

Answers, Custom Fit.

# **ORIX's Energy and Eco Services Business and**

## **Growth Strategy**

## **ORIX** Corporation

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September 6, 2018



## **Current Status of Energy and Eco Services Business**

- 1. Current Status of Energy and Eco Services Business
- 2. Performance Trend
- 3. Core Lineup

## **Future Growth Strategies**

- 1. Mid-term Outlook
- 2. Summary



# **Current Status of**

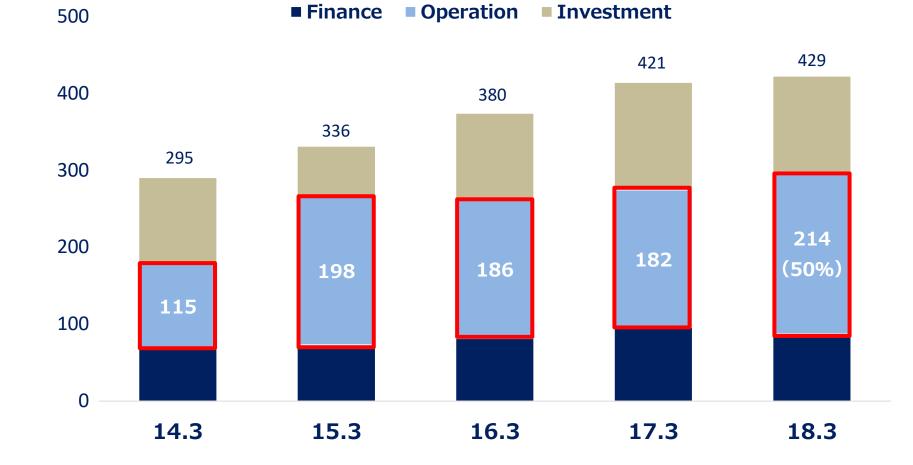
# **Energy and Eco Services Business**



#### ✓ Grouping ORIX's diverse business portfolio into three categories "Finance", "Operation" and "Investment"

Finance	Japan	<ul> <li>Primarily business involving credit risk, including leasing, loan, housing loans and card loans in Japan and overseas</li> </ul>	
	Ex-Japan		
Operation	Environment/ Infrastructure	<ul> <li>Environment and Eco services, real estate facilities operation, concessions and other businesses we assume operation for</li> </ul>	
	Financial Services	<ul> <li>Asset management business and life insurance business</li> </ul>	
	Maintenance Services	<ul> <li>Auto-related businesses and the rental business</li> </ul>	
	Others	New businesses	
Investment	Fixed Income	<ul> <li>Investments in non-performing loans and bonds</li> </ul>	
	Tangible Assets	<ul> <li>Investment in real estate, aircraft and ships</li> </ul>	
	Equity	<ul> <li>Private equity investments in Japan and overseas, new business that we will launch and grow</li> </ul>	

Remarkable growth in "Operation" and "Investment", 50% of segment profit was from "Operation" in FY18.3
 (JPY Bn)

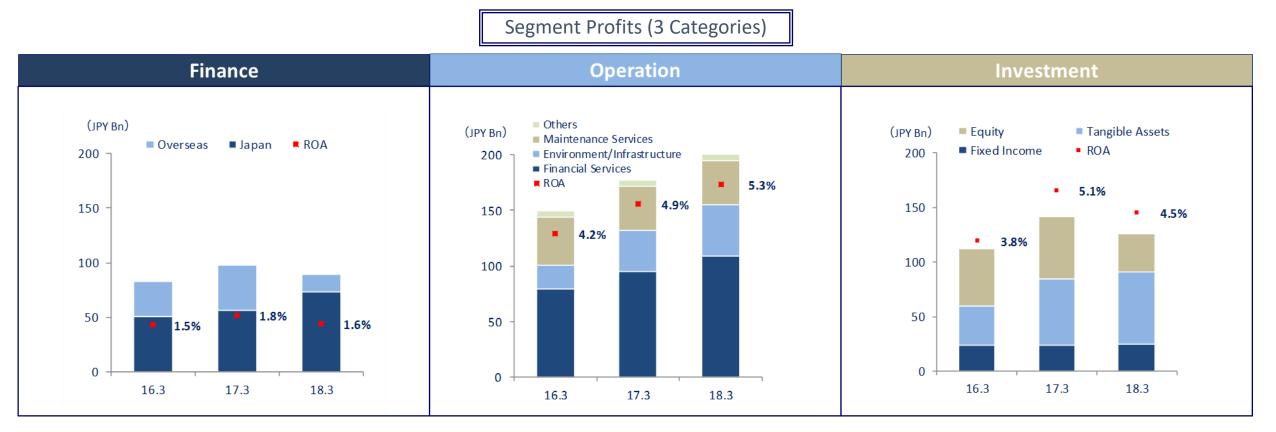




## **Current Status of Energy and Eco Services Business** Performance in three categories



 Environment and Eco Services belongs to "Operation" and "Environment/Infrastructure". The segment profit of Environment/Infrastructure was JPY 45.7 billion in FY18.3, which was 11% of whole segment profit and up by 23% YoY



(\*1) FY16.3 Segment Profits in Operation excludes capital gains/valuation gains (c. 39.6bn yen) associated with the IPO of Houlihan Lokey and ordinary profit/loss contribution from HLIKK

(\*2) FY17.3 Segment Profits in Operation excludes ordinary profit/loss contribution from HLIKK

(\*3) FY18.3 Segment Profits in Operation excludes capital gain from the sale of Houlihan Lokey shares and ordinary profit/loss contribution from HLIKK



## **Current Status of Environment and Energy Business Lineup**

Lineup		Services	
Energy	Renewable Energy	Renewable Energy (Mega Solar Power Generation, Rooftop Solar Power Generation, Biomass Power Generation, Wind Power Generation, Geothermal Power Generation), Business Development, Support for introducing Solar Power Generation	
	Power Supply	Electric Power Retailing, Operation of Biomass Power Generation Plant, Operation of Coal and Biomass Power Generation Plant	
	Energy Conservation	ESCO Services	
	Storage Battery	Sales of Solar Panels and Electricity Storage Systems, Virtual Power Plant (VPP)	
	Others	Strategic Business Investment, New Business	
Recycling & Waste Management		Reuse of End-of-Lease Assets, Metal Recycling, Nationwide Recycling Network System, Advanced Waste Processing, Operation of the Controlled Landfills	
Overseas		Operation of an Environmental and Energy Investment Fund in Asia (ACP), Renewable Energy Business Development	

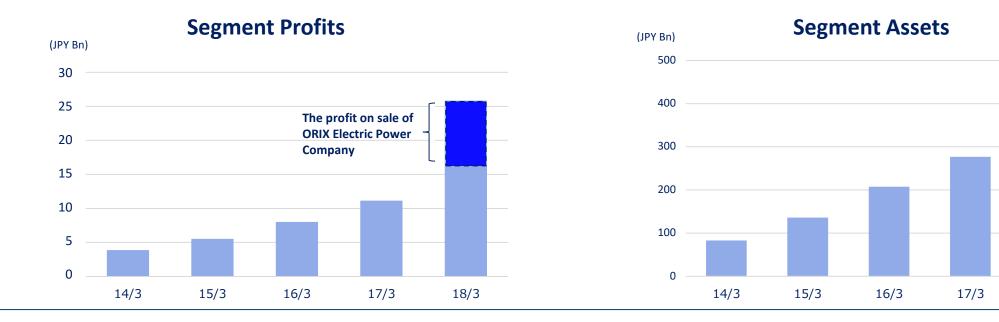
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- Solar Power Generation (Mega Solar & Rooftop Solar Business) Business rights secured projects : 997MW
   700 MW: Already in operation, 297MW: Be scheduled to run by FY2021 Mega Solar : 116 places, Rooftop Solar : 504 places
- ✓ <u>Electric Power Retailing Business</u>

Contract Power Capacity : **1,181MW**, Annual Electricity Sales Amount : **2.6GWh** Ranking among Japanese PPS market : **6**<sup>th</sup> (High-voltage power category)

<u>Sell and Transfer ORIX Electric Power Corporation Business</u>
 (Bulk electric purchasing service for condominiums) / Asset revaluation and reinvestment



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18/3



#### Mega Solar Power Generation Plant

ORIX Shiraoi Mega Solar Power Generation Plant in Hokkaido pref. 18.9MW Niigata Yotsugoya Power Generation Plant in Niigata pref. 55.6MW





#### Biomass Power Generation Plant

Agatsuma Biomass Power Generation Plant in Gunma Pref. 13.6MW



# Coal and Biomass Co-firing Power Generation Plant in Fukushima Pref. 112MW





#### ORIX Environmental Resources Management Corporation

Zero Emission Facility in Saitama Pref.



### Zeeklite Co., Ltd.

"Ecoport" Controlled Landfill in Yamagata Pref.

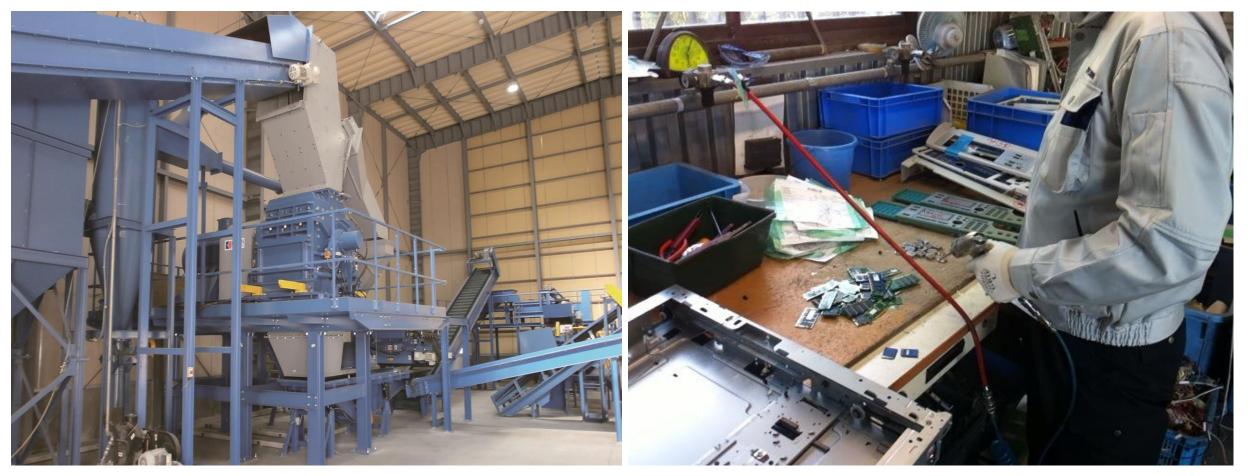


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#### ORIX Eco Services Corporation

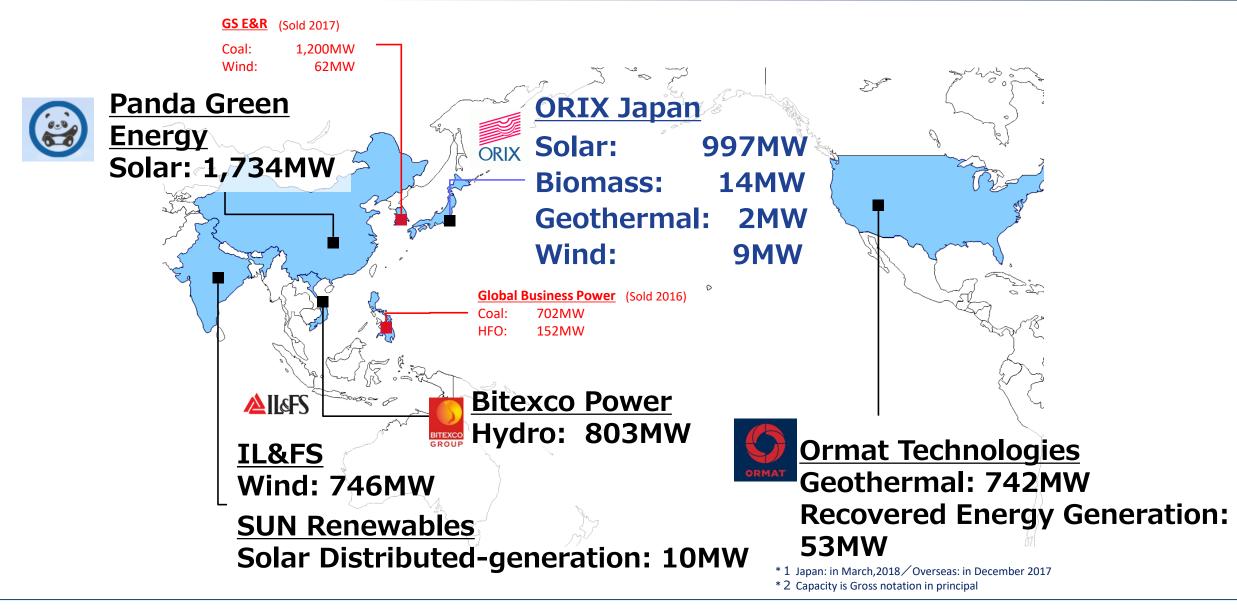
Large-scale metal shredder



## Manual dismantling Process for Office IT Equipment

### **Core Lineup** Expansion of Global Assets (Energy Field / Overseas)







#### Wind Power Generation

Karnataka state, India



#### Hydropower Generation

The DakMi 4 power station, Vietnam







### Distributed Solar Power Generation Business

Bangalore, India



- ✓ Ormat Technologies Inc.
- ✓ ORIX Share : About **22%** (Dec. 2017)
- ✓ Total assets : USD2,587mm
- ✓ Profit attributable to shareholders : USD155mm
- ✓ Generation Capacity Geothermal: **742MW** 
  - USA: 482MW
  - Kenya: 139MW
  - Guatemala: 43MW
  - Guadeloupe: 15MW
  - Honduras: 35MW
  - Indonesia: 28MW
  - Recovered Energy Generation: 53MW

#### Geothermal Power Generation

#### The McGinness Hills Complex power plant



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# **Future Growth Strategies**



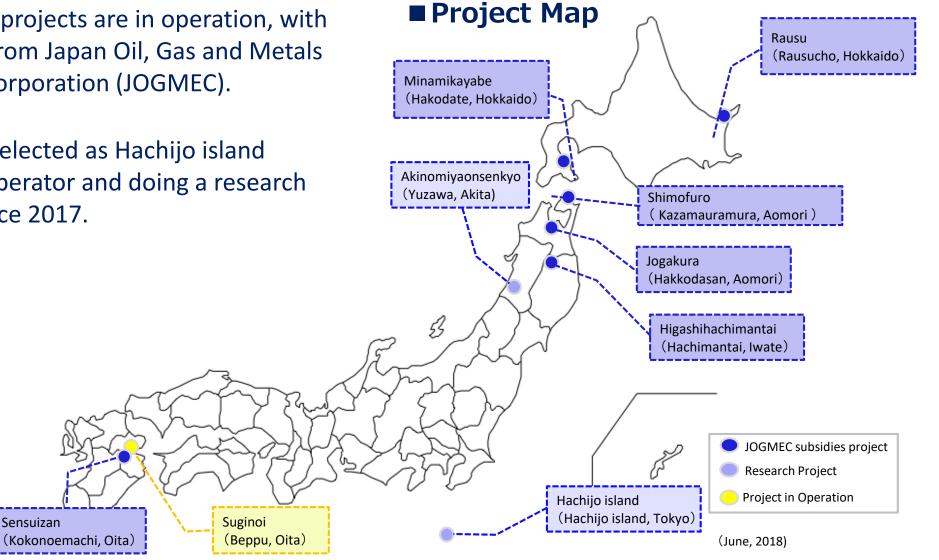
Business Area		Basis / Technology/ Resource	Key Point
Energy	Renewable Energy	Equipment procurement, Design and construction management, O&M, Geothermal	<ul> <li>Maximize earnings (ex. Cost reduction)</li> <li>Asset management business development</li> </ul>
	Distributed Energy System	Cost optimization of grid and both supply and demand system, Storage battery business strategy	<ul> <li>Essential elements for distributed energy system</li> </ul>
	Energy Conservation Service	Strengthen IoT technology, Security	<ul> <li>Improve profitability and contract retention</li> </ul>
	Electric Power Retailing	Practical use of existing sales force, Strategic Alliance with Electric Power Company	•Can supply diversely
Recycling & Waste Management	Recycling & Waste Management	M&A	<ul> <li>Integrated value chain</li> </ul>
Overseas	Overseas	Large-scale M&A	<ul> <li>Establishment of platform</li> </ul>

## **Medium-term Outlook** Energy Field / Geothermal Power Generation



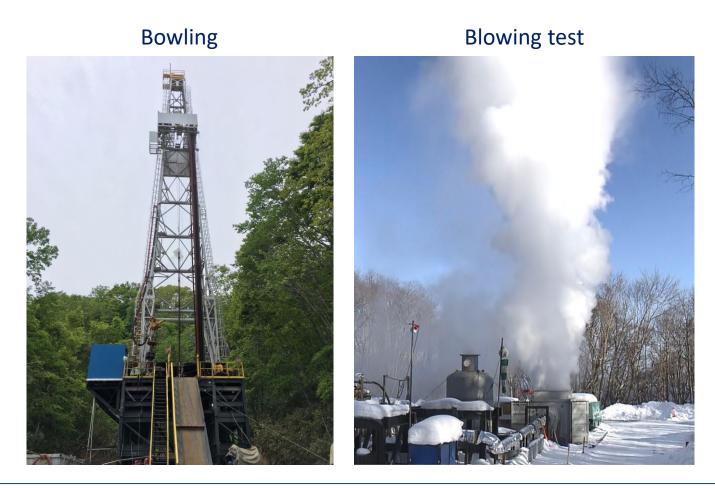
- $\checkmark$  6 research projects are in operation, with subsidies from Japan Oil, Gas and Metals National Corporation (JOGMEC).
- ✓ ORIX was selected as Hachijo island business operator and doing a research project Since 2017.

Sensuizan

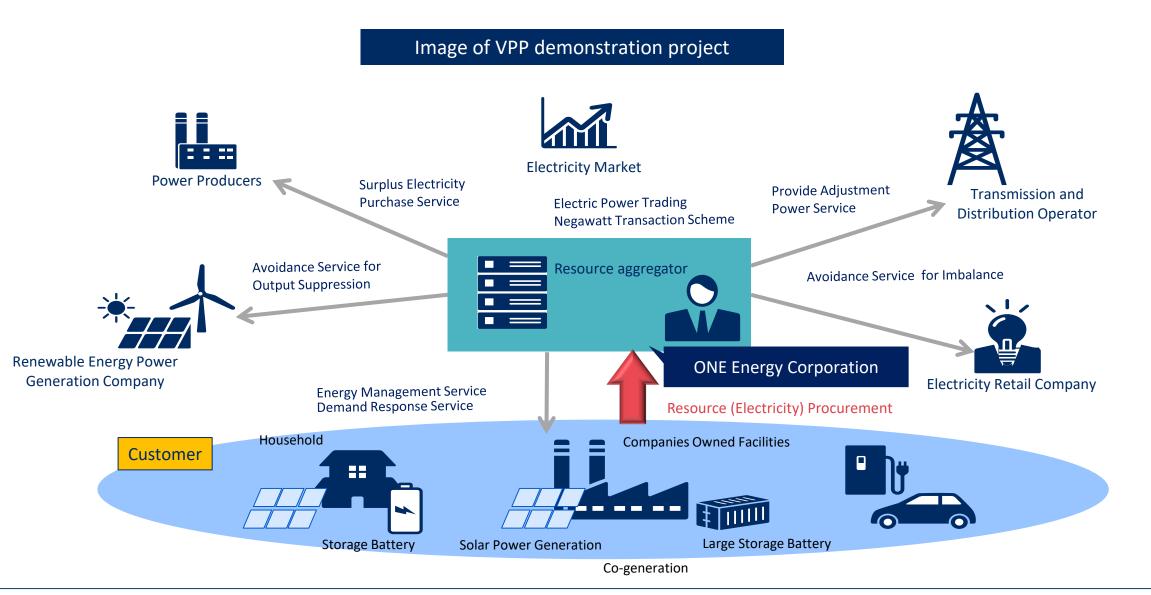




- ✓ Minamikayabe, Hakodate-city in Hokkaido
- ✓ Equipment Capacity : 6.5MW
- ✓Commencement of Construction : Apr. 2019
- ✓ Launch of Selling Electricity : **Dec. 2020**
- ✓ Capacity Utilization Rate: 90%
- ✓ Project Cost : 7.7 billion yen

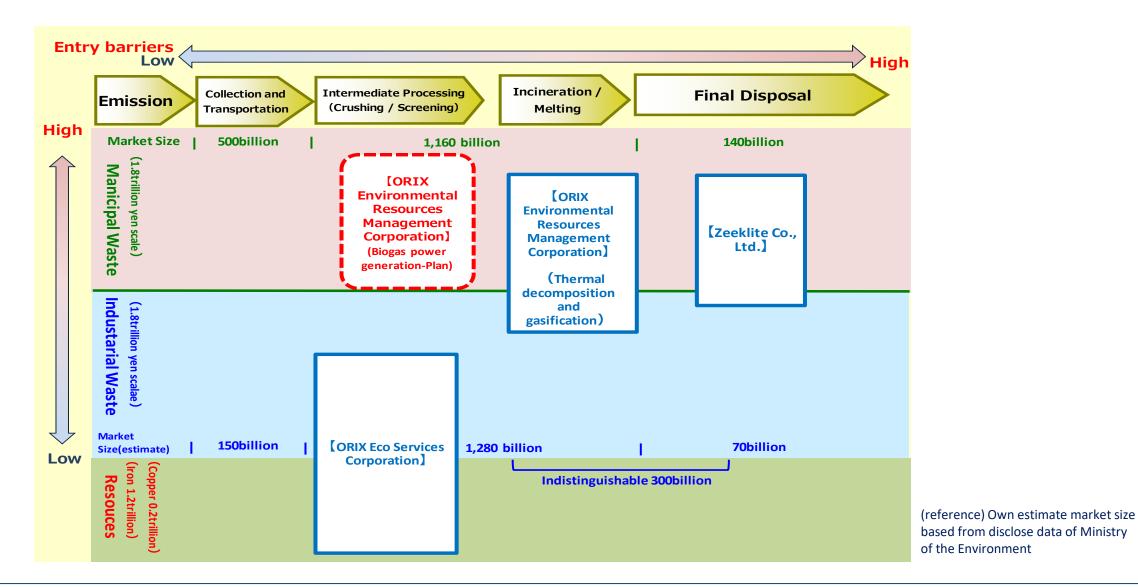






## **Medium-term Outlook**

### Recycling & Waste Management / Value Chain from Intermediate Processing to Final Disposal



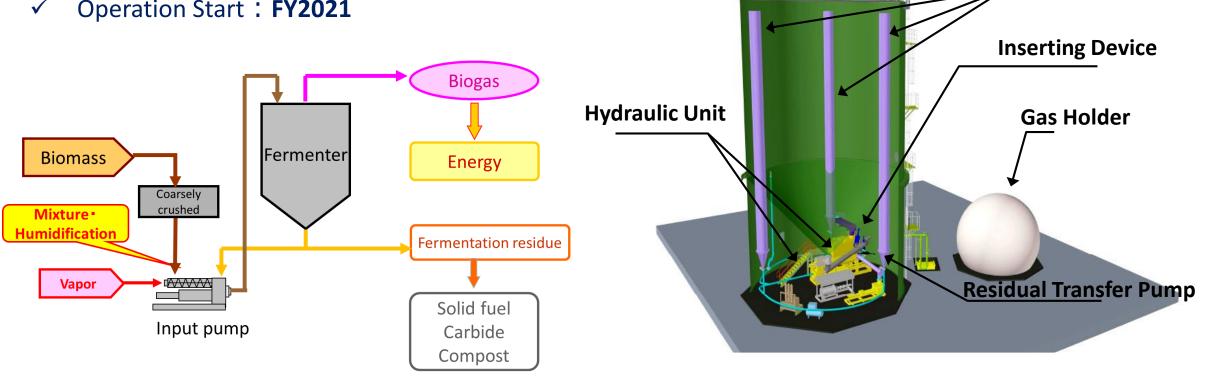
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#### **Medium-term Outlook** Waste Management / Biogas Power Generation



Introduction Tube

- Biogas power generation by vertical dry methane fermentation facility, mainly feeding  $\checkmark$ business-related municipal waste
- Amount of Received Waste : 100t/day  $\checkmark$
- Capacity of Power Generation Facility : **1.2MW**
- Operation Start : FY2021





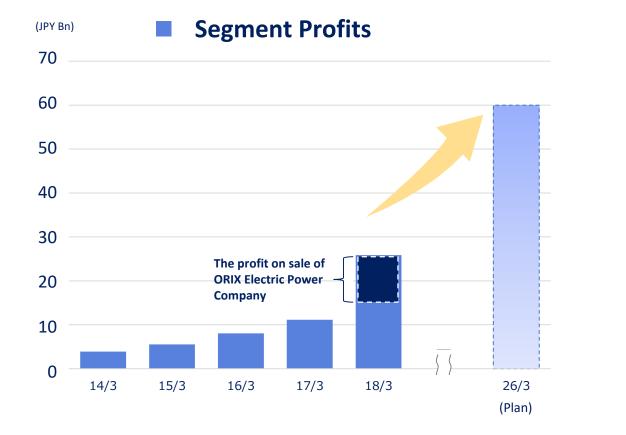
EU	Asia
<ul> <li>Established ORIX UK in London / launched as a base to develop businesses in Europe         <ul> <li>Acquisition of power producers and asset managers</li> </ul> </li> </ul>	<ul> <li>Building own platform of renewable energy business</li> <li>Recruit technical personnel in Hong Kong</li> <li>Targeting emerging market about renewable energy such as Taiwan and Korea</li> <li>Standardize business processes, construction and operation specifications. Tokyo and Hong Kong team up to manage businesses.</li> </ul>

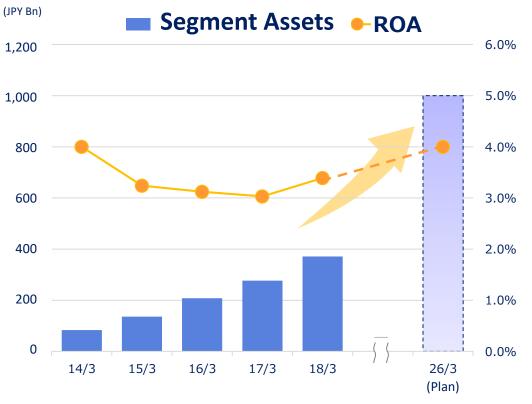
Establish an organization to respond business opportunities arising from changing market and policy

Acquire "Platform Company" that will become the basis to develop renewable energy business in EU and Asia



#### ✓ Targeting to achieve segment profit of 60 billion yen and segment assets of 1 trillion yen





ROA in FY18/3 excludes the profit on sale of ORIX Electric Power Company



Have been expanding businesses swiftly by solar power generation business and power retailing business

Prepare for the expansion of the distributed energy market

**Global expansion mainly in Asia and Europe** 

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