



Section 2

Business Update

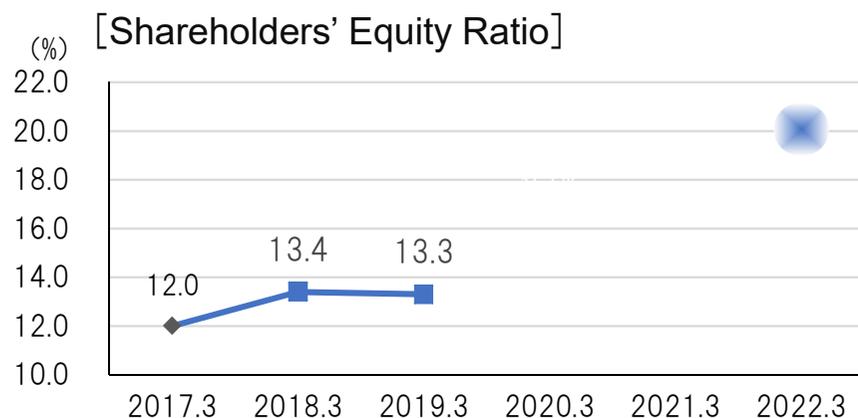
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## Financial targets (as announced in June 2017)

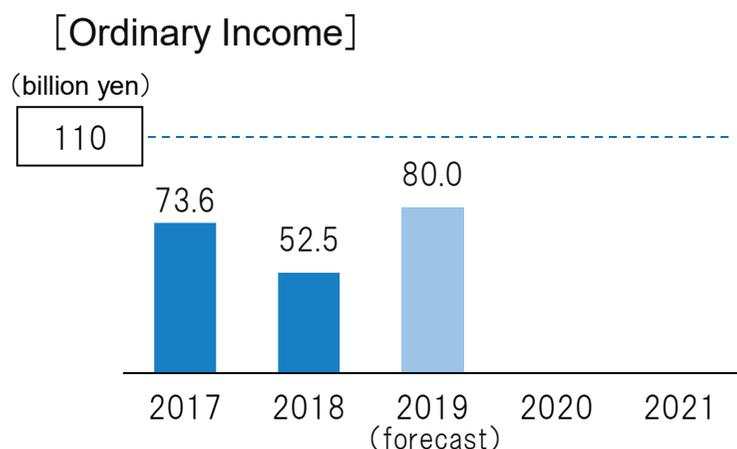
Shareholders' Equity Ratio	Around 20%	As of the end of FY2021
Ordinary Income	Over 110 billion yen	Average FY2017 to FY2021
Investment for Growth	420 billion yen	Cumulative total FY2017 to FY2021

## Progress towards our financial goals

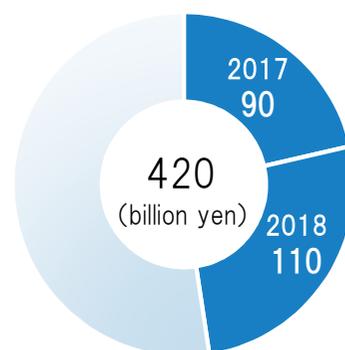


## [Main efforts]

- 4 nuclear power units realized
- Matsuura unit 2 almost realized
- Sales using our competitive power source (preventing switching to other companies, increasing electricity demand).
- Thorough efficiency
- Strengthening overseas electricity business
- Strengthening renewable energy business
- Expansion of information communication business



## [Investment for Growth]



## Revision of Class A preferred share ~ changes in rate and ownership ~

- During the board of directors meeting on April 22, 2019, it was decided to revise the contents of the Class A preferred share issued in August 2014 (on the premise that the General Meeting of Stockholders will approve of this revision).
- The reason of this revision is to secure stability of equity capital and to reduce the burden of preferred dividends.

[Details of the revision (main conditions compared)]

	Current Class A preferred share
Issue date	August 1, 2014
Issue price/number of share	100 billion yen/1,000 shares
Ownership	Development Bank of Japan Co., Ltd. 100 billion yen(1,000 shares)
Right to conversion to common share	No
Right to vote	No
Coupon	3.5%
Acquisition request right	In case of meeting requirements (Ex: 5 years after date of transfer)
Our acquisition	At any time since the next day of issue date



Revised Class A preferred share
June 28, 2019
Same as before
Mizuho Bank, Ltd. 40 billion yen (400 shares) Development Bank of Japan Inc. 40 billion yen (400 shares) MUFG Bank, Ltd. 20 billion yen (200 shares)
Same as before
Same as before
2.1%
Same as before
Same as before

## Electricity rate reduction

- We decided to reduce the electricity rate from April 1, 2019, because of the commercial operation of four nuclear power units and overall improvements in management efficiency.
- Strengthening our competitiveness by introducing new rate plans and price reductions we aim to increase sales and attract new customers.

### [ Key factors ]

Cost calculation period	3 years(FY2019~FY2021)
Electricity sales volume	70.6 billion kWh
Generated electricity volume by nuclear power	29.6 billion kWh (previous:25.2 billion kWh)

### [Reduction rate ratio for specific retail plans\* ]

New average unit of rates	Previous average unit of rates	Reduction rate ratio
24.05 yen/kWh	24.32 yen/kWh	-1.09 %

\* Regulated department demand including “Flat-Rate Lighting”, “Residential Lighting” and “Low-Voltage power”

## Introduction of new rate plans based on customer needs and discounted offers with telecom carriers

- In February 2019, new rate plans were introduced with the idea that, although even little, we could contribute to the solution of local problems, such as an aging and a declining population in the Kyushu region.
- In April 2019, QTnet (a wholly owned subsidiary) launched the BBIQ x Kyuden Discount, which offers a discount if the customer uses optical internet in combination with electricity from Kyuden.
- In the same month, the carrier Softbank offers a discount when signing up for the package deal “Home Discount Kyuden Power Set.”

▼ New rate plans announced in February 2019

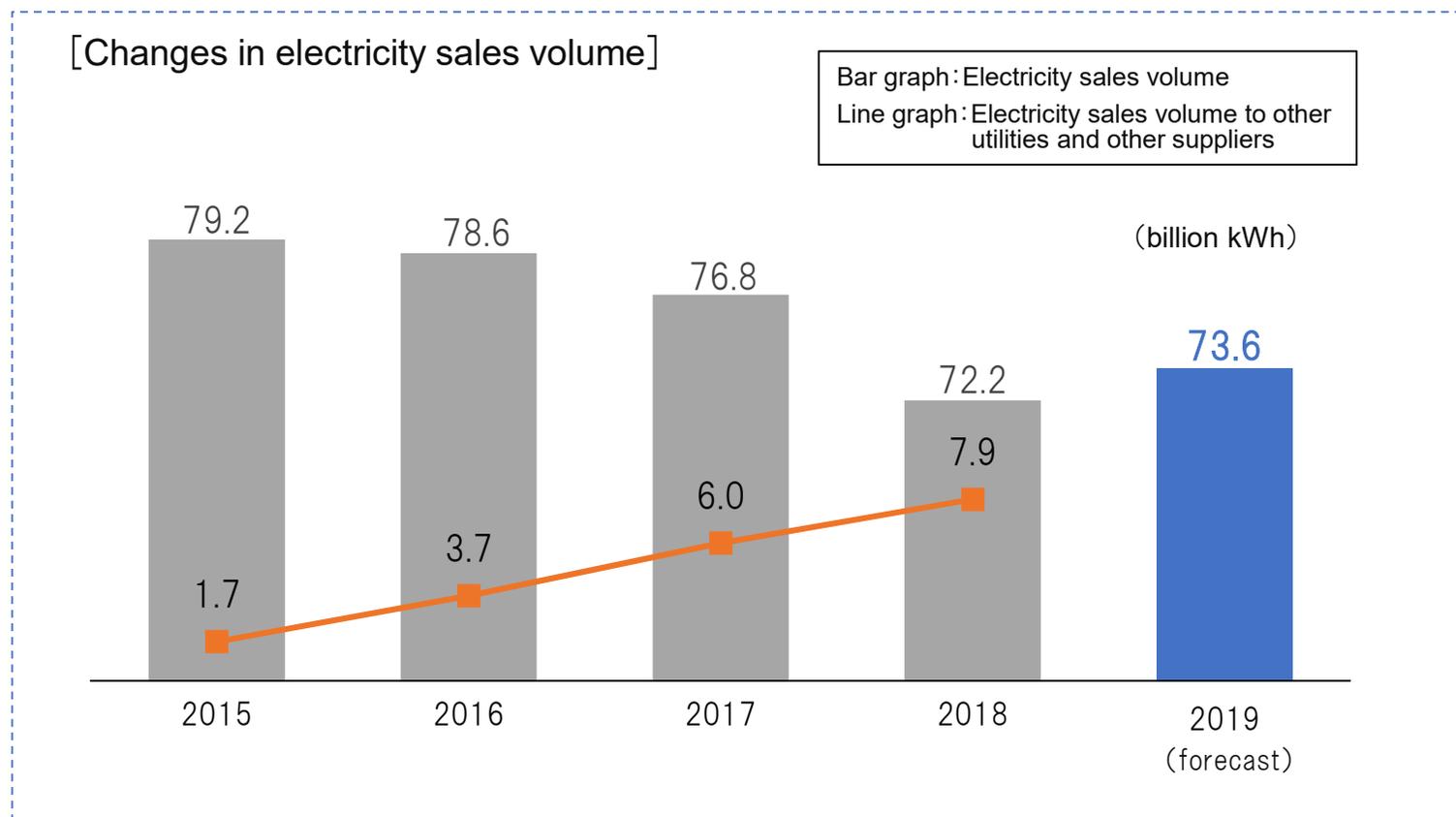


▼ “BBIQ x Kyuden Discount” launched in April 2019



## Strengthening competitiveness to increase electricity sales volume

- The forecast of FY2019 is 73.6 billion kWh. It is expected to be the first increase on a year-on-year basis since the liberalization in 2016.
- In addition to strengthening competitiveness through price reductions, we will strengthen corporate sales by, among others, increasing the contact frequency with customers and by “face-to-face sales.”



## Development of Matsuura power station unit 2 (Overall progress rate 95% (as of March 2019))

- Matsuura power station unit 2 reduces CO2 emissions by its ultra-supercritical pressure (USC)\* and has an excellent stable supply and economic efficiency.
- Test operations will start from June 2019.

\* Ultra Super Critical (USC): A state-of-the-art power generation system that improves thermal efficiency and reduces the environmental impact by the steam at high temperature and high pressure.

### [Outline of Matsuura power station unit 2]

Location	Matsuura city, Nagasaki prefecture	Output	1,000MW
Generation System	USC coal powder thermal	Fuel	Coal
Thermal efficiency (generation-end)	45% or more (lower calorific value)	Start of operation	December 2019

▼ Panoramic photo of Matsuura unit 2



## Extending the interval of legal periodic inspections at thermal power stations

- Acquired "System S certification" which can extend legal inspection interval up to 6 years for all coal and LNG thermal power plants by 2018. By reducing the number of legal inspections we further improve the number of operating days of cost-competitive power plants and reduce repair costs.

### [Before]

	1st year	2nd year	3rd year	4th year	5th year	6th year
Boiler		Inspection		Inspection		inspection
Turbine				Inspection		



### [After certified]

	1st year	2nd year	3rd year	4th year	5th year	6th year
Boiler			→			Inspection
Turbine					→	

▼ Constant monitoring at thermal power plant



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## Spent fuel storage measures at Genkai nuclear power station

- In January 2019, an application for permission was submitted to the Nuclear Regulatory Authority(NRA) in order to secure storage capacity of spent fuel and to allow for a diversification of storage systems. The application entailed a change to installations of the reactor for the installation of dry cask storage facilities and reracking.

### [Outline of application for dry cask storage facilities]

	Plan
Scale	<ul style="list-style-type: none"> <li>One building (steel reinforced concrete structure)</li> <li>about 50m × about 60m, height: about 30m</li> </ul>
Capacity	40 dry casks (spent fuel up to 960 bodies)
Start date	FY2027(planned)

### [Outline of amendment for reracking]

	Current	Revised
Unit 3	1,050	1,672 (increase 622)
Construction period	FY2020~FY2024(planned)	

## Decommission of Genkai nuclear power station unit 2

- In February 2019, it was decided to decommission Genkai Unit 2 after considering technical constraints (such as difficulties in securing sufficient space for the installation of Specific Safety Facilities(SSFs)), output prospects and the remaining commercial operation period.\*1

\*1: On April 9, 2019, the notification of change of Electricity Generation Business regarding the decommissioning of Genkai unit 2 was submitted to the Minister of Economy, Trade and Industry

- The decommissioning costs of Genkai unit 2 have been allocated by ¥32 billion (about 88% of the total estimated amount) by the end of March 2019, and will be fully allocated over the next 10 years (by the end of March 2029).

### [List of our nuclear power stations]

	Genkai nuclear power station				Sendai nuclear power station	
	No.1	No.2	No.3	No.4	No.1	No.2
Start of operation	1975/10	1981/3	1994/3	1997/7	1984/7	1985/11
Output	559MW	559MW	1,180MW	1,180MW	890MW	890MW
Status	2015/4 Decommissioning	2019/4 Decommissioning	2018/5*2 Restart of generation	2018/7*2 Restart of generation	2015/9*2 Restart of generation	2015/11*2 Restart of generation

\*2 Indicate the date of the first return to commercial operation after new regulatory standards is enforced.

## Approval of construction plan regarding SSFs of Sendai nuclear power station units 1 and 2

- On April 5, 2017, we received permission regarding newly installed SSFs for Sendai units 1 and 2 (application: December 17, 2015)
- In order to realize these facilities within the time limit, the application, containing the construction plans, have been divided in three parts and, depending on approval, the construction will start sequentially.
- We received approval from the NRA regarding the installation of these facilities (which is the third part) of Sendai unit 1 (February 18, 2019,) and Sendai unit. 2 (April 12, 2019).

[Status of applications and approval of construction plan regarding SSFs]

	Facilities	Date of application and approval	
		Sendai unit no.1	Sendai unit no.2
First part	Facilities installed in a reactor subsidiary building	(application) May 24, 2017 (approval) May15, 2018	(application) Jul. 10, 2017 (approval) Aug. 10, 2018
Second part	Newly installed buildings	(application) Aug. 8, 2017 (approval) July 26, 2018	(application) Aug. 8, 2017 (approval) Aug. 31, 2018
Third part	Newly installed facilities	(application) Mar. 9, 2018 (approval) Feb.18, 2019	(application) Mar. 9, 2018 (approval) Apr.12, 2019
Installation deadline (The date of approval for main parts in nuclear power station)		Mar. 17, 2020 (Mar. 18, 2015)	May 21, 2020 (May 22,2015)

## Permission received regarding a change in reactor concerning SSFs of Genkai units 3 and 4

- On April 3, 2019, we received the permission for a change in reactor installation of SSFs of Genkai unit 3 and 4 from the NRA, which we applied for on December 20, 2017. We are currently preparing to submit the application of the construction plan for approval.

	Genkai unit 3	Genkai unit 4
Installation deadline (The date of approval for main parts in nuclear power station)	Aug. 24, 2022 (Aug. 25, 2017)	Sep. 13, 2022 (Sep. 14,2017)

## Established our first overseas subsidiary in Vietnam

- Kyuden Innovatech Vietnam, Kyuden’s first overseas subsidiary, started operations in April 2019
- We are providing our technology, among others, to help improve the safety of the operations of dams and hydroelectric power plants in Vietnam\*.

\* Electricity demand scale: 180 billion kWh a year (about one sixth of Japan)  
 Power supply composition: Hydropower approx. 40%, Thermal power approx. 60%  
 Number of power generation dams: about 300

## Cooperation with start-up companies on next-generation storage battery technology

- In March 2019, it was announced that as part of the "KYUDEN i-PROJECT“ (which focuses on the creation of future businesses) we will work with Exergy Power Systems, a startup company that develops next-generation storage battery systems using high-power storage batteries.
- The company's storage battery system with high output, capable of continuous charge and discharge, and excellent durability is expected to have a competitive advantage as an adjustment power for power supply and demand adjustment. We work together on the commercialization of this product in Ireland, where there is a short-term balance market.
- In the future, like the commercialization in Ireland, we consider co-operating in other areas that require short-period coordination and aim for expanding the introduction of renewable energy and the creation of business overseas

### [Project outline]

Purpose/Content	Provide in a electricity balancing market (Introduction gradually toward 20MW)
Location	Island of Ireland
Start date	the end of FY2019 (planned)

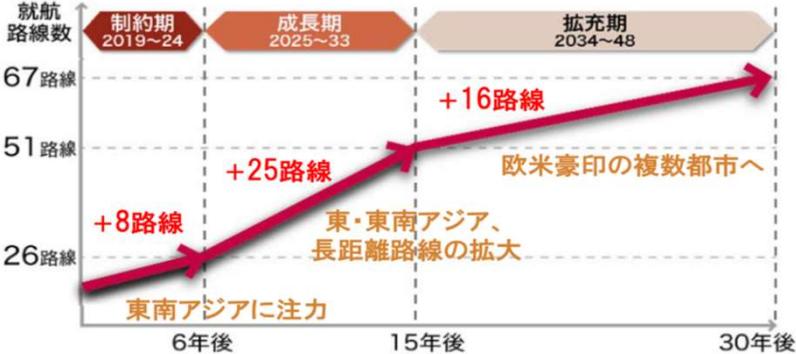


▲ Appearance of the Exergy Power Systems’ storage battery system (provided from Exergy Power Systems)

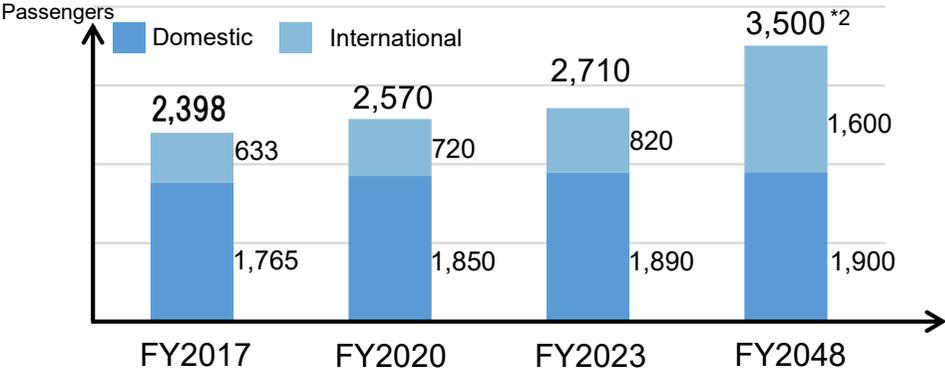
Commencement of our operation of Fukuoka airport

- From April 2019, Fukuoka International Airport Co Ltd., in which Kyuden invested, started with the operation of Fukuoka Airport.

[The target of a number of international routes in service\*1]



[The target of a number of passengers\*1] (ten thousand)

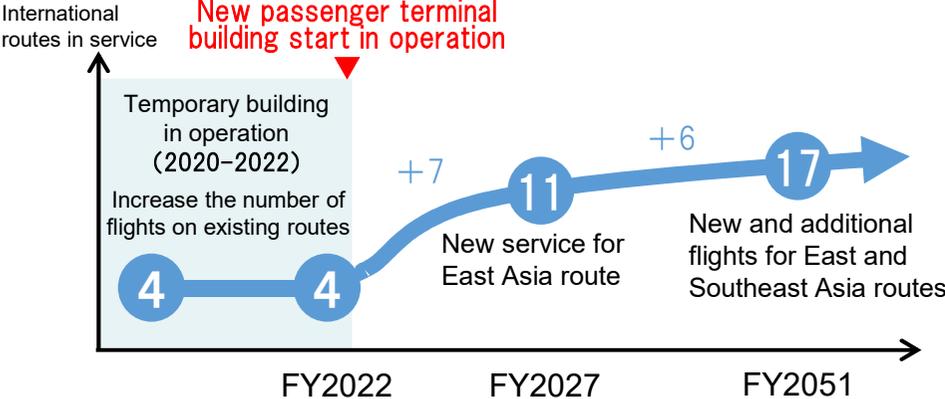


\*1 We made from Fukuoka International Airport Co., Ltd. "Fukuoka Airport Specific Operation Business etc. Master plan"  
 \*2 We made from Fukuoka Airport HD Group "Summary of proposal".

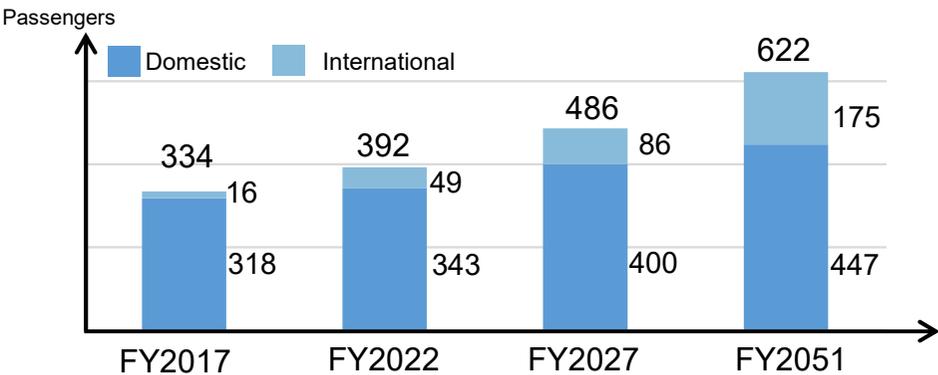
Acquisition of priority negotiation rights for Kumamoto airport operation

- In March 2019, the "MSJA-Kumamoto Consortium" (in which Kyuden participates) acquired priority negotiation rights such as the Kumamoto Airport Specific Operation Business, and reached a general agreement with the Ministry of Land, Infrastructure, Transport and Tourism on April 22.

[The target of a number of international routes in service\*3]



[The target of a number of passengers\*3] (ten thousand)



\*3 We made from MSJA · Kumamoto Consortium " Summary of proposal "

## ■ Reference

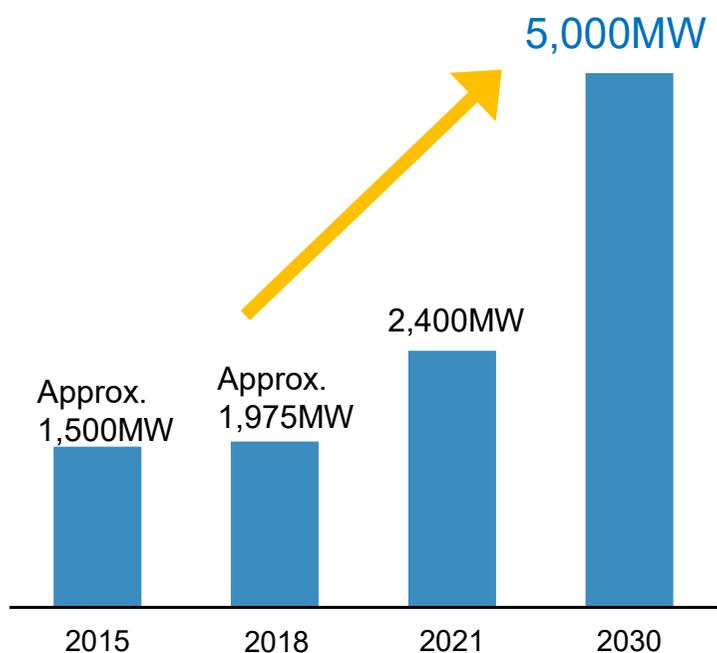
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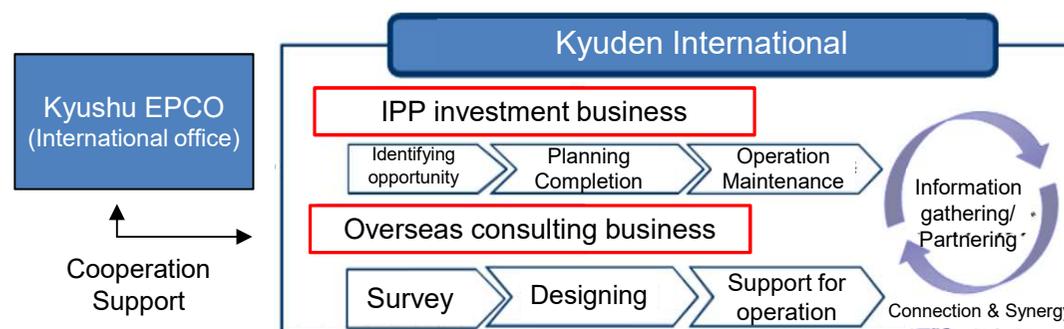
## Promotion of overseas energy business

- In our group, International office is positioned as main body for constructing a strategic network including outside group, and Kyuden International Co., Inc., which is our wholly-owned subsidiary, as main body for promoting IPP investment and overseas consulting business.
- We are aiming for 5,000 MW equity ownership in electricity output in 2030 by developing projects mainly in Asia where electricity demand is expected to increase, as well as North America and Europe.

[Target Equity Ownership in 2030]



[Overseas energy business promotion system]



[Outline of Kyuden International Co., Inc.]



<b>Location of headquarters</b>	Fukuoka city
<b>Capital fund</b>	23.15 billion yen (Kyushu EPCO CO., INC.100%)
<b>Date of establishment</b>	August 2 <sup>nd</sup> , 1999
<b>Business description</b>	Overseas energy business Overseas consulting business

[Business development overseas (as of end of March 2019)]

Net capacity: 1,975MW ( In operation : 1,706MW , Under construction : 269MW )



	Project Name	Fuel	Start of Operation /Investment	Gross Capacity	Ownership	Net Capacity
In Operation	① Mexico: Tuxpan II	Gas	2001/12	495MW	50%	248MW
	② Phillippines: Ilijan	Gas	2002/6	1,200MW	8%	96MW
	③ Vietnam: Phu My III	Gas	2004/3	744MW	26.7%	199MW
	④ Mexico: Tuxpan V	Gas	2006/9	495MW	50%	248MW
	⑤ Singapore: Senoko Energy	Gas/Oil	[Investment] 2008/9	3,300MW	15%	495MW
	⑥ China: Inner Mongolia	Wind	2009/9	50MW	29%	15MW
	⑦ Taiwan: Hsin Tao	Gas	[Investment] 2010/10	600MW	33.2%	199MW
	⑧ Indonesia: Sarulla I~III	Geothermal	2018/5	330MW	25%	83MW
	⑨ USA : Kleen Energy	Gas	[Investment] 2018/5	620MW	20.25%	126MW

Sub Total 1,706MW

Under Construction	⑩ USA : Birdsboro (Start of Operation: 2019)	Gas	[Investment] 2018/1 (Participating in 2017/12)	488MW	11.1%	54MW
	⑪ USA:South Field Energy (Start of Operation: 2021)	Gas	[Investment] 2018/8	1,182MW	18.1%	214MW

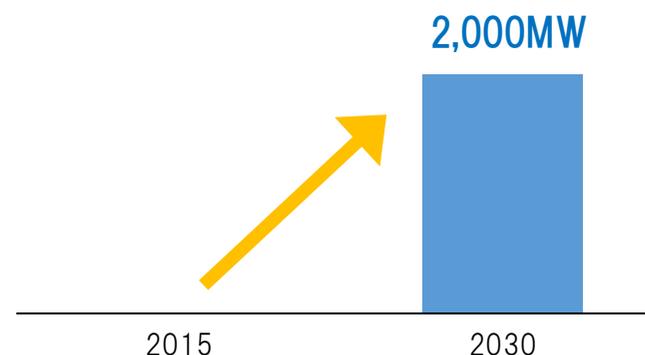
Sub Total 269MW

Total 1,975MW

## Changes in the thermal power plant project in Sodegaura City, Chiba Prefecture

- In January 2019, we concluded that the project could not yield initially expected investment returns and thus agreed to cancel further feasibility studies of a coal-fired thermal power plant in Sodegaura City, Chiba Prefecture, which we have implemented with Idemitsu Kosan Co., Ltd. and Tokyo Gas Co., Ltd.
- Kyuden and Tokyo Gas have decided to continue with a feasibility study of a LNG-fired thermal power plant, which would be realized at the same location.

[Target output in Japan outside Kyushu]



## Retail electricity business outside Kyushu

- The wholly-owned subsidiary Kyuden Mirai Energy Co., Inc. has engaged in the retail electricity business in the Kanto area since FY2016.
- In June 2016 the JAL Mile Plan and in March 2018 the WAON Plan (AEON points) were introduced. In April 2019, the N Plan was introduced for all-electric households.

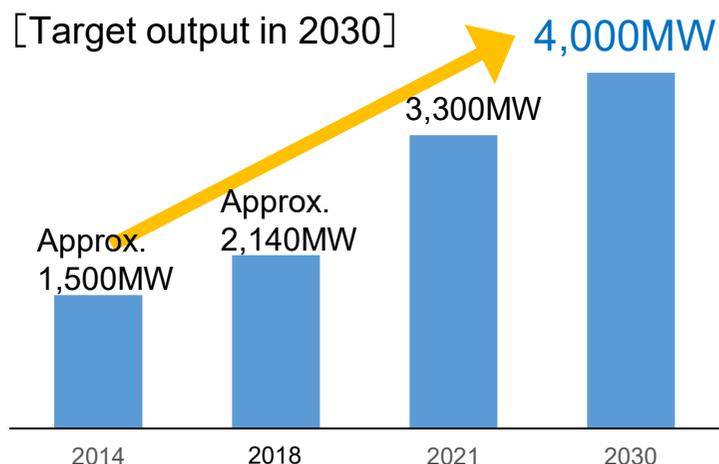
[Acquired customers in the Kanto area  
(as of the end of March 2019)]



Approx.  
12,900 customers

## Promotion of renewable energy business

- We have set approx. 4,000MW of output as a target in 2030 by promoting geothermal and hydroelectric power generation both in Japan and overseas.
- In order to respond to a wide range of needs from the local community, we have been in close coordination with group companies such as Kyuden Mirai Energy, which is in charge of renewable energy in general (investigation, planning to construction and operations), and West Japan Engineering Consultants (West JEC), which has first class technologies on the development of geothermal power generation.



## [List of Kyuden Group's renewable energy facilities]

(As of end of March 2019)

Solar 95MW

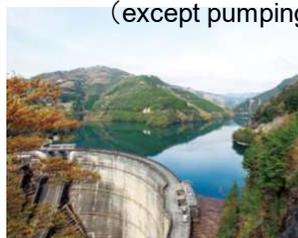


Wind 118MW

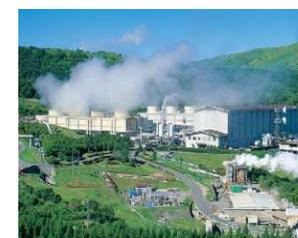


Hydro 1,283MW

(except pumping)



Geothermal 552MW



Biomass 90MW



## [Breakdown of new development]

Wind	+1,100MW
Geothermal	+800MW
Hydro	+200MW
Others	+400MW
<b>Total</b>	<b>+2,500MW</b>

\*1 Kyuden Mirai Energy Co.,Inc. \*2 Kushima Wind Hill Co.,Inc.

	Name	Prefecture	Output(MW)	Notes
Wind	Kushima wind*2	Miyazaki	64.80	Starting operation in October 2020 (scheduled)
	Karatsu Chinzei wind farm*1	Saga	27.20	Starting operation in FY2021 (Under environmental assessment)
	Experimental Study of Next Generation Offshore Floating Wind Power System*1	Fukuoka	3.00	Starting operation in May 2019 [Commissioned project in collaboration with NEDO] (November 2018~March 2022(Demonstration Phase))
	<b>sub total</b>		<b>95.00</b>	—
Geothermal	Otake	Ohita	14.50	Starting operation in December 2020 (scheduled) Update of existing facility (12.50MW→14.50MW)
	<b>sub total</b>		<b>14.50</b>	—
Hydro	Tsukabaru No.1~4	Miyazaki	66.60	Starting operation in May 2020 (scheduled) Update of existing facility (62.60MW→66.60MW)
	Shin-kosa	Kumamoto	7.20	Starting operation in July 2019 (scheduled)
	<b>sub total</b>		<b>73.80</b>	—
Biomass	【Outside Kyushu】 Shimonoseki-Biomass*1	Yamaguchi	74.98	Starting operation in FY2021 (scheduled)
	Buzen-biomass*1	Fukuoka	74.95	Starting operation in FY2019 (scheduled)
	【Outside Kyushu】 Nagano-biomass*1	Nagano	14.50	Starting operation in FY2020 (scheduled)
	Karita biomass*1	Fukuoka	74.95	Starting operation in FY2021 (scheduled)
	【Outside Kyushu】 Okinawa Uruma*1	Okinawa	49.00	Starting operation in FY2021 (scheduled)
	Fukuoka biomass*1	Fukuoka	5.70	Starting operation in FY2020 (scheduled)
	【Outside Kyushu】 Hirohata biomass*1	Hyogo	74.90	Starting operation in FY2023 (scheduled)
<b>sub total</b>		<b>368.98</b>	—	
Tidal	Tidal power generation technology commercialization project*1	Nagasaki	2.00	Expected in FY2016~FY2019 [in preparation] Area: Goto city , Nagasaki prefecture
	<b>Sub total</b>		<b>2.00</b>	—
<b>Total</b>			<b>554.28</b>	—

## E.ON SE and Kyuden Mirai Energy sign cooperation agreement for offshore wind projects in Japan

- Kyuden Mirai Energy is looking into the possibility of developing an offshore wind project in Hibiki area in Kitakyushu City, Fukuoka.
- In April 2019, the German energy company E.ON SE and Kyuden Mirai Energy signed a cooperation agreement to start a joint study into offshore wind projects in Japan (fixed bottom based).
- In Europe E.ON SE has implemented 1.8 GW offshore wind power projects so far.
- The companies will first look at the possibility of a wind park in the Kyushu area. The companies may consider expanding the partnership to other regions in Japan.

▼ Signing of the agreement



left: Anja-Isabel Dotzenrath (E.ON Climate & Renewables GmbH / CEO)  
right: Yasuji Akiyama, President & CEO of Kyuden Mirai Energy



### [Outline of E.ON SE]

Company name	E.ON SE
Location	Essen, Germany
Date of establishment	in 2000
Number of employees	43,000
Business	<ul style="list-style-type: none"> <li>· Network, Electricity retail sale</li> <li>· Renewable energy</li> <li>· Energy solution</li> </ul>