



## Section2 Business Update

# Table of Contents

■ For achievement of the Financial Targets ( Ordinary Income )	P27
□ Initiatives to securing competitive power sources	
Status of restart process of Genkai Nuclear Power Station	P28
Progress of construction of Matsuura unit No.2	P29
Initiatives to further improvement of thermal power plants availability	P30
□ Sales utilizing competitive power sources	
Initiatives to prevent losses of contracts and acquire electricity demand	P31
Initiatives to expand electricity demand	P32
□ Pursuing growth by actively developing growth business	
Commercial operation of all units of Sarulla Geothermal IPP Project in Indonesia	P33
Participation in Birdsboro Power Plant Business	P34
Commencement of commercial operation of Yamagawa Binary Power Station	P35
Further expansion of IT / Telecommunication service business	P36
■ Reference	P37

## Financial Targets (Announced on June, 2017)

<b>Shareholders' Equity Ratio</b>	<b>approx. 20%</b>	<b>At the end of FY2021</b>
<b>Ordinary Income</b>	<b>over 110 Billion yen</b>	<b>Average for FY2017 to FY2021</b>
<b>Investment for Growth</b>	<b>420 Billion yen</b>	<b>Cumulative total for FY2017 to FY2021</b>

With regard to ordinary income, we will aim for further increase by "Main Initiatives" as below.

(Billion yen)

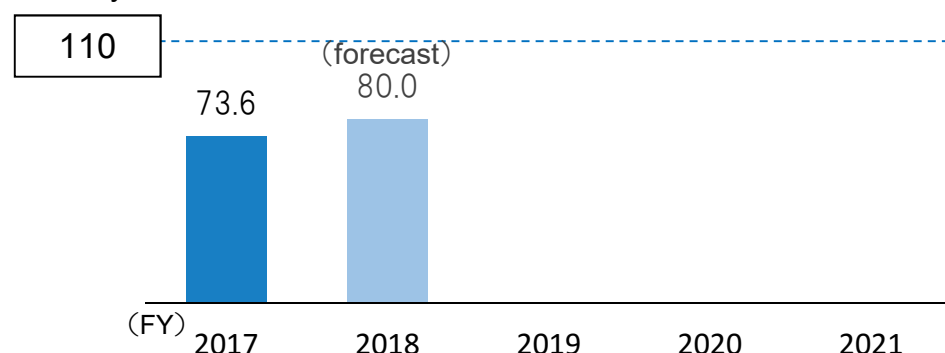
### 【 Main Initiatives 】

#### 〈Electricity Business〉

- Stable operation of four nuclear power stations
- Additional building of Matsuura unit No.2
- Sales utilizing competitive power sources  
(To prevent losses of contracts and acquire electricity demand)
- Thorough efficiency improvement

#### 〈Growth Business etc.〉

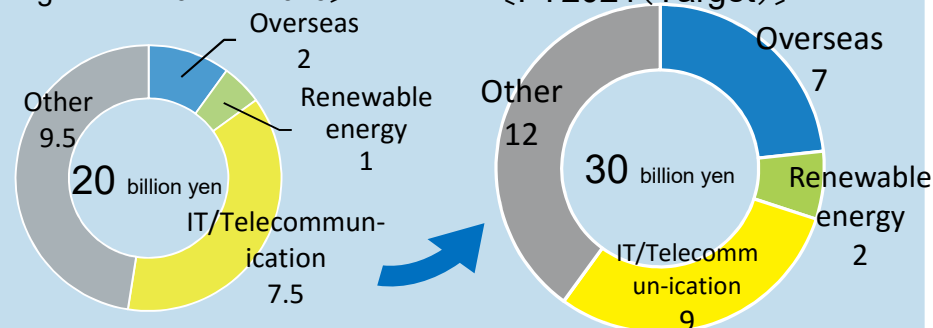
- Strengthening overseas business
- Strengthening renewable energy business
- Expansion of IT / Telecommunication business



### 【 Ordinary Income of Growth Business etc. 】

〔Average for FY2012 to 2016〕

〔FY2021 (Target)〕



【Initiative target year image】

~FY2017

FY2018

FY2019

FY2020

FY2021~

## Status of restart process of Genkai Nuclear Power Station

- Genkai nuclear power station unit No.3 started up on March 23 and restarted generating electricity on March 25. On March 30, we found minute steam leak from a facility in secondary system, and stopped generating on March 31. After checking and taking countermeasures, restarted generating electricity on April 18. Aiming for returning to commercial operation on May 16, we are dealing with the NRA's inspections.
- We had implemented fuel loading for Genkai Nuclear Power Unit No.4 from April 21 to 24. Aiming for startup, restarting generating electricity and returning to commercial operation, we are dealing with the NRA's inspections.

〔Schedule of restart process of Genkai nuclear power station〕

	2018 Feb.	Mar.	Apr.	May
N o . 3	2/16~20 Fuel Loading	3/23 ▼Startup 3/25 ▼Restart generating electricity	4/18 ▼Restart generating electricity	5/16 ▼Returning to commercial operation(planned)
		3/31 ▼Stop generating electricity		
N o . 4			4/21~24 Fuel Loading	▼Startup(planned) ▼Restart generating electricity(planned) ▼Returning to commercial operation(planned)

- Improving the financial conditions by the restart of Genkai No.3 and 4
- Aiming for stabilization of revenue by four nuclear power stations (Genkai and Sendai).

〔Nuclear Power Utilization Rate〕

(on 5 unit basis including Genkai unit No.2)

FY2018(A)	FY2017(B)	Difference(A-B)
73.4%※	36.7%	36.7%

※ Premise of financial forecasts for FY2018  
(Announced on April 27) (See page14)

## Progress of construction of Matsuura unit No.2

~FY2017

FY2018

FY2019

FY2020

FY2021~

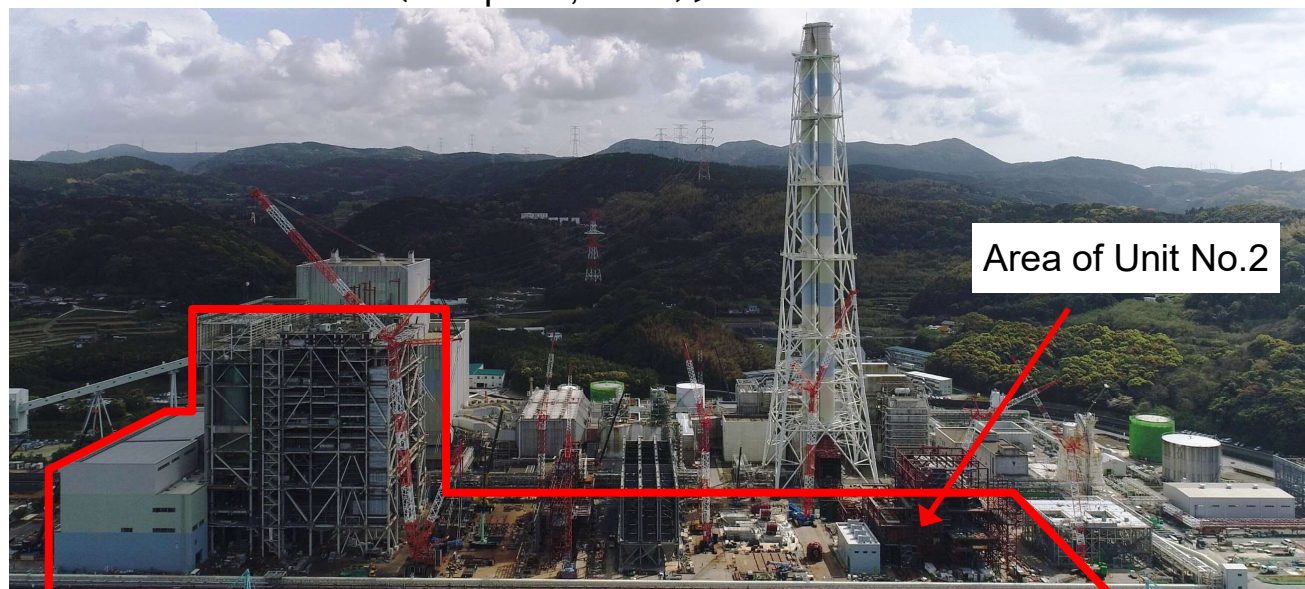
- We have endeavored to develop Matsuura unit No.2 with the latest technology, for securing a power source that has both competitiveness and reliability.
- We aim to reduce fuel consumption and environmental impact by adopting USC\* that is high efficiency technology.
- At the end of March 2018, progress rate of construction is 62.0%.

\*Ultra-super critical (USC): This is a highly efficient method of generating electricity that reduces environmental impact, boosting thermal efficiency by using steam under higher temperatures and pressures to generate electricity.

### 〔Outline of Matsuura Unit No.2〕

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

### 〔Panoramic photo of Matsuura Unit No.2( at April 4, 2018)〕



## Initiatives to further improvement of thermal power plants availability

~FY2017   FY2018   FY2019   FY2020   FY2021~

- In accordance with the revision of the Electricity Business Act in April 2017, thermal power stations certified as being engaged in advanced operation management (constant monitoring etc.), are allowed to extend statutory inspection intervals up to 6 years. (System S certification)
- We have been aiming for acquisition of System S certification of all thermal power stations since FY2017, and we will make an effort to enhance operation management and further improve availability on the premise of securing safety.

[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					→	inspection

[Status of acquisition of certification]

Power Station	Fuel	Examination	Certified	Power Station	Fuel	Examination	Certified
Reihoku	Coal	June 2017	July 2017	Karita	Coal	Mar. 2018	pending
Shin-Oita	LNG	Nov. 2017	Jan. 2018	Shin-Kokura	LNG	May 2018 (planned)	—
Sendai	Heavy Crude Oil	Jan. ~ Feb. 2018	Mar. 2018	Matsuura	Coal	June 2018(planned)	—

▼ Constant monitoring at thermal power plant





## Initiatives to prevent losses of contracts and acquire electricity demand

~FY2017	FY2018	FY2019	FY2020	FY2021~
---------	--------	--------	--------	---------

- We continue to proactively engage in initiatives to meet directly with customers, and promote economical all-electric service and electricity and gas bundling.

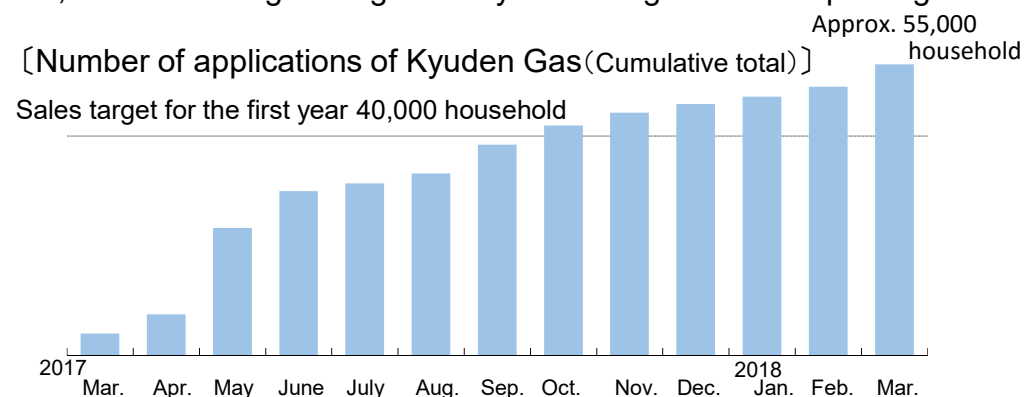
### ▼ IH Cooking Class at cooking studio



### ▼ Promotion of "Kyuden Gas" at shopping mall



- With regard to retail gas sales started in April 2017, we provide in city gas service area of Fukuoka and Kitakyushu district, and we achieved in half a year 40,000 sales targets for the first year. (as of the end of March 2018 approx.55,000 sales)
- We are considering initiatives to acquire more contracts, such as strengthening sales system of agents and improving services including safety aspects.



~FY2017

FY2018

FY2019

FY2020

FY2021~

## Initiatives to expand electricity demand

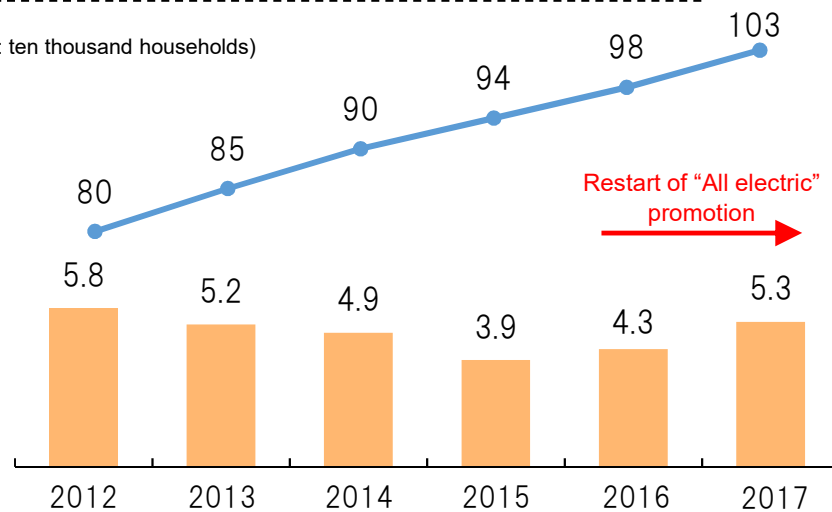
- We promote proposal activities for the spread of “all-electric”. We introduced “all-electrification demonstration vehicle” since November 2017, and are visiting more customers for promoting merit of all-electric widely.
- As of the end of March 2018, cumulative total of “All-electric” household is 1,030 thousand households.

### [The number of contracts of “All-electric”]

Bar graph /the number of “All-electric” household (in each FY)

Line graph /Cumulative total of “All-electric” household (at the end of FY)

(Unit : ten thousand households)



### ▼ Announcement event of all-electrification demonstration vehicle



## Reference the retail electricity business in Kanto area

- In April 2016, wholly-owned subsidiary Kyuden Mirai Energy launched retail electricity sales in Kanto area since April 2016. (Acquired approx. 6,700 customers at the end of March 2018)
- In addition to existing “Basic plan” and “JAL mile plan”, applications for “WAON plan” for earning WAON points are accepted since March 2018.

＼しかも！電気代100円ごとに／

**2 WAONポイント**

がたまる！



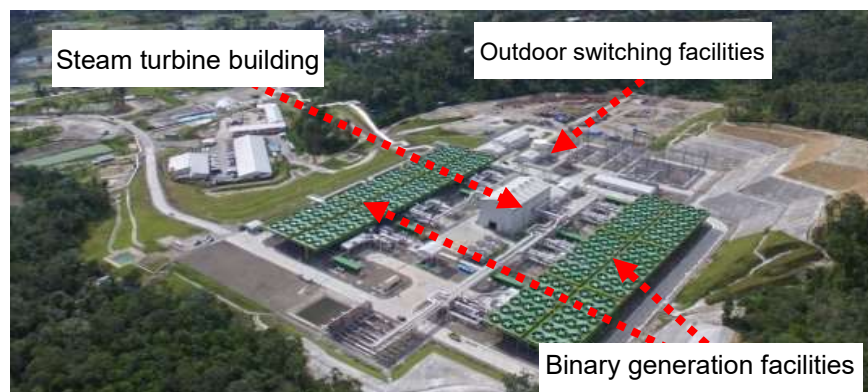


## Commercial operation of all units of Sarulla Geothermal IPP Project in Indonesia

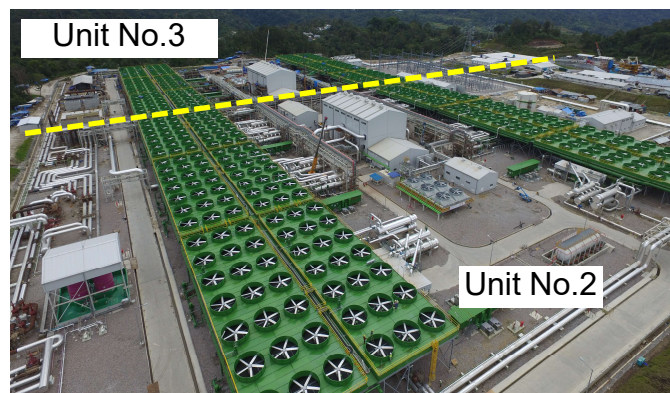
~FY2017 FY2018 FY2019 FY2020 FY2021~

- In May 2018, the third unit of Sarulla Geothermal IPP Project in Indonesia, one of the world's largest geothermal power plants, commenced commercial operation. As a result, all units of the project have become in commercial operation. (Total capacity came to approximately 330MW)
- We have an electricity sales contract for 30 years with EPCO owned by Indonesia government, so stable profits are expected.

### [Unit No.1]



### [Unit No.2/Unit No.3]



### [Outline of Sarulla geothermal IPP Project]

<b>Location</b>	Sarulla area, the north of Sumatra island, Indonesia
<b>Business Outline</b>	<ul style="list-style-type: none"> <li>▪ Total development from geothermal resources development to generation</li> <li>▪ Electricity sales contract with EPCO owned by Indonesia government for 30 years</li> </ul>
<b>Output</b>	Approx. 330MW (3 units)
<b>Investment Ratio</b>	25%
<b>Start of Operation</b>	Unit No.1 : March 2017 Unit No.2 : October 2017 Unit No.3 : May 2018

## Participation in Birdsboro Power Plant Business

~FY2017

FY2018

FY2019

FY2020

FY2021~

- We, as its first power generation business in the United States, will acquire an indirect 11.1% equity stake in Birdsboro Power Plant which is currently under construction.
- The plant is expected to start commercial operation in 2019, and we continue to engage in monitoring properly construction progress etc.

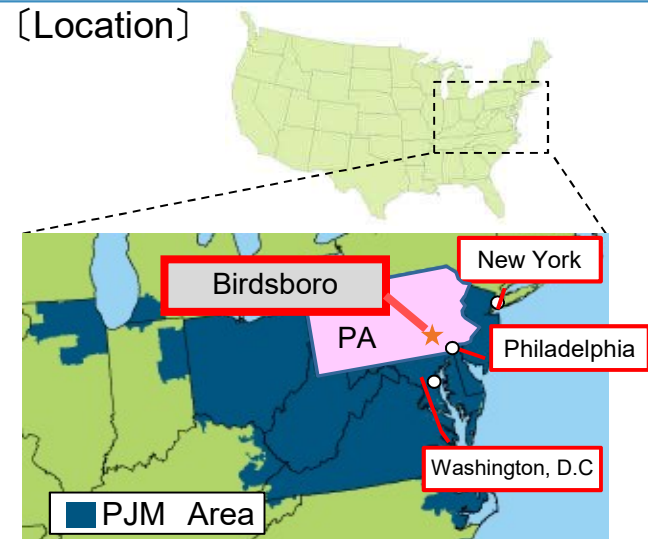
### 〔Outline of the project〕

<b>Location</b>	Birdsboro, Berks County, Pennsylvania (U.S.)
<b>Business Outline</b>	Selling electricity to wholesale power market with gas combined cycle power generation system
<b>Output</b>	488MW
<b>Supply</b>	PJM (PJM Interconnection LLC)
<b>Investment Ratio</b>	11.1%
<b>Start of operation</b>	2019(planned)

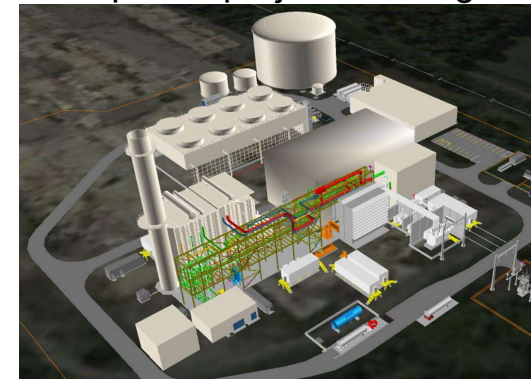
### 〔Birdsboro Power Plant(Under construction)〕



### 〔Location〕



### 〔Completed projection image〕



## Commencement of commercial operation of Yamagawa binary power station

~FY2017

FY2018

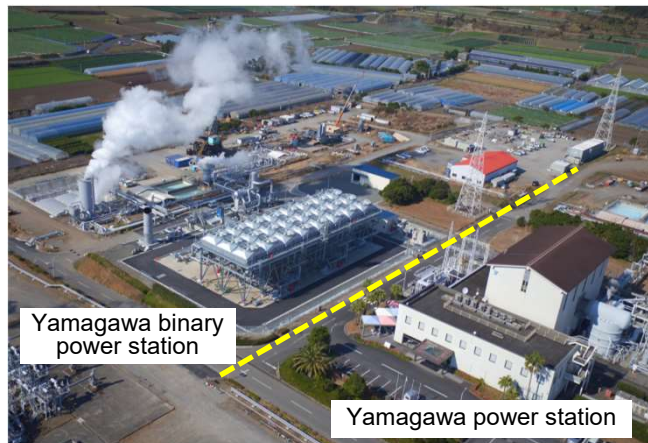
FY2019

FY2020

FY2021~

- In February 2018, Our wholly-owned subsidiary, Kyuden Mirai Energy Co., Inc., has commenced commercial operation of the Yamagawa binary power station at the Yamagawa power station of our geothermal power station.
- This power station adopts the geothermal binary system effectively utilizing hot water returned to the underground that Yamagawa power station can not use for power generation, and utilizing a special liquid medium with a lower boiling point than water.

### [Full view of the power station]

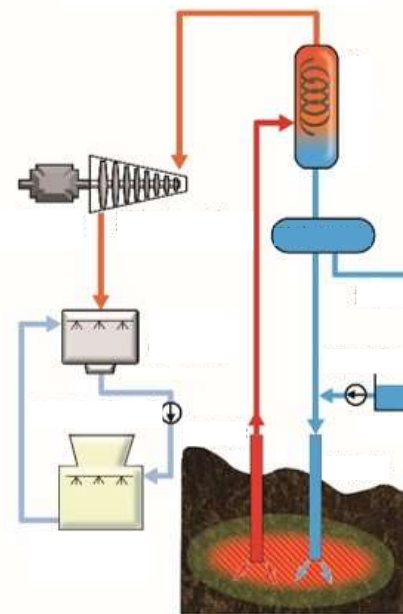


### [Outline of the Project]

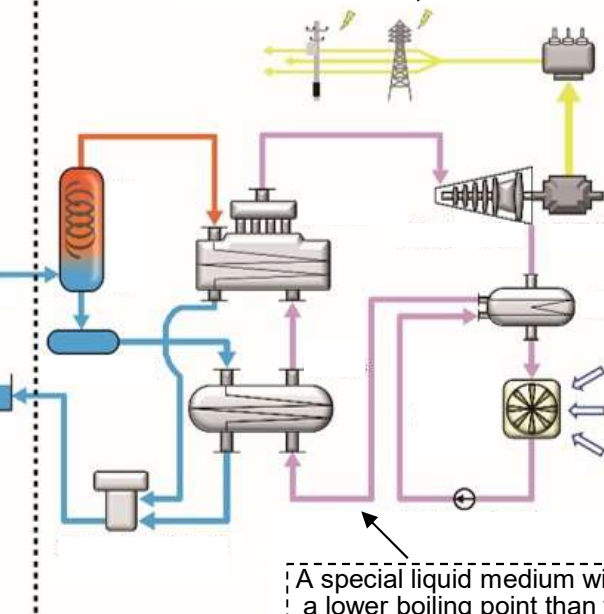
<b>Location</b>	Ibusuki city, Kagoshima prefecture
<b>Company</b>	Heat Supplier: Kyushu Electric Power Power generation company: Kyuden Mirai Energy
<b>Out put</b>	4.99MW (generating-end)
<b>Start of operation</b>	February 2018

### [Flow of generating electricity]

Yamagawa power station system flow (Kyushu Electric Power Co.)



Yamagawa binary power station system flow (Kyuden Mirai Energy Co.)



A special liquid medium with a lower boiling point than water



## Further expansion of IT / Telecommunication service business

~FY2017

FY2018

FY2019

FY2020

FY2021~

- Our wholly-owned subsidiary, QT net Co., is providing various IT/Telecommunication service businesses including corporate telecommunication service business and optical broadband business for household.
- It has started smartphone service "QT Mobile" since March 2017. Aiming for a contract acquisition target of 100,000 lines at the end of FY2019, it set up 4 stores in Kyushu and is promoting sales activities.
- We will further expand IT/Telecommunication service business by entering new fields such as "IoT" and "AI".



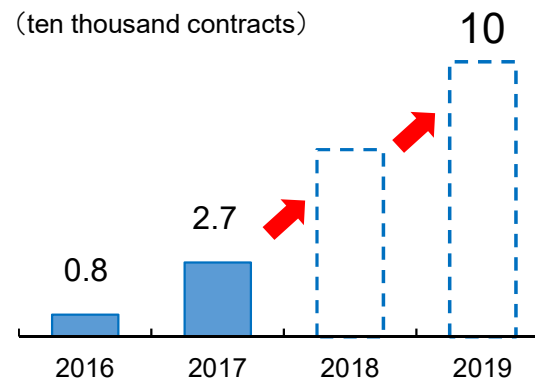
### 〔Example of service for corporate 「QT PRO VLAN」〕

- Providing a more comfortable sending and receiving date environment between related companies such as head office and branch offices by connecting multiple bases using a network with QT's own communication technology
- Construct a high security closed network without unauthorized access from the outside
- Providing actual more than 7,000 lines to a wide range of industries such as government agencies / municipalities, finance, manufacturing, information processing



### 〔Contract of QT Mobile (at the end of FY)〕

(ten thousand contracts)



### 〔QT Mobile Stores〕

Fukuoka Tenjin store
Kitakyushu Kokura store
Kagoshima store
Kumamoto store



## Reference

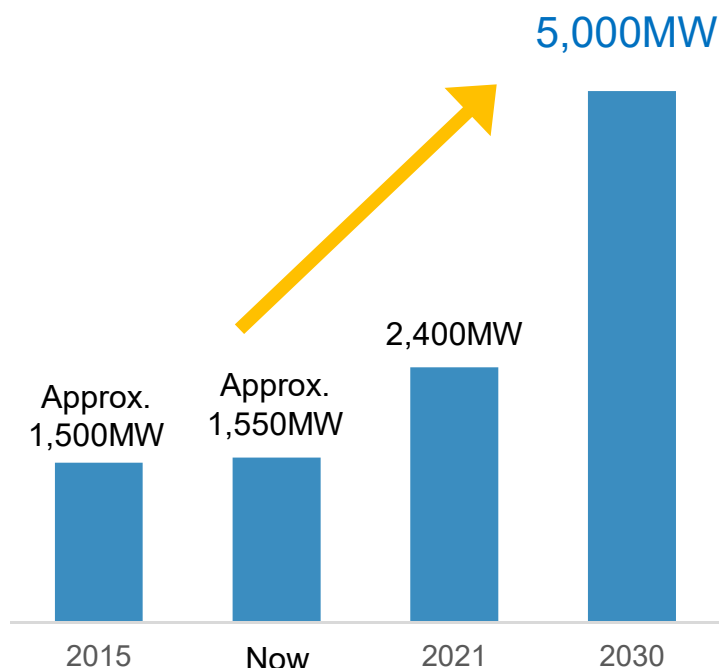
Overseas energy Business	P37
Energy Business in Japan outside Kyushu	P39
Renewable energy business	P40
ESG (Environment, Society, Governance) Topics	P43
Direction of spin-off the General Power Transmission and Distribution Business associated with Legal Unbundling	P44



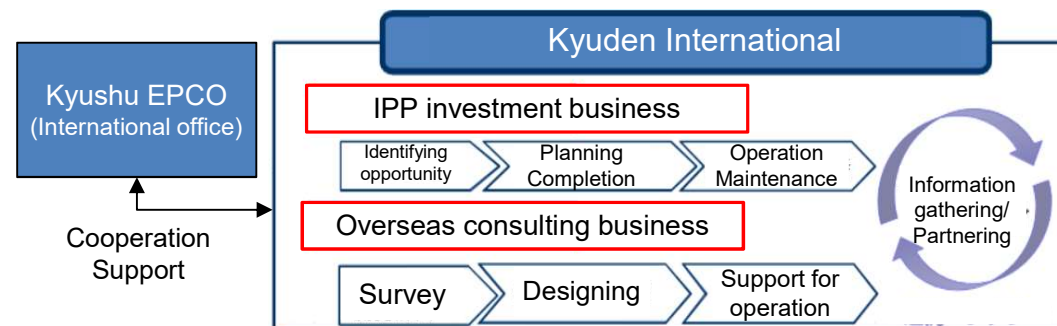
## Overseas energy business

- Our group reviewed the overseas energy business promotion structure in April 2017. Since then, 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 will proactively promote development in key fields such as gas-thermal, coal-thermal and geothermal mainly in Asia, in which the electricity demand is expected to expand and also in anticipation of the enlargement of our business field. This is how we aim for 5,000MW equity ownership in electricity output in 2030.

### Target Equity Ownership in 2030



### Overseas Energy Business Promotion System

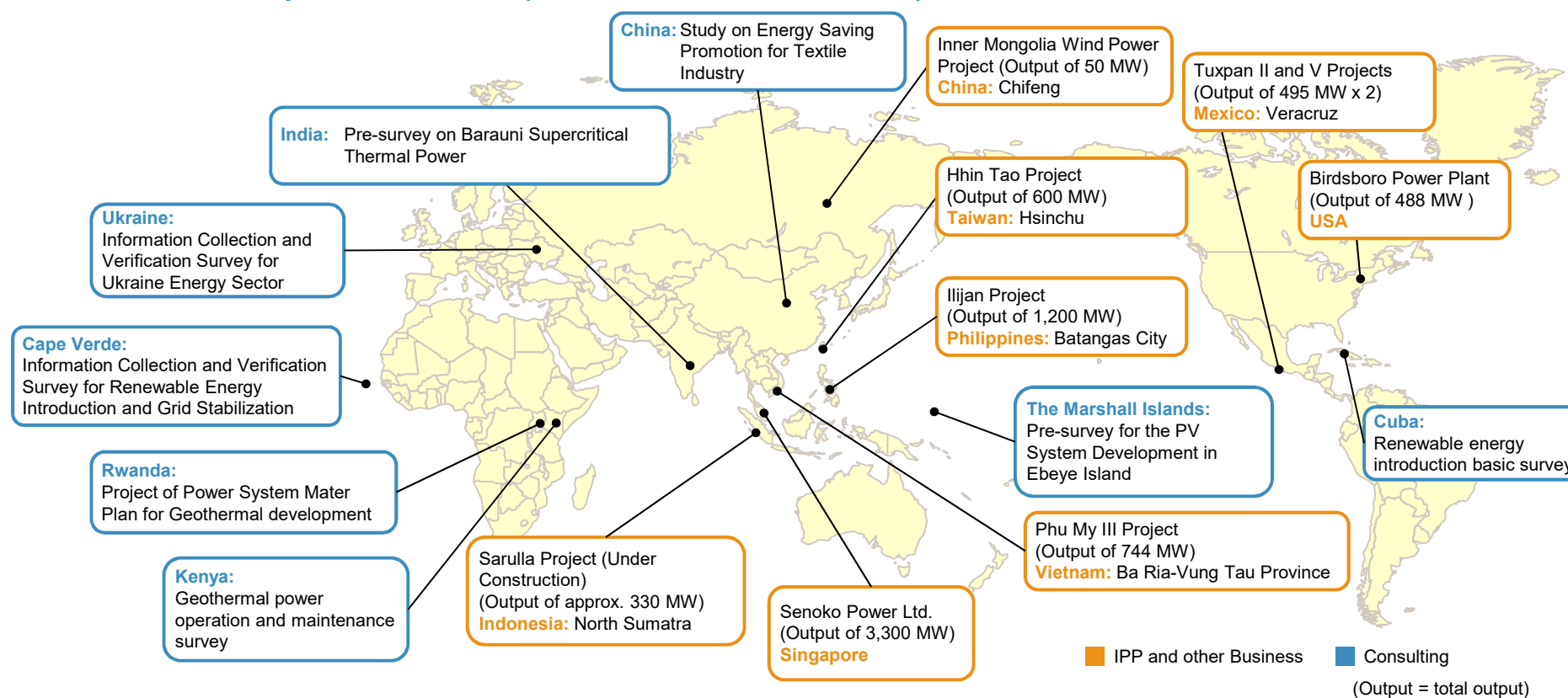


### Outline of Kyuden International Co., Inc.



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

## Business Development Overseas (as of the end of March 2018)



## Ongoing Projects in Overseas Energy Business

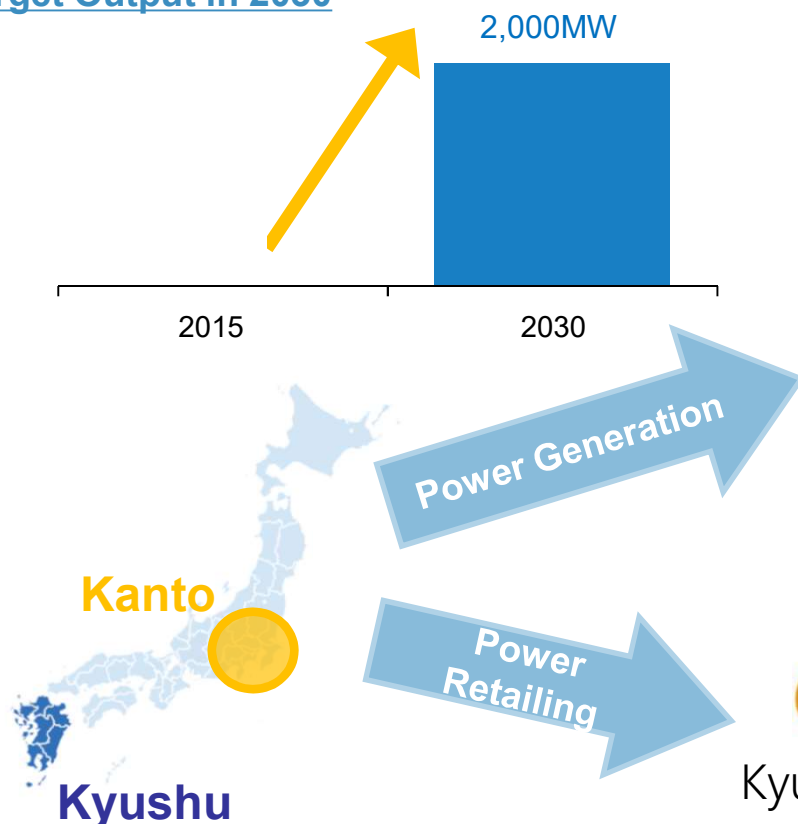
Projects	Mexico /Tuxpan II	Philippine /Ilijan	Vietnam /Phu My III	Mexico /Tuxpan V	Singapore /Senoko Power	China /Inner Mongolia Wind Power	Taiwan Hsin Tao Power	Indonesia / Sarulla Unit 1,2
<b>Resources</b>	Gas	Gas	Gas	Gas	Gas/Oil	Wind	Gas	Geothermal
<b>Start of Operation / Investment</b>	Dec. 2001 (Operation)	Jun. 2002 (Operation)	Mar. 2004 (Operation)	Sep. 2006 (Operation)	Sep. 2008 (Investment)	Sep. 2009 (Operation)	Oct. 2010 (Investment)	Mar. 2017 (Operation) Oct. 2017 (Operation)
<b>Equity Ratio</b>	50%	8%	26.7%	50%	15%	29%	33.2%	25%
<b>Equity Ownership (Total:1,553MW)</b>	248MW	96MW	199MW	248MW	495MW	15MW	199MW	53MW <sup>※</sup>

※ The unit No.3 has commenced commercial operation since May, 2018. The total equity ownership of No.1, 2 and 3 became to approx. 83MW (See page 33 page).

## Energy Business in Japan outside Kyushu

- We have reached an agreement with Idemitsu Kosan Co., Ltd. and Tokyo Gas Co., Ltd. to form an alliance to carry out studies for a joint development of a coal-fired power plant. As a result, we established Chiba-Sodegaura Energy Co., Ltd. (CSE) in May 2015.
- Regarding environmental assessment, CSE received examination results (not required a recommendation) for “Document Concerning Environmental Impact Assessment” from METI in July 2016. Subsequently, CSE implemented survey of existing conditions (from October 2016 to September 2017), and is preparing “Draft Environmental Impact Statement”.
- In parallel with the environmental assessment, CSE is considering the business schemes based on the use of project finance as well as technologies of power generation facilities.
- Our wholly-owned subsidiary, Kyuden Mirai Energy Co., Inc., has engaged in the retail electricity business in Kanto area since FY2016.

### Target Output in 2030



System	Ultra-super critical (USC) power generation
Output	Unit 1: 1,000MW Unit 2: 1,000MW
Fuel	Coal (biomass co-firing is also under consideration)
Start of Operation	Unit 1: FY 2025 [Scheduled] Unit 2: FY 2026 [Scheduled]



Kyuden Mirai Energy

Acquired approx. 6,700 customers

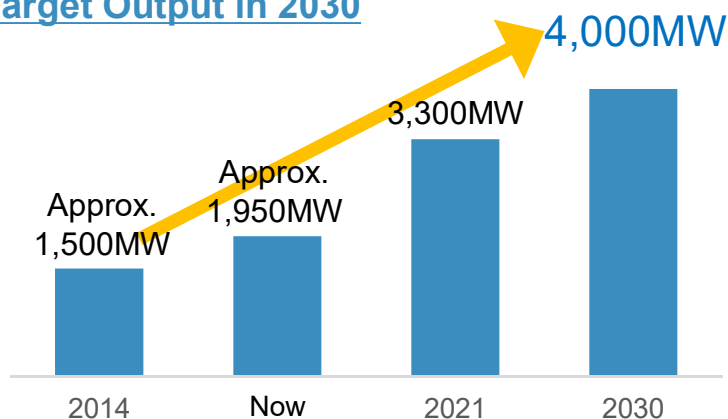
(At the end of March 2018)

(target: 10,000)

## Renewable Energy Business

- We have set approx. 4,000MW of output as a target in 2030 by promoting geothermal and hydroelectric power generation both inside and outside Japan.
- We have developed geothermal power generation with our group companies such as West Japan Engineering Consultants (West JEC), which has eminent technologies.
- The consortium composed of Kyuden Mirai Energy Co., Inc., and other four companies has started studying possibility for commercialization of an offshore wind power system off the coast of Kitakyushu city since June 2017.

### Target Output in 2030



### List of Kyuden Group's Renewable Energy Facilities

#### Solar 90MW

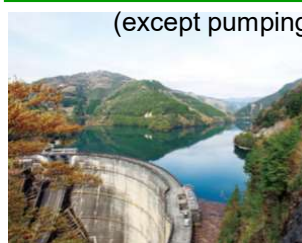


#### Wind 120MW

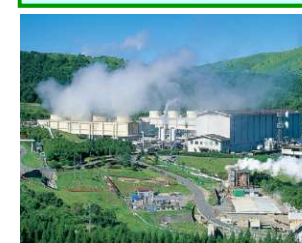


#### Hydro 1,280MW

(except pumping)



#### Geothermal 430MW



#### Biomass 40MW



(At the end of April 2018)

### Breakdown of New Development

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

## Development plan of renewable energy

(At the end of April 2018)

	Name	Prefecture	Output (MW)	Notes
Solar	Valley of wind, Taiwan	—	4.00	Starting operation in September 2018 (Scheduled)
	Valley of trees, Taiwan	—	1.10	Starting operation in April 2018
	Sub total		5.10	
Wind	Kushima Wind Hill	Miyazaki	64.80	Starting operation in October 2020 (Scheduled)
	Karatsu Chinzei Wind Farm	Saga	28.00 (Maximum)	Starting operation in 2022 (Scheduled) [Under environmental assessment]
	Experimental Study of Next Generation Offshore Floating Wind Power System	Fukuoka	3.00	From 2014 to 2017(Scheduled) [Commissioned project in collaboration with NEDO]
	Sub total		95.80	—
Geothermal	Otake	Oita	2.00	Timing of starting operation undecided Update of existing facility (12.5→14.5MW)
	Sarulla, Indonesia (III)	—	107.70	Starting operation in May 2018 (Scheduled)
	Sub total		109.70	—
Hydro	Tsukabaru	Miyazaki	4.00	Unit 1: Starting operation in April 2019 (Scheduled) Unit 2: Starting operation in May 2019 (Scheduled) Unit 3 & 4: Decommissioned Unit 5: Remained (63.05→67.05MW)
	Shin-Kosa	Kumamoto	7.20	Starting operation in July 2019 (Scheduled)
	Kamoshishi	Kumamoto	1.99	Starting operation in August 2018 (Scheduled)
	Sub total		13.19	—
Biomass	Shimonoseki-Biomass	Yamaguchi	74.98	Starting operation in 2021 (Scheduled)
	Buzen-Biomass	Fukuoka	74.95	Starting operation in 2020 (Scheduled)
	Soyano Wood Power	Nagano	14.50	Starting operation in 2020 (Scheduled)
	Nanatsujima Biomass Power	Kagoshima	49.00	Starting operation in 2018 (Scheduled)
	Sub total		213.43	—
Tidal	Tidal power generation technology commercialization project	Nagasaki	2.00	Expected in 2016 – 2019 [Governmental competitive budget program by Ministry of the Environment]
Total			439.220	—



### Cases under resources investigation regarding renewable energy

(At the end of April 2018)

	Area	Prefecture	Starting schedule	Contents of study
Wind (offshore)	Hibikinada in Kitakyushu	Fukuoka	2017	Investigation of wind, ocean and ground Environmental assessment Basic design of generating facilities
Geothermal	The south of Yamashita pound	Oita	2017	Investigation of the earth's surface Monitoring of hot springs
	Sobetsu town, Oukei	Hokkaido	2016	Investigation of the earth's surface (technical support for Sobetsu town)
	Ibusuki	Kagoshima	2015	Investigation of the earth's surface (technical support for Ibusuki city) *Project has been suspended since October 2016
	Minamiaso village	Kumamoto	2015	Preparation for drilling of wells for investigation Monitoring of hot springs
	The north of Hiijidake	Oita	2013	Drilling of wells for investigation Monitoring of hot springs

## Environment

Winning Minister of Economy, Trade and Industry Award at the 27th Global Environment Awards sponsored by the Fujisankei Communications Group

- We won the Minister of Economy, Trade and Industry Minister Award in February, 2018.
- The reason for winning is that we have actively developed renewable energy sources and preserved the environment in cooperation with local people.



▲ Chairperson Masayoshi Nuki (left, foreground)

## Social

Recognized “the 2018 Certified Health & Productivity Management Outstanding Organizations Recognition Program (the large enterprise category)”

- We are recognized for the 2018 Certified Health & Productivity Management Outstanding Organizations Recognition Program (the large enterprise category)” in February, 2018.
- The reason for the recognition is our initiatives to promote employees’ health on both mental and physical aspects, including personal interviews with all employees by employee health nurses.
- Taking this recognition, we established "Kyushu Electric Power's Health Declaration" in April 2018.

"Kyushu Electric Power will create a company where all employees are healthy both mentally and physically, and can work vigorously."



## Governance

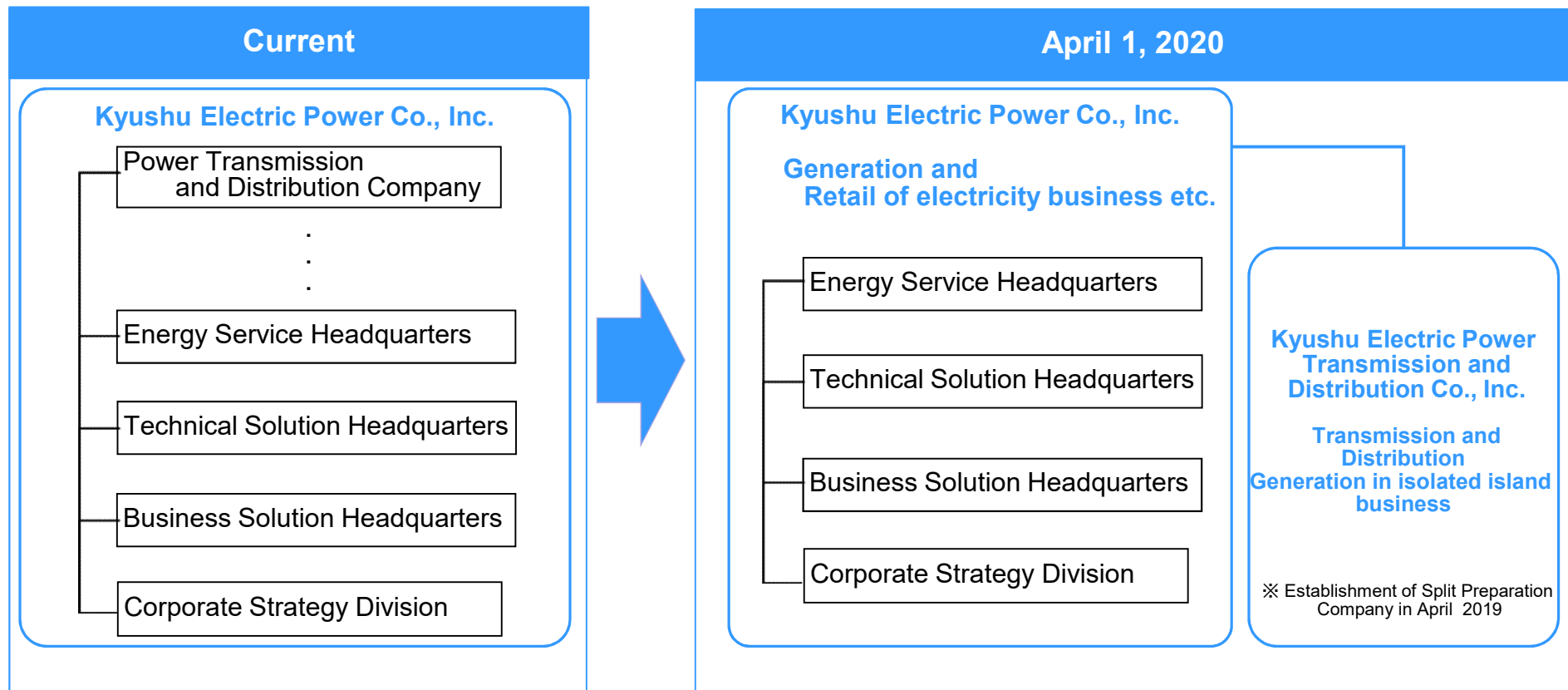
Transition to a Company with an Audit & Supervisory Committee

- We have concluded transition to a company with an Audit & Supervisory subject to the approval at the 94th general shareholders' meeting scheduled in June 2018.
- We aim to enhance supervisory function of the Board of Directors with members of the Audit & Supervisory Committee holding voting rights at the Board of Directors. And we also aim to expedite decision-making through delegating authority from the Board to directors.

## Direction of spin-off the General Power Transmission and Distribution Business associated with Legal Unbundling

- We will conduct studies as a basic plan about spinning off the general power transmission and distribution business and establishing a power transmission and distribution company as a 100 percent-owned subsidiary under a holding company, which has corporate functions as well as generation and retail of electricity businesses. This is in order to respond to legal unbundling in April 2020 and ensure the neutrality of power transmission and distribution department more than ever.

[Direction of studies toward Legal Unbundling (Image)]





For more information, please contact:

Investor Relations Group

Corporate Strategy Division

KYUSHU ELECTRIC POWER CO.,INC.

TEL : +81 92 726 1575

FAX : +81 92 733 1435

URL : [http://www.kyuden.co.jp/en\\_ir\\_index](http://www.kyuden.co.jp/en_ir_index)

#### Note Regarding Forward-looking Statements

Statements made in this material regarding Kyushu Electric Power Group's strategies and forecasts and other statements that are not historical facts are forward-looking statements based on management's assumptions and beliefs in light of information currently available, and should not be interpreted as promises or guarantees.

Owing to various uncertainties, actual results may differ materially from these statements.

Shareholders and investors are hereby cautioned against making investment decisions solely on the basis of forward-looking statements contained herein.