant to Energy & Environment domain, as part of MHI Group Brand Story

Concept behind Energy & Environment Domain Statement

As a leading force in the energy plant industry, MHI contributes to social and industrial development and better lives for people everywhere through the provision of products and services that enable a stable supply of sustainable energy.
Energy makes the world go round. As one of the global leaders in the energy plant industry, we’re helping produce the stable and efficient power supply needed to keep it moving. Driven by engineering expertise and technologies in both electricity generation and chemical process plants, we are securing clean, safe and sustainable power sources to communities across the world. Enriching people’s everyday lives in order to “Move the world forward.”

While needs may vary, our wide range of products, engineering capacity and continuous R&D provide the flexibility required to meet any and all customer demands. Allowing us to drive growth and prosperity for each society, along with the people who live there. It’s a story of success that continues to be written. One that will fuel hope and well being for generations to come.
1-2. Business Overview

Thermal power plant
- GTCC  Gas Turbine Combined Cycle
- Coal fired power plant
  IGCC
- Gas turbines converted from aircraft engines

Environmental plant

Chemical plant
- Fertilizer / Methanol etc.

Marine machinery & engine

Nuclear
- Pressurized Water Reactor (PWR)
- ATMEA1
- Nuclear fuel cycle

Renewable Energy
- Offshore Wind Power
- Geothermal
- Organic Rankine Cycle

Marine machinery & engine

Biomass

Geothermal

Offshore wind power

Marine machinery & engine

Chemical plant

Nuclear

IGCC
In FY2015, through implementation of various reforms, including M&A synergies, business scale expanded generally on target and an order backlog was secured for the next two years.

**Orders received**

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,330</td>
<td>1,339.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,200</td>
<td>1,253.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Net sales**

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200</td>
<td>1,253.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Operating income**

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>112.3</td>
<td>162.6</td>
<td>154.6</td>
</tr>
</tbody>
</table>

**Order backlog**

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,888.6</td>
<td>3,265.9</td>
<td>3,804.3</td>
<td></td>
</tr>
</tbody>
</table>

- **Orders received**
  Large-scale orders received for thermal and chemical plants, etc.

- **Net sales down**
  Down due to period shift projects for thermal plants

- **Operating income down**
  Booking of costs for Himeji No.2 Power Plant, etc.

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1-4. Major Projects and Orders in FY2015

Breakdown of orders received in FY2015 (2,005 billion yen)

**Offshore wind power**
Order from UK for 40 units of V164-8.0 MW (order received by equity-method affiliate)

**Thermal power plant**
Multiple orders received in domestic market

**Nuclear power plant**
Support of PWR restarts, etc.

**Chemical plant**
Order from Uzbekistan for fertilizer plant (included in Europe)

**Chemical plant**
Order from Trinidad and Tobago for methanol and dimethyl ether plant

**Coal-fired power plant**
Order from the Philippines for ultra-supercritical-pressure coal-fired power plant

**GTCC**
Order from Korea for M501J gas turbines

**GTCC**
Order from Mexico for M501J gas turbines

- **Europe**: 10%
- **North America**: 10%
- **South America**: 10%
- **Middle East/Africa**: 5%
- **Asia**: 15%
- **Japan**: 50%
## 1-5. Progress of FY2015 Business Plan

### Review of FY2016 targets

- **Orders received**: Revised slightly downward due to opacity of global economy, etc.

- **Net sales**: Reduced in reflection of period shift in project execution and numerous servicing orders with long delivery periods.

- **Operating income**: Operating income outlook lowered in reflection of lower sales. Operating margin, we will take various measures to secure the target.

### FY2015 vs. FY2016 vs. FY2017

<table>
<thead>
<tr>
<th></th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>Actual</td>
<td>Original target</td>
</tr>
<tr>
<td>Orders received</td>
<td>2,000.0</td>
<td>2,005.0</td>
<td>2,200.0</td>
</tr>
<tr>
<td>Net sales</td>
<td>1,600.0</td>
<td>1,542.7</td>
<td>1,900.0</td>
</tr>
<tr>
<td>Operating income</td>
<td>185.0</td>
<td>154.6</td>
<td>210.0</td>
</tr>
<tr>
<td>Operating income margin</td>
<td>11.6%</td>
<td>10.0%</td>
<td>11.1%</td>
</tr>
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4. Summary
### 2-1. Forecast for FY2016

#### Orders received, Net sales

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<thead>
<tr>
<th>FY2015 (Actual)</th>
<th>FY2016 (Target)</th>
<th>FY2017 (Target)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orders received</td>
<td>Net sales</td>
<td>Orders received</td>
</tr>
<tr>
<td>2.0</td>
<td>1.5</td>
<td>2.1</td>
</tr>
</tbody>
</table>

**Independent managed JV (MHPS)**

**Energy & Environment domain divisions**

- **Orders received**
  - 100 billion yen increase over FY2015, from stronger order-receiving structures in overseas, etc.

- **Net sales**
  - 200 billion yen increase over FY2015, dependent on construction progress of thermal power and chemical plant orders received in FY2014 and FY2015

- **Operating income**
  - 190 billion yen, up 35 billion yen from FY2015, to come from reduced G&A expenses (from PMI progress) and expansion of servicing operations
2-2. FY2016 Business Policies & Strategies

2015 Business Plan measures

 Measure 1: Increase earning capacity, expand scale
 Measure 2: Carve out, downscale/withdraw SBU
 Measure 3: Strengthen technologies, reform governance structure
 Measure 4: Utilize IoT/AI
 Measure 5: Reform business models

Status/Challenges

Expanding overseas market share, GE・Alstom integration

Future measures

 Measure 1: Strengthen earning capacity, accelerate PMI at MHPS, strengthen servicing operations
 Measure 2: Concentration into core competencies
 Measure 3: Improve operating capital, reduce total assets
 Measure 4: Strengthen technological and business risk resilience
 Measure 5: Reform business models, strengthen servicing operations using IoT

Details on following pages

IoT: Internet of Things   AI: Artificial Intelligence

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## Strengthen earning capacity

### Acceleration of MHPS PMI

#### Measure 1

### Pursue total global optimization and accelerate speed of business scale expansion

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MHPS established</td>
<td>PMI 1st step</td>
<td>Strengthen response to domestic power plant bidding</td>
<td>Strengthen overseas order-receiving structures (Strengthen small/medium scale gas turbine and geothermal power generation plant businesses)</td>
<td>PMI 2nd step</td>
</tr>
</tbody>
</table>

### Sales

- Strengthen response to domestic power plant bidding

### Manufacturing

- Adjust work load through construction flexibility
- Shift operations of Yokohama works Kanazawa Area
- Pursue total global optimization "One Works"

### G&A

- Integrate personnel and core systems
- Form overseas regional management structures
- Pursue total global optimization "One Company"

### Service

- Enhance servicing program menus
- Shift personnel to servicing business
- Develop new businesses (using ICT, etc.)

### Development / Engineering

- Apply large-scale gas turbine technologies to small/medium scale models
- Develop and verify next-generation gas turbines

### Procurement

- Reduce costs through bulk order placement
- Expand global procurement

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G&A : General & Administration expenses
Shift personnel to servicing business
Expand existing business through enhancing service program menus
Develop new businesses
  • New performance enhancement program
  • Entry into O&M business through use of ITC
  • Expand servicing of power generation equipment, control devices and environmental plants
  • Develop relocation business
  • Promote localization at all bases

Expand after-sales servicing business

<table>
<thead>
<tr>
<th>Year</th>
<th>Plant</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2015</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>FY2017</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>FY2020</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Developments in concentration into core competencies since FY2012

- Merger with thermal power plant division of Hitachi, Ltd. (Nov. 2012)
- Acquisition of PWPS (Nov. 2012)
- Capital investment into Turboden (Sep. 2013)
- Established JV for offshore wind power with Vestas (Jul. 2014)
- Capital investment into Turboden (Into Metito) (Aug. 2015)

**Thermal power**
- Establishment of MHPS
- Gas turbines converted from aircraft engines
- ORC Thermal power
- Unification of AQCS business
- Establishment of MVOW
- Establishment of MHPS-ES
- Nuclear fuel
- Unification of AQCS business (Sep. 2013)
- Establishment of MVOW (Aug. 2015)
- Establishment of MHPS-ES (Mar. 2016)
- Green letters: Providing of comprehensive solutions in energy management leveraging these technologies

**Offshore wind power**
- Establishment of MVOW
- Transfer of production equipment to Delta Electronics (Apr. 2014)

**Solar power system**
- Termination of in-house production

**Lithium ion battery**
- Transfer of production equipment to Delta Electronics (Apr. 2014)

- Wholly owned subsidiary
- Consolidated subsidiary
- Equity-method affiliate

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2-2.  Operating capital reduction and CCC’s shortening

- Shorten production lead time
- Reduce inventories by expanding interchangeability of hot parts
- Forge unified inventory management system for all bases worldwide
- Swiftly recover long-overdue accounts receivable

Operating capital reduction and CCC shortening

<table>
<thead>
<tr>
<th>Year</th>
<th>Operating capital (Actual)</th>
<th>Operating capital (Target)</th>
<th>CCC (Actual)</th>
<th>CCC (Target)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2014</td>
<td>78</td>
<td>70</td>
<td>1.34</td>
<td>1.07</td>
</tr>
<tr>
<td>FY2015</td>
<td>70</td>
<td>64</td>
<td>1.33</td>
<td></td>
</tr>
<tr>
<td>FY2016</td>
<td>64</td>
<td>50</td>
<td>1.23</td>
<td></td>
</tr>
<tr>
<td>FY2017</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
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Initiatives to achieve “net sales ≥ total assets” through various measures

1. Improve operating capital
2. Restructure bases (Measures listed above) (P12: Accelerate MHPS PMI)
3. Select investments and financing with optimal discretion (P14: Concentration into core competencies)

CCC: Cash Conversion Cycle

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1. Strengthen technological risk resilience

- Improve technological capabilities (expand expertise) by strengthening development and design structures; reduce risk by strengthening progress management and gate control.
- Strengthen procurement processes (selection, evaluation, quality control) through multifaceted technological reviews (design, manufacturing, inspection) by experts; prevent problems arising from procured items.

2. Strengthen business risk resilience

- Prevent problems through liaison with Business Risk Management Division; respond to realized critical risks.
- Consolidate EPC knowhow at Engineering Headquarters; strengthen problem resolution capability.
- Strengthen accuracy of risk projection and awareness through establishment of company pooling companywide experts.
2-2. Measure 5
Strengthen servicing operations using IoT (1/2)

- Takasago and Orlando RMCs monitor 115 gas turbines worldwide, contributing to the world’s highest operation rate.
- Strengthen monitoring in Asia and the Middle East through establishment of a new monitoring center in the Philippines.
The remote monitoring center to be established in the Philippines will monitor all coal-fired and GTCC thermal plants in Asia and the Middle East, and provide increasingly advanced support and services to customers based on big data analysis; it will also have a role as global service center working closely with boiler works in the Philippines (MHPS-PHL), integrating training function and customer support office.
Table of Contents

1. Business Overview
   1-1. Domain Statement
   1-2. Business Overview
   1-3. Review of FY2015
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   1-5. Progress of FY2015 Business Plan

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4. Summary
Further strengthening of gas turbine business

1. Development of world’s most efficient gas turbine
   - World-class size demonstration facility
     - Targeting continuous verification of next-generation gas turbine technologies and reliability enhancement
   - History of development at Demonstration facility
     - Development is underway as planned
   - 1997: 1,500°C-class G-series gas turbines
   - 2010: 1,600°C-class J-series gas turbines
   - 2020: 1,650°C-class next-generation gas turbines

2. Strengthening of small/medium-scale gas turbine business
   - Expand technical and manufacturing synergies with large-scale GT
   - Use as LNG plant compressor driver
     - Collaboration with Exxon Mobil

GT: Gas Turbine  LNG: Liquefied Natural Gas

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Respond with competitive products

■ Large-scale:
  Respond to intensifying competition with product competitiveness

- Total J-type units delivered to date worldwide: 41
- No. 1 global share in 300MW and larger (cumulative, 2011-2015)

■ Small/medium-scale: Develop new markets

- Southeast Asia, South Asia (Myanmar / India)
- Central Asia (Turkmenistan)
- Eastern Europe (Belarus)
- Africa (Tanzania)

Total orders to date: 841 units

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Business expansion through addition of small/medium-scale GT lineups

- Full-scale launch of FT4000
- Strengthen FT8 MOBILE PAC sales structure


Company undertaking sales, installation and after-sale servicing of gas turbines converted from aircraft engines

- **FT4000**
  - Strengthen sales cooperation relationship with MHPS
  - Liaise technology development with MHI and MHPS

- **FT8 MOBILE PAC**
  - Easy to transport and install
  - Total units delivered to date: 131
Further strengthen environmentally friendly coal-fired plants

- Proactive development of domestic and overseas markets
  - In domestic power generation plant bidding, received successive orders for large-scale and 110MW coal-fired plants
  - Orders received for ultra-supercritical-pressure power plant projects (Korea, Indonesia, Philippines)

- IGCC: proactively develop overseas business for world-leading technologies cultivated in Japan
  - Joban Joint Power Co. Nakoso Plant: in commercial operation (extending world record in continuous IGCC plant operation)
  - Osaki CoolGen: demonstration to commence toward end of 2016
  - Fukushima recovery power plants (Nakoso/Hirono): currently under design, working toward start of operations in 2020
Global developments in environmental plants

One Stop Solution
(High-performance flue-gas treatment systems)

- Provide environmentally friendly coal-fired power plants through achievement of full product lineup
  - Established new electrostatic precipitator business company (MHPS-ES) in October 2015; consolidation of water treatment business completed in April 2016
  - System optimization (denitrification, precipitation, desulfurization) achieved, enabling reductions in equipment and operating costs

- Export coal-fired power plants incorporating cutting-edge environmental equipment
  - Business developed in China for environmental plants to address PM2.5 issue (high-performance dust removal system, low-temperature electrostatic precipitator)
  - Propose coal-fired power plants equipped with regionally optimized environmental systems to Southeast Asia and India

- Desulfurization equipment: No.1 global share in both FY2014 and FY2015

GGH : Gas Gas Heater
Engineering Headquarters

Established in Jan. 2012
Consolidate EPC of MHI’s plant division

Established in Apr. 2016
Positive dissolution along with shift to domain structure in Oct. 2013

Function-based organization spanning 4 domains, centered on EPC of Energy & Environment and Commercial Aviation & Transportation Systems

Enhance EPC capability in quantity and quality
Accelerate human resources strengthening measures, including outside experts
Strengthen risk resilience

Flexibly share expertise and resources
Promote more advanced and efficient EPC functions

Promote active use of experts
(new company to be established in July 2016)

Improve problem resolution capability and reduce risks through EPC knowhow provision and support

Chemical plant
Transportation system
Cruise ship

Cruise ship
Chemical plant
Transportation system
3-2. Engineering Headquarters  

Roles and functions

Response to changes

Changes in external business environment

Going forward: solution proposals

- EPC execution capability
- Project management capability

Diversification of customer demands
- Increasing scale and complexity of deals

Until now: individual products
- Standardized design

Strengthen engineering capabilities throughout the MHI Group, centered on Engineering Headquarters

Mutually share human resources
Exchange knowledge of advanced cases
Forge an engineering foundation

Liaison between shared technology divisions

Marketing & Innovation Headquarters, Value Chain Headquarters, Research & Innovation Center, ICT Solution Headquarters

Provide EPC knowhow and Groupwide support
Expand orders by strengthening competitiveness of MHI’s major lineup (fertilizer plant, methanol plant, etc.)

**FY2015 (Actual)**

1. Conversion of business model (i.e. investment, entering new business)
   - Further participation in operation and maintenance through capital investment
   - Strengthened design capability by reflecting knowledge acquired through business participation
   - Capital investment in methanol/dimethyl ether plant for Trinidad & Tobago

2. Focused on marketing on designated strategic regions: Russia, Central Asia
   - Fertilizer plant for Turkmenistan

3. Commercialization of largest CO2-EOR* in the world (Production: Around 5,000 t/day)
   - 4,776t/day plant in USA, world's largest, to start operation in Q4 2016
   - EOR: Enhanced Oil Recovery

**FY2016 (Targets)**

Targets set on the following, while carrying on plans of FY2015

- Strengthen earning capability by steadily executing previously received orders. Apply the increased earnings to further investments and business expansion.
- Further expansion of orders, especially from Russia and Central Asia
3-3. Nuclear Power Plant

- Contribute to restarting of plants in Japan
- Drive overseas projects forward (Sinop, Turkey)

Support restart of plants in Japan
- Focused allocation of human resources and technologies to support restarts
- Continue contribution through safety enhancement measures

Drive overseas projects forward
- Performing feasibility study for Sinop project in Turkey
- Developing ATMEA1 global strategic reactor

Respond to nuclear fuel cycle
- Supporting safety enhancement measures

Support stabilization of TEPCO’s Fukushima No.1 NPP
- Delivering contaminated water storage tanks
- Participating in national project to introduce remotely controlled robots to undertake decontamination work and remove fuel debris

* Respond to SONGS arbitration
  - Preparing for early settlement (2016 or 2017)
MHI Vestas Offshore Wind

Established in Apr. 2014 (JV with Vestas Wind Systems, Denmark)
2015: Started production of V164-8.0MW and mass production

Major recent back orders
- Walney (UK): order received for 40 units
  (World’s highest power output 164-8.0MW)
- Nobel Wind (Belgium): order received for 50 units
  (V112-3.0MW)

Integration of MHI’s comprehensive technical capability and manufacturing reliability with Vestas’ leading experience in offshore wind

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3-4. Renewable Energy ② Geothermal power generation plant

Further expand market share in geothermal plants

Advantages of geothermal power generation
- Environmentally friendly (zero CO2 environmental load because there is no combustion)
- High operating rate (stable renewable energy unaffected by weather)

Proactive entry into Japanese and overseas markets
- Further expanding No.1 global share level
  Successive orders received from Mexico: Los Azufres No.3, Domo de San Pedro
- Proactive entry into Japanese and overseas markets (Latin America, Indonesia, Philippines)
  Strengthening earning capability through cooperation with MHPS-INDIA

Los Azufres No.3 plant (Mexico)
Domo de San Pedro plant (Mexico)
3-4. Renewable Energy  ORC (biomass, geothermal, etc.)

Expand business through addition of ORC turbine lineup
- Enter domestic market, strengthen orders received

Turboden (Italy)
Company that designs, manufactures, markets and installs Organic Rankine Cycle power generation systems
Dec. 2012: began operations as an MHI Group company

**ORC applications**
- Biomass power generation
- Waste heat recovery
- Geothermal power generation
- Power generation by waste incineration

- 327 units delivered to date, primarily for biomass plants in Europe
- Delivered 1st unit for waste heat recovery plant in Japan
  - Started operation May 2016 at Aichi Steel Corp.
- Sales tie-up with Daiichi Jitsugyo Co., Ltd.
  - Concluded domestic distributor contract

Turboden’s Organic Rankine Cycle (ORC) power generation system
3-4. Renewable Energy ④SOFC (Solid Oxide Fuel Cell)

Initiatives to achieve a low-carbon and hydrogen society

In FY2017, market launch of a 250kW-class SOFC-MGT hybrid power generation system
- Received high evaluation in more than 7,500 hours of power generation testing using the Kyushu University demonstration system
- In FY2016, demonstrations scheduled for 4 additional units in Japan
- To be introduced at 2020 Tokyo Olympic/Paralympic Games

Initiatives for future gas turbine fuel cell (GTFC) hybrid power generation system
- Development underway as core technology of next-generation thermal power plants

* SOFC:Solid Oxide Fuel Cell, MGT: Micro Gas Turbine

- At Kyushu University, only electricity being used

SOFC-MGT Hybrid Demonstration model (Kyusyu University*)

SOFC-MGT Hybrid model systemization
3-5. Cross Domain Initiatives ① Energy total solution

**Customer**
- Large energy users owning manufacturing plants

**Value provided to customers**
- Reduced energy consumption from supply/demand data analysis
- Facilities optimization according to business operations
- Support to external marketing of power and heat
- Higher operating efficiency through asset leasing

**MHI’s business model**
- Service fee income through optimization and reduction of energy use
- Contract income from comprehensive utility services
- Maintenance services for delivered energy systems
Floating LNG Power Plant

- New concept achievable from position as world’s only company with both technologies in-house
  (Ship building & high efficiency power generation)

- Technical drawings for LNG tanks and power plants
- Mooring at shore
- Mooring at a jetty
- Easy to relocate by using LNG carrier
- Perspective of the portable floating platform

**Concept advantages**

- Short delivery time
- Minimal construction risk
- Outstanding convenience from movability
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       Energy total solution, Initiatives targeted at the Oil & Gas market

4. Summary
4. Summary ①Measures to be taken in FY2016 and FY2017

As MHI’s core business domain, Energy & Environment will play an active role in achieving Companywide measures and targets.

Status & challenges
- Delays in orders received and net sales from opacity of global economy
- Gap emerged between the original ordinary income target and the current outlook, calling for improvement efforts.

Companywide targets
- Strengthen ability to generate cash through stronger earning capability and improvement in asset efficiency

Companywide measures
- Strengthen earning capacity
- Concentration into core competencies
- Improve operating capital
- Reduce total assets

Domain activities & targets
- Accelerate PMI
- Strengthen servicing operations
- Determine which businesses have more competitive strength
- Allocate resources into IoT/AI
- 50-day CCC
- Initiatives to achieve net sales ≥ total assets
4. Summary ② from “Reforms” to “Take off (Stage #1)”

See social changes as opportunities for expanding business scale; build strong financial and technology foundations; and prepare for take off.

**2015 Business Plan**
(FY2015-FY2017)

**Period of reforms**

**Direction of 2018 Business Plan**
(2018-2020)

**Take off (Stage#1)**

**Expand business scale, accelerate PMI**

- M&A Establishment of MHPS
- PMI - Establish management foundation
  - Streamlining bases

**Concentration into core competencies**

- Strengthen thermal power plant lineup and AQCS business
- Choose among renewable energy businesses
- Promote specific business strategies

**Build Management foundation**

- Improve operating capital
- Reduce total assets

**Strengthen risk resilience**

- Technology risks: Improve development and design processes
- Business risks: Liaise with Business Risk Management Division

**Utilize IoT, Strengthen servicing operations**

- Strengthen services portfolio
- Find customer needs

**APQ :** Air Quality Control System

**2015 Business Plan**
(FY2015-FY2017)

**Period of reforms**

**Direction of 2018 Business Plan**
(2018-2020)

**Take off (Stage#1)**

- Pursue higher targets approaching levels of GE and Siemens
- Expand business scale, raise margin

- Develop new businesses
- Strengthen overseas market strategies
- Fully expand involvement in overseas nuclear power plant projects

- Achieve further (technology, management, financial) advances through links within shared technology framework*

*Research & Innovation Center, Engineering Headquarters, Marketing & Innovation Headquarters, Value Chain Headquarters, ICT Solution Headquarters

- Reform business models and expand business through active use of IoT/AI

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