# Presentation Materials for Investors 3rd Quarter FY2016

February, 2017



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01

# Outline of Financial Results for Nine-Months ended December 31, 2016

Note: The Company's fiscal year (FY) is from April 1 to March 31 of the following year. FY2016 represents the fiscal year begun in April 1, 2016, and ended in March 31, 2017. 3<sup>rd</sup> Quarter(3Q) represents nine months period ended December 31, 2016.

#### Summary of Financial Results <1>



- Operating revenues (Consolidated and Non-consolidated) decreased for two consecutive years since 2015/3Q,
- Ordinary income (Consolidated and Non-consolidated) decreased following 2013/3Q, for the first time in 3 years.
   (We posted a deficit in 2013/3Q.)
- We recorded decreased sales and profit following 2005/3Q for the first time in 11 years.

		Rounded down to ne	ear <u>est 100 million yen.</u>	(Billion yen,%)
[Consolidated]	2016/3Q	2015/3Q	Change	
	(A)	(B)	(A-B)	(A-B)/B
Operating revenues	1,898.7	2,126.4	(227.7)	(10.7)
Operating income	168.0	237.9	(69.8)	(29.4)
Ordinary income	157.4	215.3	(57.8)	(26.9)
Net income attributable to owners of parent	141.4	151.6	(10.2)	(6.8)

<sup>\*</sup>The number of consolidated subsidiaries [change from the same period of the previous year in parenthesis] 2016/3Q: 29 subsidiaries (-22 companies), 24 affiliates accounted for under the equity method (-17 companies)

[Non Consolidated]		Rounded down to nea	arest 100 million yen.	(Billion yen,%)
[Non-Consolidated]	2016/3Q	2015/3Q	Chang	e
	(A)	(B)	(A-B)	(A-B)/B
Operating revenues	1,755.5	1,979.8	(224.3)	(11.3)
Operating income	155.3	222.8	(67.4)	(30.3)
Ordinary income	143.5	198.5	(55.0)	(27.7)
Net income	104.0	141.5	(37.5)	(26.5)

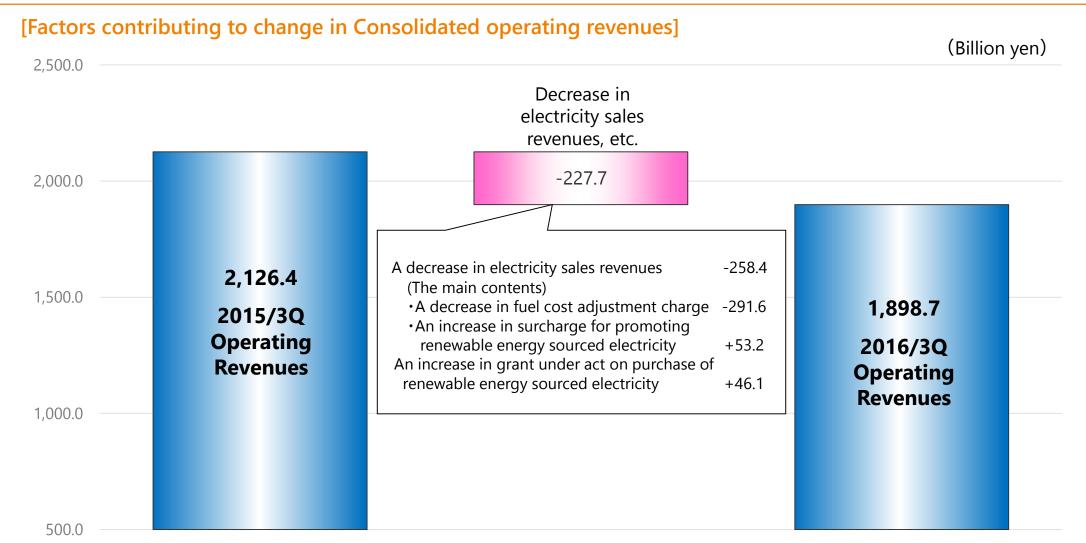
[Principal Figures]		2016/3Q	2015/3Q	Change	
		(A)	(B)	(A-B)	
Electricity sales volume	(TWh)	89.3	89.7	(0.4)	
CIF price: crude oil	(\$/b)	44.9	54.6	(9.7)	
FX rate (interbank)	(yen/\$)	106.6	121.7	(15.1)	
Nuclear power utilization rate	(%)	-	-	-	

<sup>\*</sup> CIF crude oil price for 3Q of FY 2016 is tentative.



#### **(Consolidated operating revenues)**

Operating revenues decreased by 227.7 billion yen compared with 2015/3Q, mainly due to a decrease in electricity sales revenues resulting from a decrease of fuel cost adjustment charge.



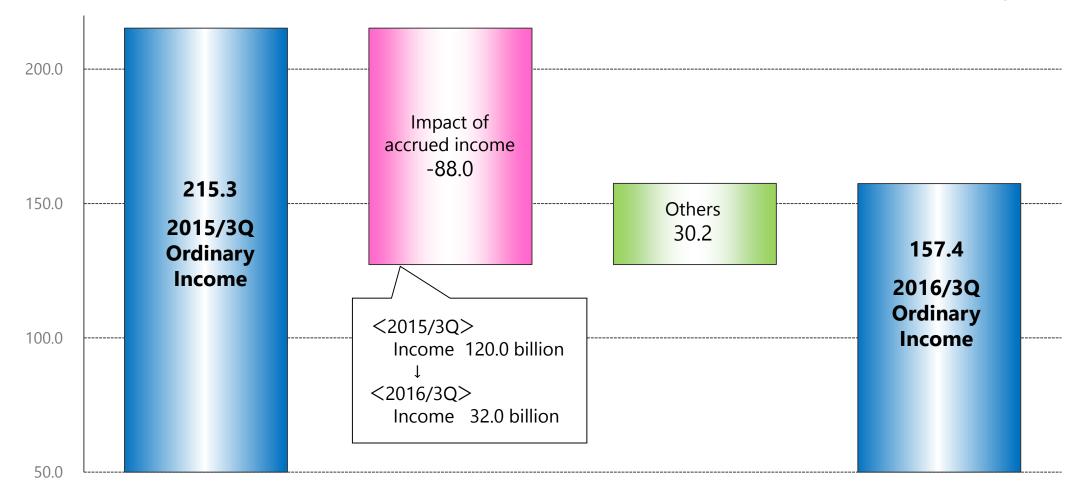


#### **(Consolidated ordinary income)**

Consolidated ordinary income decreased by 57.8 billion yen compared with 2015/3Q, mainly due to a reduction of accrued income incurred by fuel cost adjustment system and a decrease in fuel cost, affected by the fall of fuel price.

#### [Factors contributing to change in Consolidated ordinary income]

(Billion yen)





#### < Electricity Sales Volume >

- Amounted to 89.3TWh, almost the same as in 2015/3Q, mainly due to a rebound of an increase in electricity sales
  volume in the previous fiscal year accompanied by a decrease in operation of private power generation, in spite of an
  increase in air conditioning demand by warmer temperature in this summer.
- Low voltage: Increased by 1.1% to 26.7TWh, compared with 2015/3Q, mainly due to an increase in air conditioning demand by warmer temperature in this summer, in spite of customer's power saving effect.
- High voltage Extra-high voltage : Dropped by 1.0% to 62.6TWh, compared with 2015/3Q, mainly due to a rebound of an increase in electricity sales volume in the previous fiscal year accompanied by a decrease in operation of private power generation, in spite of an increase of production in the automobile and semiconductor industry.

(TWh,%) 2016/3Q 2015/3Q Change (A) (B) (A-B)(A-B)/B26.7 Low voltage 26.4 0.3 1.1 Electricity High voltage • Sales Extra-high voltage 62.6 63.3 (0.7)(1.0)Volume Total 89.3 89.7 (0.4)(0.4)

#### **Generated and Received Power**



#### <Generated and Received Power>

- Hydro: The flow rate fell short of the year-before period; thus hydroelectric power output decreased by 0.4TWh.
- Interchanged, purchased Power: Decreased by 1.3TWh, mainly due to an increase in electricity sales volume to power exchange.
- Thermal: As a result above, thermal power output increased by 1.9TWh.

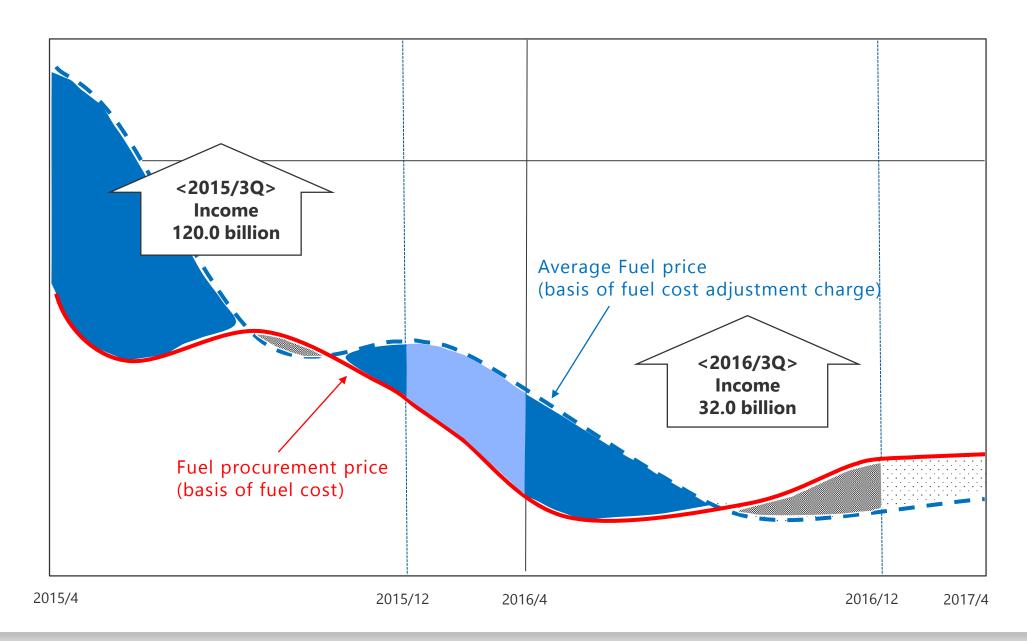
(TWh,%)

						(1 **11/70)
			2016/3Q	2015/3Q	Chan	ge
			(A)	(B)	(A-B)	(A-B)/B
		Hydro	7.0	7.4	(0.4)	(5.0)
		<flow rate=""></flow>	<101.0>	<114.4>	<(13.4)>	
Generated and Received Internally generated and Received Internally Thermal Nuclear <utilization rate=""></utilization>	Thermal	79.8	77.9	1.9	2.4	
	Nuclear	(0.2)	(0.2)	0.0	(4.0)	
	<utilization rate=""></utilization>	<->	<->	<->		
Power(*1)		Renewable energy	0.0	0.1	(0.1)	(34.9)
	Interchange	ed, Purchased power(*2)	7.8	9.1	(1.3)	(14.4)
	Power used	for pumped storage	(0.8)	(0.5)	(0.3)	69.6
	:	Total	93.6	93.8	(0.2)	(0.1)

<sup>\*1</sup> From FY2016, the amount of power at the sending end has been mentioned as the amount of internally generated power. Change in the amount of power is calculated by converting the figure from the previous year to the sending end value.

<sup>\*2</sup> Interchanged, Purchased power represent power output that we grasp at the end of the 2016/3Q.





#### Summary of Forecast for FY2016 <1>



#### **(Forecast)**

#### Forecasts of Financial Results have not been revised from the previous announcement made in October 28, 2016.

- Operating revenues (consolidated and non-consolidated) have not changed.
- Ordinary income (consolidated and non-consolidated) have not changed mainly due to an expansion of hydroelectric power output and further improvement of our management efficiency, in spite of a reduction of accrued income incurred by fuel cost adjustment system and a decrease in fuel cost.

#### **(Consolidated)**

(Features of consolidated financial results)

- Operating revenues will decrease for 2 consecutive years since FY2015.
- Ordinary income will decrease following FY2013, for the first time in 3 years. [declining income]

(Billion yen,%) October 28 Change Current (A-B) (A-B)/BOperating revenues 2,590.0 2,590.0 Operating income 145.0 145.0 Ordinary income 125.0 125.0 Net income attributable to owners of parent 115.0 115.0

#### **(Non-Consolidated)**

(Features of non-consolidated financial results)

- Operating revenues will decrease for 2 consecutive years since FY2015.
- Ordinary income will decrease following FY2013, for the first time in 3 years. [declining income]

				(21111011)
	Current	October 28	Cha	ange
	(A)	(B)	(A-B)	(A-B)/B
Operating revenues	2,360.0	2,360.0	_	-
Operating income	125.0	125.0	_	-
Ordinary income	105.0	105.0	_	-
Net income	75.0	75.0	_	-



#### **[Principal Figures]**

(TWh,%)

(Flactricity calos valuma)	Current	October 28	Cha	nge
(Electricity sales volume)	(A)	(B)	(A-B)	(A-B)/B
Low voltage	38.5	38.5	_	-
High voltage • Extra-high voltage	82.9	82.9	-	
Total	121.4	121.4	-	-

(Other principal figures)		Current	October 28
CIF price: crude oil	(\$/b)	approx. 47	approx. 47
FX rate	(yen/\$)	approx. 109	approx. 105
Nuclear power utilization rate	(%)	-	-

			(Billion yen)	
(Income sensitivity)		Current	October 28	
CIF price: crude oil	(1\$/b)	8.0	8.0	*1,
FX rate	(1yen/\$)	4.5	4.5	*1
Flow rate	(1%)	0.5	0.5	
Interest rate	(1%)	5.0	5.0	

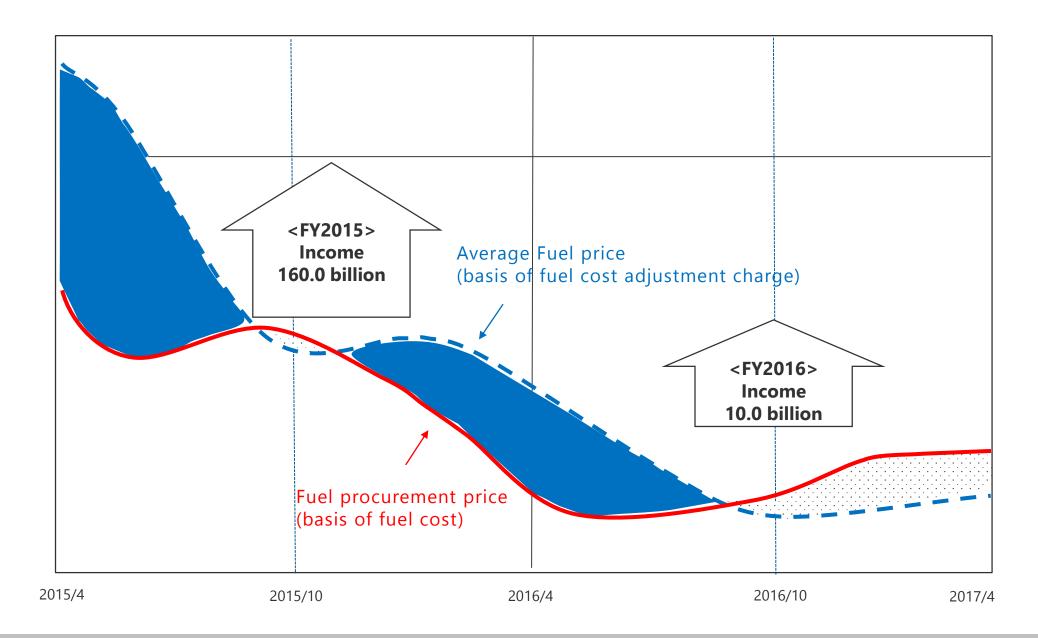
<sup>1,2</sup> 

<sup>\*1</sup> These figures represent income sensitivity for fuel expenses. Fluctuation of CIF price (crude oil) and FX rate will be reflected in sales revenue, in cases where average fuel price fluctuates and fuel cost adjustment system will be applied.

<sup>\*2</sup> The impact value of crude oil price includes the impact of LNG price because LNG price is subject to crude oil price.



### Impact of accrued income incurred by fuel cost adjustment system in FY2016 (Forecast)



# 02

# Reference Data(1): Financial Results



(Rounded down to nearest 100 million yen.) (Billion yen,%)

	(Realiaca a	own to nearest 100	(2	71111011 y C11,70)
	2016/3Q 2015/3Q		Change	
	(A)	(B)	(A-B)	(A-B)/B
Operating revenues	1,898.7	2,126.4	(227.7)	(10.7)
Non-operating revenues	13.9	16.6	(2.7)	(16.3)
Ordinary revenues	1,912.6	2,143.0	(230.4)	(10.8)
Operating expenses	1,730.6	1,888.5	(157.8)	(8.4)
Non-operating expenses	24.4	39.2	(14.7)	(37.6)
Ordinary expenses	1,755.1	1,927.7	(172.5)	(9.0)
<operating income=""></operating>	<168.0>	<237.9>	<(69.8)>	<(29.4)>
Ordinary income	157.4	215.3	(57.8)	(26.9)
Reserve for fluctuation in water levels	(0.1)	9.3	(9.5)	-
Extraordinary income(*)	30.2	10.8	19.4	180.2
Income taxes	45.1	63.0	(17.8)	(28.3)
Net income attributable to non-controlling interests	1.3	2.0	(0.7)	(34.7)
Net income attributable to owners of parent	141.4	151.6	(10.2)	(6.8)

<sup>\* 2016/3</sup>Q : Gain on change in equity

2015/3Q: Reversal of provision for loss in conjunction with discontinued operations of nuclear power plants



(Rounded down to nearest 100 million yen.)	(Billion yen,%)
--	-----------------

(Roune	aea aown to i	nearest 100 milli	on yen.) (biii	1011 ye11, 76)	
	2016/3Q (A)	2015/3Q (B)	Char (A-B)	nge (A-B)/B	【Major factors for Change】
Electricity sales revenues	1,488.0	1,746.5	(258.4)	(14.8)	<ul> <li>A decrease in fuel cost</li> <li>adjustment charge : -291.6</li> <li>An increase in surcharge for</li> </ul>
Sold power to other electric utilities, and transmission revenue, etc. *	57.0	47.0	10.0	21.3	promoting renewable energy sourced electricity: +53.2
Grant under act on purchase of renewable energy sourced electricity	156.7	110.6	46.1	41.7	
Other	18.7	18.6	0.0	0.4	<ul> <li>An increase in purchase of renewable energy sourced electricity</li> </ul>
Electric utility operating revenues	1,720.6	1,922.8	(202.1)	(10.5)	
Incidental businesses operating revenues	34.8	56.9	(22.1)	(38.9)	- A decrease in gas supply business
Total operating revenues	1,755.5	1,979.8	(224.3)	(11.3)	

<sup>\*</sup> Sold power to other utilities, Sold power to other suppliers, Transmission revenue and Settlement revenue among utilities

#### Non-consolidated Statements of Income <2>: Operating expenses



(Rounded down to nearest 100 million yen.) (Billion yen,%)	(Rounded	d down to nearest	100 million yen.)	(Billion yen,%)
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	(Rounded down to nearest 100 million yen.) (Billion yen,%)					
		2016/3Q	2015/3Q	Cha	9	【Major factors for Change】
	I	(A)	(B)	(A-B)	(A-B)/B	
	Salaries and employee benefits	131.2	134.0	(2.7)	(2.0)	
	Fuel	416.5	617.7	(201.1)	(32.6)	A decrease in fuel price
	Nuclear back-end expenses *1	10.1	11.1	(0.9)	(8.8)	- A decrease in fuel price
	Purchased power, and transmission charges, etc. *2	271.2	247.6	23.6	9.6 -	- An increase in purchase of
	Maintenance	136.9	140.0	(3.1)	(2.2)	renewable energy sourced electricity
	Depreciation	170.6	180.1	(9.4)	(5.3)	
	Taxes other than income taxes	92.1	93.6	(1.4)	(1.6)	
	Levy under act on purchase of renewable energy sourced electricity	169.5	116.2	53.2	45.8	
	Other	173.0	166.6	6.3	3.8	
Ele	ctric utility operating expenses	1,571.6	1,707.2	(135.6)	(7.9)	
Incidental business operating expenses		28.5	49.7	(21.2)	(42.7)	- A decrease in gas supply
Total operating expenses		1,600.1	1,756.9	(156.8)	(8.9)	business
	*4 D	L' C			1 6 1 1 1	l

<sup>\*1</sup> Reprocessing of irradiated nuclear fuel, Preparation of reprocessing of irradiated nuclear fuel, Contributions for reprocessing of irradiated nuclear fuel, Designated radioactive waste disposal expenses, Decommissioning nuclear power plants

<sup>\*2</sup> Sold power to other utilities, Sold power to other suppliers, Portion of the existing power generation expenses such as spent fuel reprocessing for which contracts have been signed, transmission charges, supply connection transmission charges, Settlement revenue among utilities



(Rounded down to nearest 100 million yen.) (Billion yen,%)

	2016/3Q	2015/3Q	Cha	nge
	(A)	(B)	(A-B)	(A-B)/B
Operating income	155.3	222.8	(67.4)	(30.3)
Non-operating revenues	11.3	10.0	1.2	12.3
Non-operating expenses	23.1	34.3	(11.2)	(32.6)
Ordinary revenues	1,766.8	1,989.9	(223.1)	(11.2)
Ordinary expenses	1,623.2	1,791.3	(168.0)	(9.4)
Ordinary income	143.5	198.5	(55.0)	(27.7)
Reserve for fluctuation in water levels	(0.1)	9.3	(9.5)	-
Extraordinary income	-	10.8	(10.8)	-
Income taxes	39.7	58.4	(18.7)	(32.1)
Net income	104.0	141.5	(37.5)	(26.5)

[Major factors for Change]

Electricity business : -66.5Incidental business : -0.9

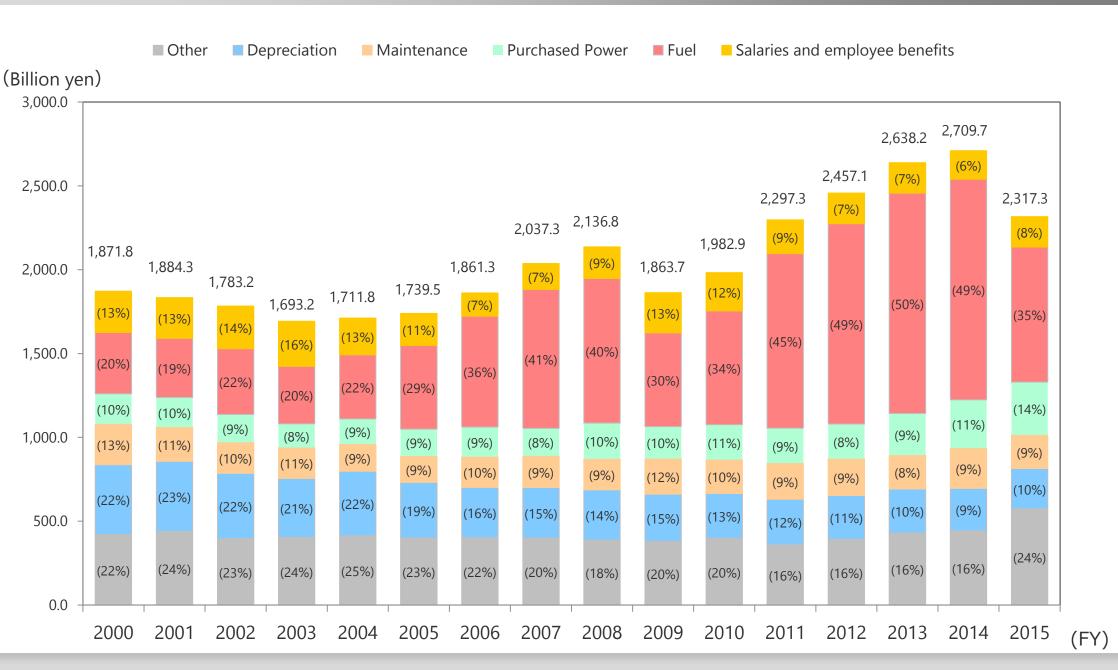
2015/3Q:
Reversal of provision for loss in conjunction with discontinued operations of nuclear power plants



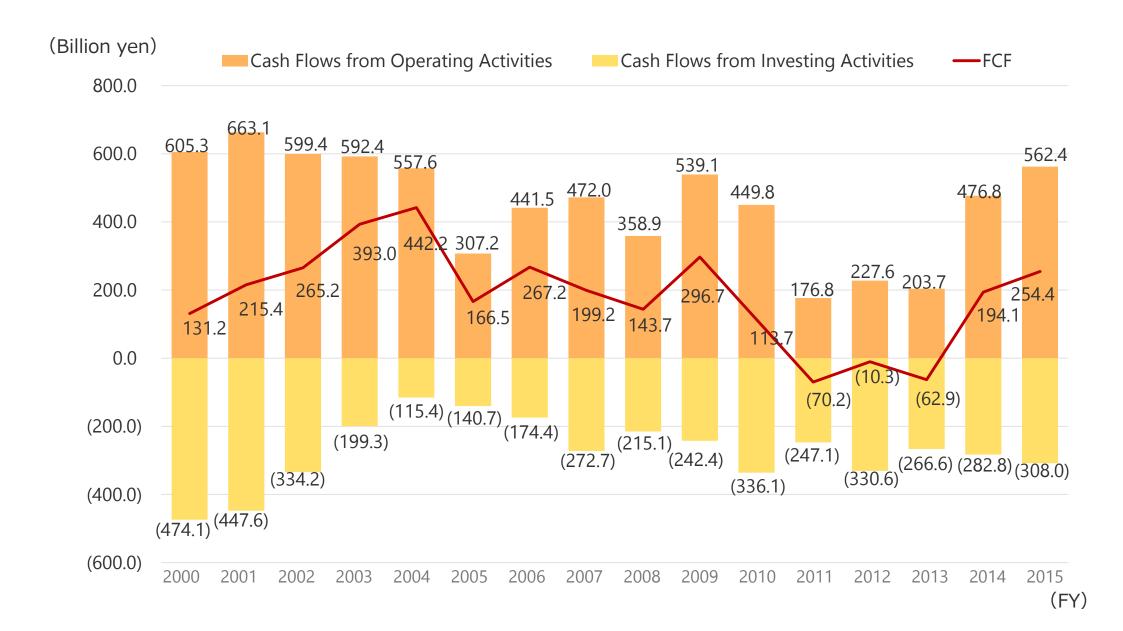
(Rounded down to n	(Billion yen)	
2016.12 2016.3		Change
(A)	(B)	(A-B)
5,322.2	5,538.9	(216.7)
<4,885.2>	<5,065.5>	<(180.3)>
3,585.7	3,901.8	(316.1)
<3,430.8>	<3,697.3>	<(266.4)>
1,736.5	1,637.1	99.3
<1,454.3>	<1,368.2>	<86.1>
31.9	28.9	3.0
<29.8>	<27.0>	<2.8>
2,604.9	2,625.4	(20.5)
<2,590.4>	<2,629.8>	<(39.3)>
	2016.12 (A) 5,322.2 <4,885.2> 3,585.7 <3,430.8> 1,736.5 <1,454.3> 31.9 <29.8> 2,604.9	(A) (B) 5,322.2 5,538.9 <4,885.2> <5,065.5> 3,585.7 3,901.8 <3,430.8> <3,697.3> 1,736.5 1,637.1 <1,454.3> <1,368.2>  31.9 28.9 <29.8> <27.0> 2,604.9 2,625.4

Non-consolidated figures in <>.





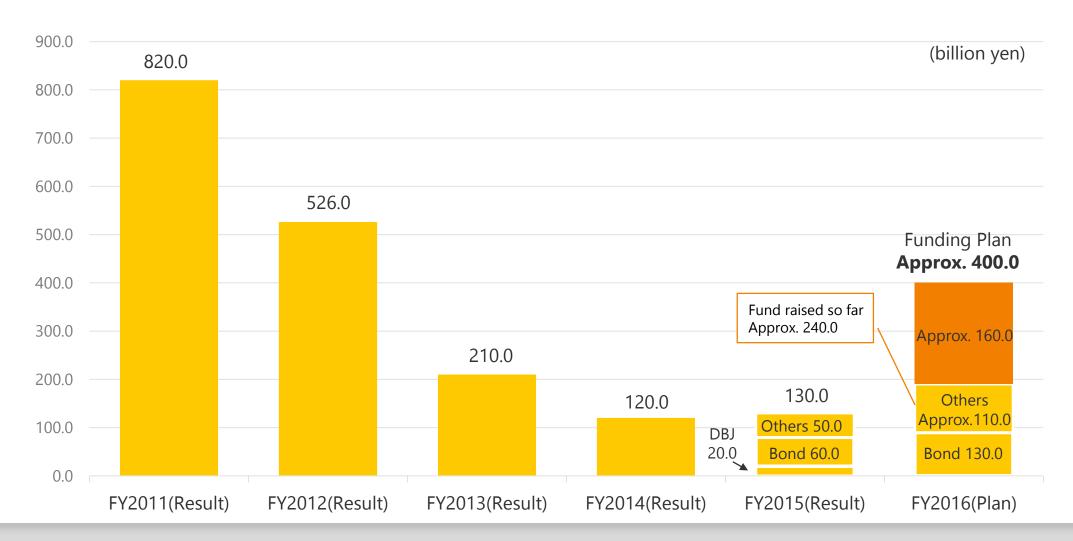




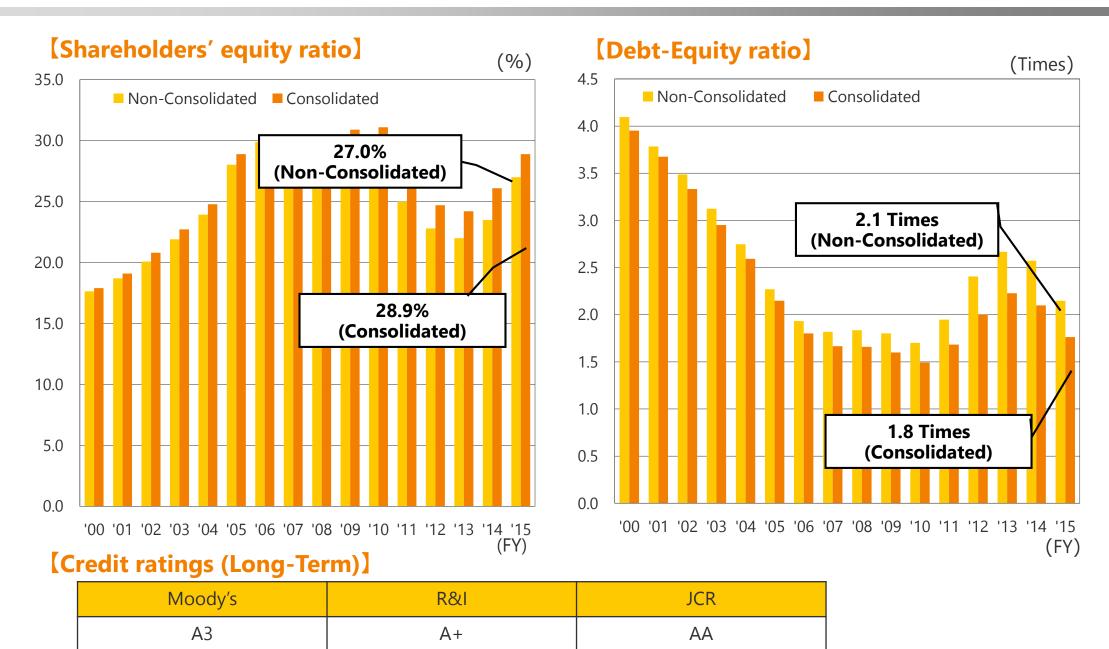
#### **Fund Raising**



- We raised total approximately 1,500 billion yen in long-term funding for 3 years since the shutdown of Hamaoka Nuclear Power Station.
- We raised 130 billion yen in long-term funding in FY2015.
- We plan to raise approximately 400 billion yen in long-term funding in FY2016.







# 03

# Management Situation: "What We Aim For"



- We will aim to become a "total energy service corporate group that is one step ahead."

#### Chubu Electric Power Group: "What We Aim For"

As a leading company that provides services that exceed expectations to customers ahead of our competitors, we will aim to become a "total energy service corporate group that is one step ahead."

#### New specific policies

- We will provide environmentally friendly and high-quality energy in a safe, reasonable and stable form.
- We will pursue optimal energy use together with customers and create new and attractive products and services ahead of our competitors.
- We will expand our business domain both in Japan and abroad, and generate new value by utilizing the managerial resources and know-how that we have accumulated.
- We will brush up our top-class technological skills, service capabilities and management skills that exceed our competitors in Japan and abroad.



Through the development of new business model that go beyond the conventional framework, we will strive to maximize the value we offer customers and society, and achieve sustainable growth.

## Mid-term target toward the achievement of "What We Aim For" (Initiatives for management issues)



Chubu electric
Power Group
"What We Aim For"

- As a leading company that provides services that exceed expectations to customers ahead of our competitors, we will aim to become a "total energy service corporate group that is one step ahead."

To achieve "What We Aim For," we will implement **four priority measures** 

Measures to increase the safety of the Hamaoka Nuclear Power Station

Measures to accelerate growth

Measures to ensure stable power supply for new era

Measures to construct a business framework to make swift responses

#### Quantitative mid-term target toward the achievement of "What We Aim For"

Chubu electric Power Group

**Mid-term target** 

We will aim to achieve "consolidated ordinary income of over 150 billion yen" in FY2018.

#### Launch of the Internal Company System



- We established a "Power Generation Company," "Power Network Company," and a "Customer Service & Sales Company" to make swift and flexible responses to changes in the business environment in April 2016.
- We selected Company Presidents, delegated executive authority over operations, and work to achieve independent business operations.
- We will swiftly construct a new business model that copes with changes in the business environment, harnessing this to create new values and thereby outperform others in the ever-intensifying competition.

Power Generation Company (existing thermal power generation business•renewable energy business)

- Pursue one of Japan's largest business scales and achieve globally top-class technological skills in order to survive in the global market.
- Stable supply of internationally competitive energy to customers
- Expand business by securing power sources and gas sources outside the Chubu region
- Increase the use of renewable energy

Power Network Company (power transmission/distribution business)

- Respond to the trust and high expectations of our customers and support the development of the region by providing topclass network services.
- Stable supply of high quality electricity in a safe and reasonable form
- Realize an advanced electricity network service
- Contribute to efficient use of energy and offer new energy businesses

Customer Service & Sales Company (electricity retail business • gas retail business)

- Continue to be chosen by customers by providing total energy services centered on gas and electric power.
- Provide the best services that further enhance customer satisfaction
- Engage in new initiatives ahead of competitors

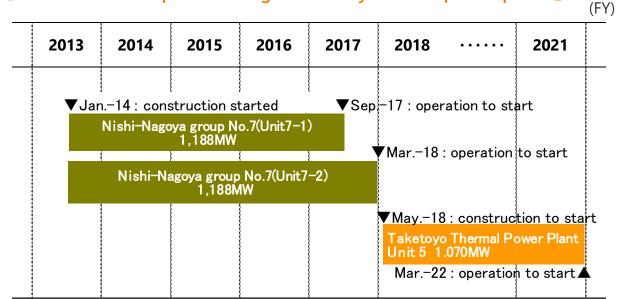


Management Situation:
Specific efforts toward the achievement of "What We Aim For"

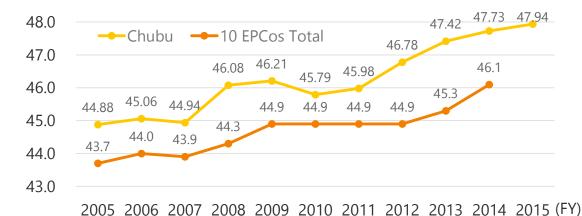
#### **Development of high efficiency Thermal Power Plants**



#### [Outline of development of high efficiency thermal power plants]



#### [Change of Total Thermal efficiency(LHV basis)]



(Note)"10 EPCos Total" values are based on "Environmental Action Plan by the Japanese Electric Utility Industry" published by The Federation of Electric Power Companies of Japan (FEPC)

### **Combined-Cycle Power Generation Systems**

	Nishi-Nagoya Thermal Power Plant Unit No.7	Taketoyo Thermal Power Plant Unit5
Capacity	2,376MW	1,070MW
Planned start of operation	Unit7-1:Sep.2017 (planned) Unit7-2:Mar.2018 (planned)	Mar.2022 (planned)
Thermal efficiency (LHV basis)	Approx. 62%	46%

#### (Reference) Composition of Power Sources in Longterm Energy Supply and Demand Outlook

2030 (planned)

10 years average before the Great East Japan Earthquake

LNG

LNG

LNG 27%

•	O Cat	Last sapari Laiti	194
LNG approx.27%		LNG 27%	
Coal approx.26%		Coal 24%	
Oil approx.3%	**************************************	Oil 12%	
Renewable	The state of the s		
approx.22-24%		Renewable 11%	
• •			
Nuclear approx.20-22%		Nuclear 27%	

Source: Materials published by Subcommittee on Long-term Energy Supply-demand Outlook

[%]

#### JERA <1>: Establishment of JERA Co., Inc. and "What we Aim For"



Tokyo Electric Power Company, Incorporated (hereinafter, "TEPCO") and Chubu Electric established "JERA Co., Inc." effective from April 30, 2015, as a new company that implements "a comprehensive alliance covering the entire energy supply chain, from upstream fuel and procurement through power generation."

(Chubu Electric: 50%; TEPCO: 50%)

#### **Roadmap of the Comprehensive Alliance**

[completed]

April 30, 2015

- -Established "JERA"
- -Established a single point of contact for new business development

[completed]

October 1, 2015

-Integrated fuel transportation business and fuel trading business to JERA [completed]

July 1, 2016
-Integration of existing fuel
businesses(upstream/procurement)
and existing overseas power
generation/energy infrastructure
business to JERA

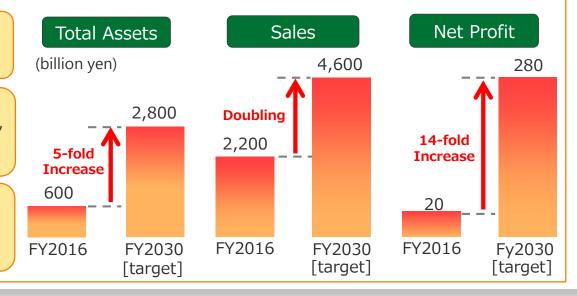
Spring 2017 (target)

-Decision regarding integration of existing domestic thermal power generation business to JERA (target)

#### **Vision for JERA**

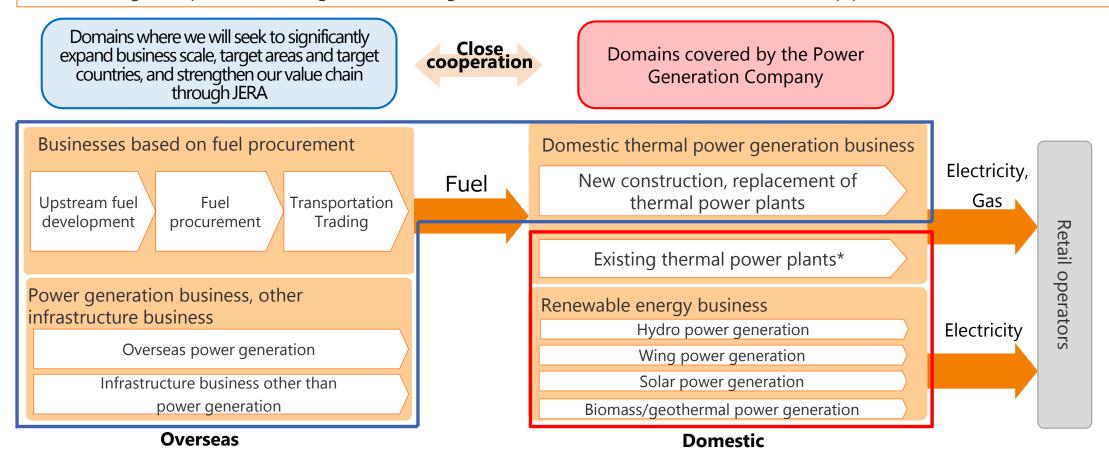
\*\*excluding existing thermal power generation business

- We will achieve fuel procurement capable of adapting to fluctuations in fuel markets developing optimized portfolio by world top-class offtake volume and trading.
- Bring together the knowledge and technology of both companies to establish and replace thermal power stations, and thereby seek a balance between achieving improved competitiveness and addressing global warming issues.
- Roll out overseas power generation and energy infrastructure businesses to gain new revenue sources, while assisting emerging nations achieve economic growth and reduce environmental impact.





- In the power generation field, we will seek to supply internationally competitive energy and improve corporate value by expanding our business scale, target areas and target countries, as well as strengthening our value chain, through JERA, our joint venture with TEPCO.
- At the same time, we will provide environmentally friendly and high-quality energy in a safe and stable form by further advancing our operations through the use of high technical skills and know-how that our Group possesses.



<sup>\*</sup>Integration of assets related to existing thermal power generation business with JERA will be determined around the spring of 2017(target) upon confirming JERA's business achievements, etc.

#### 25

#### Sales strategy for further expansion of electricity and gas market share



- In response to full liberalization of the electricity and gas retail markets, we will continue to deploy "New services for customers using the company's electricity," "Business expansion in the Tokyo metropolitan area," and "Entry into gas sales for household use (gas & power)," as the three pillars of its sales strategy. Based on the strategy, we will aim for minimizing the risk of a change by our current customers in their power supplier from Chubu Electric to another supplier in Chubu region (retaining the current customers) and creating new revenue sources.
- We will develop into a leading company in total energy services centered on gas & electric power, through the expansion of products/services and supply areas and the creation of appeal value.

#### [Further effort for increasing customer satisfaction (Retaining the current customers)]

#### "New services for customers using the company's electricity"

 We will provide new and high-value added tariff menus that tailored to the needs of customers, centered on "New Value," "Region," "Helpful".

#### New effort for expanding business domains

#### (Create new revenue sources)

#### "Business expansion in the Tokyo metropolitan area"

 We will increase electricity sales mainly in the Tokyo metropolitan area through stable procurement of competitive power sources and aggressive cultivation of contact points with new customers.



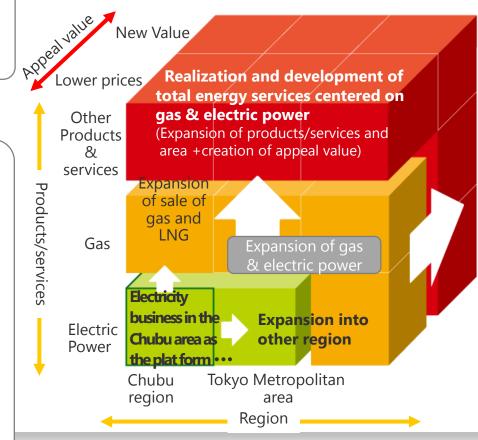
- Attract <u>100 thousand contracts</u> of residential customers at an early stage
- · Sales target in FY2030 20TWh

#### "Entry into gas sales for household use (Gas & Power)"

-We will aim to gain significant gas market share in the Chubu region and expand market share in regions other than Chubu, mainly the Kanto region, through aggressive use of competitive LNG of JERA.



- Attract <u>200 thousand contracts</u> of residential customers in the Toho Gas area by the end of FY2021
- Sales target in FY2030 3MTPA



#### Hamaoka Nuclear Power Station: **Further effort for Safety Enhancement Measures**



measures Compile the

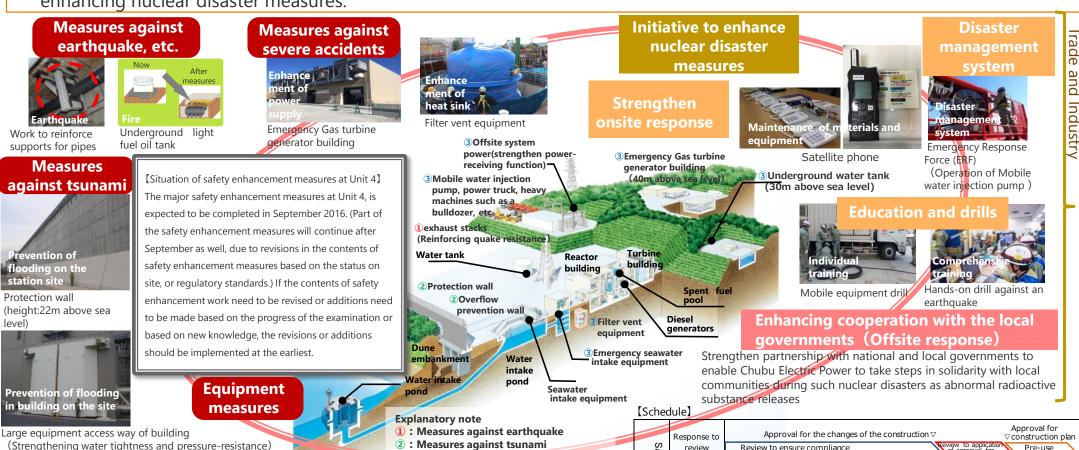
he current progress and submit it to the

submit it

the

in nuclear disaster Minister of Economy

Chubu Electric Power is now under review by the Nuclear Regulation Authority to ensure compliance with the new regulatory standards, and we will make united efforts to swiftly gain confirmation that our reactors are complying with the standards. We sill also steadily implement equipment measures in view of new regulatory standards, and maintain our initiatives geared towards enhancing nuclear disaster measures.

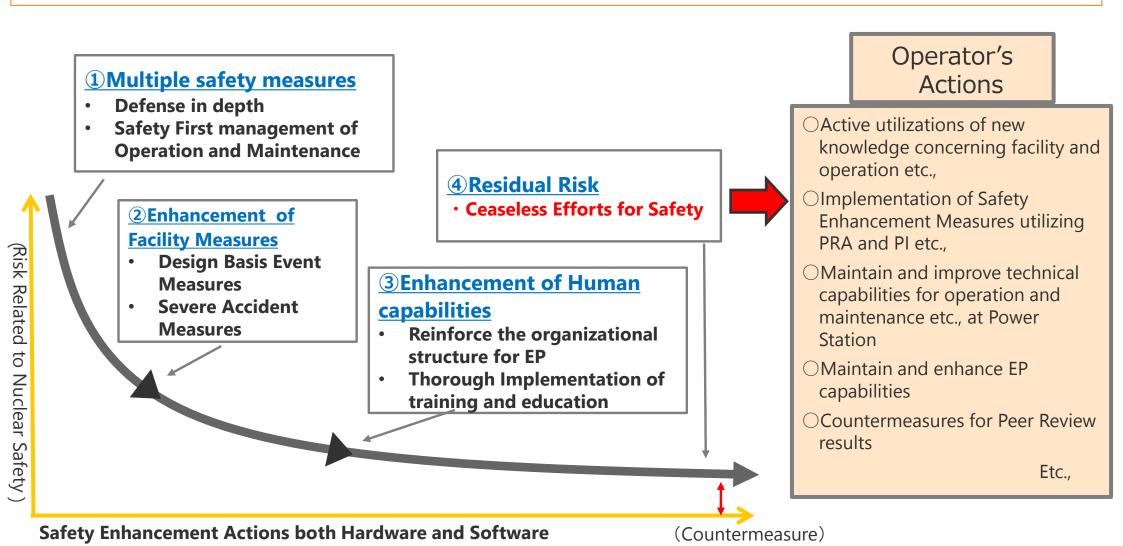


- Ounit 4: Number of examination meetings to be held (As of the end of January 2017)
- · Matters related to earthquakes/tsunami, etc.: 15 times
- Matters related to the plant : 57times Joint meetings : 2 times
- Ounit 3: An application was filed for an examination verifying the compliance of Unit 3 with the New Regulatory Standards on 16th June 2015.
- Ounit 5: We are discussing the plan to repair the facilities into which sea water flowed due to the damage caused to the main condenser tubes in 2011, and continue to consider possible responses to the New Regulatory Standards

3 : measures against severe accidents



- Minimize risk related to Nuclear Power Generation by taking measures for Safety Enhancements and Emergency Preparedness
- Ceaseless efforts for risk reduction at all times are necessary and this is Operator's Mission



# 05

## Reference Data (2): Management Information

#### Schedule of the Electricity System Reform



#### **[Schedule of the Electricity System Reform]**

	Schedule for implementing the measures	Schedule for Enacted the bill
3 <sup>rd</sup> phase: Further securing the neutrality of the power transmission/distribution sector through legal unbundling; Fully liberalizing electricity rates	In April 2020	Enacted on June 17, 2015

### <Reference>Development of markets and rules for competitive activation (Subcommittee for accomplishment of the Electricity System Reform)

	Timing for the introduction	Contents
Establishment of the Base-load power market FY2019		•Establishment of a market that provides PPS with easy access to base-load power •Institutionalizing major electric power companies' supply of base-load power to the market
Revision of utilization rule of interconnection line	FY2018	Change the current utilization rule of interconnection line from "first-come priority" to an indirect auction system via spot market based on market principle
Introduction of Capacity mechanism	FY2020	•Introduction of a framework to ensure power supply and coordination capabilities that are required over the medium- to long-term
Establishment of the Non-fossil value trading market	FY2019	•Establishment of a market where retailers can procure non-fossil value

#### [Revision of the Gas Business Act]

	Scheduled for implementing the measures	Scheduled for enacted the bill
Full liberalization of the gas retail market	In April 1, 2017	
Legal unbundling of the gas pipeline business (Tokyo Gas Co., Ltd., Osaka Gas Co., Ltd., and Toho Gas Co., Ltd)	In April 2022	Enacted on June 17, 2015

#### **Strengthen Mutual Support among Power Companies**



#### Reinforcement of the FC (Frequency converter)

- To reinforce 900MW FC capacity by the end of FY 2020 (from 1,200MW to 2,100 MW).
- Furthermore, to increase up to total 3,000MW by the end of FY2027.

	present	End of FY2020	End of FY2027
Shin-Shinano FC	600MW	1,500MW (+900MW)	1,500MW
Sakuma FC	300MW	300MW	600MW (+300MW)
Higashi-Shimizu FC	300MW	300MW	900MW (+600MW)
Total	1,200MW	2,100MW (+900MW)	3,000MW (+900MW)

Hokkaido-Honshu To Hokkaido 600MW To Tohoku 600MW (to reinforce 300MW by FY2018)

Tohoku-Tokyo

To Tokyo 3,550MW (to reinforce over 5,500MW

by FY2027)

760MW

To Tohoku

Kansai-Chugoku To Kansai 4,050MW To Chugoku 2,780MW

Chugoku-Shikoku To Chugoku 1,200MW To Shikoku 1,200MW

> Chugoku-Kyushu To Chugoku 2,660MW To Kyushu 510MW

Hokuriku-Kansai To Hokuriku 1,300 MW To Kansai 1,620 MW

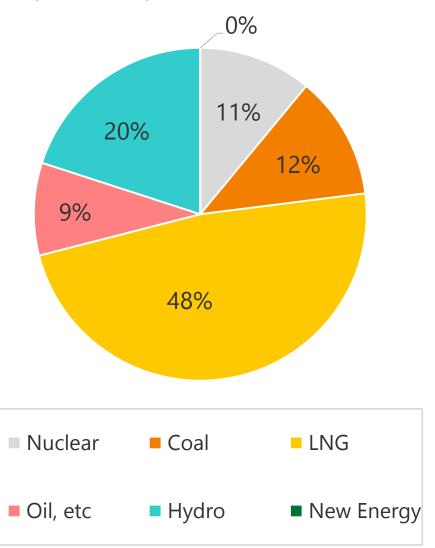
> Kansai-Shikoku To Kansai 1,400MW To Shikoku 1,400MW

Chubu-Kansai To Chubu 2,500MW To Kansai 1,910MW Chubu- Hokuriku To Hokuriku 300MW To Chubu 300MW

Note: The figures for the operating capacity during the day time (8 a.m. to 8 p.m.) in January are derived from data of the Organization for Cross-regional Coordination of Transmission Operators.

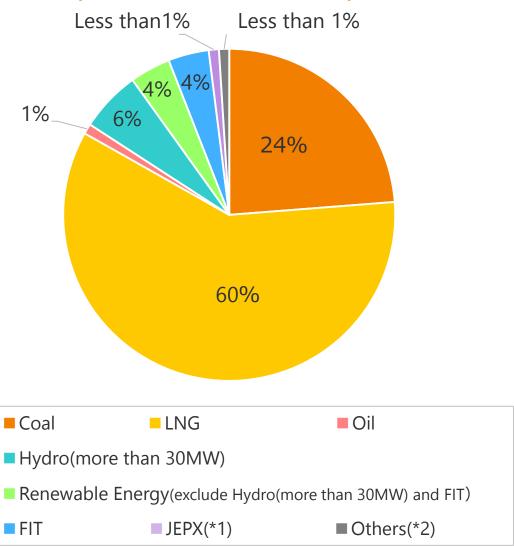


#### [Composition of power sources]



(Note) Figures include purchased power

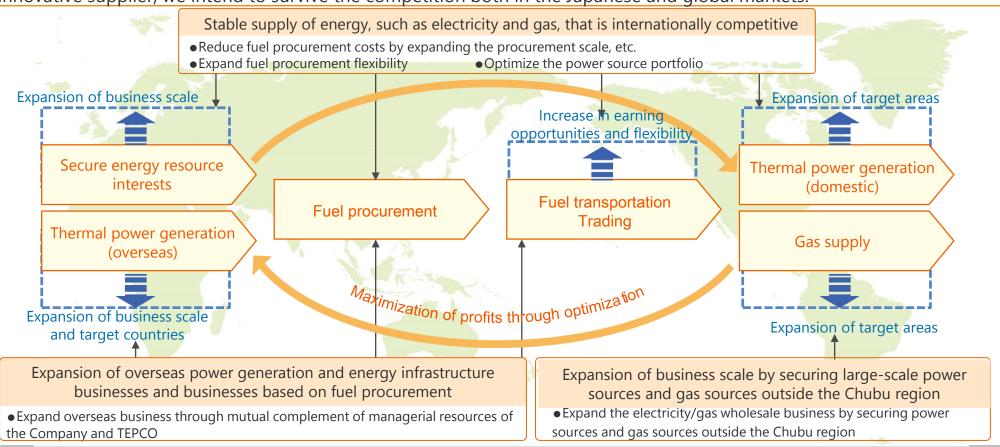
#### **[Composition of Electric Power Output]**



- \*1 Figures in JEPX represent procurement from Japan Electric Power Exchange.
- \*2 Figures in Others represent output from purchased power of which we cannot specify the power source.

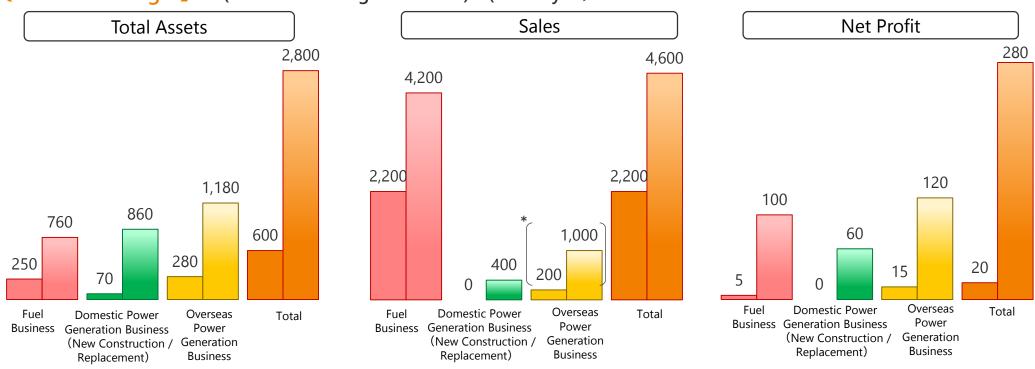


- JERA will expand business based on investment profits from each business and profits generated from the optimization of the value chain.
- > We will divide the value chain from the securing of interests of energy resources to procurement, transportation, gas supply and power generation (domestic and abroad) for each business, and aim to increase the investment returns of each business domain.
- At the same time, on the operation side we will establish a system that can control profits and risks by optimizing the allocation of managerial resources and operations, in view of the activities of the entire value chain. As a competitive and innovative supplier, we intend to survive the competition both in the Japanese and global markets.









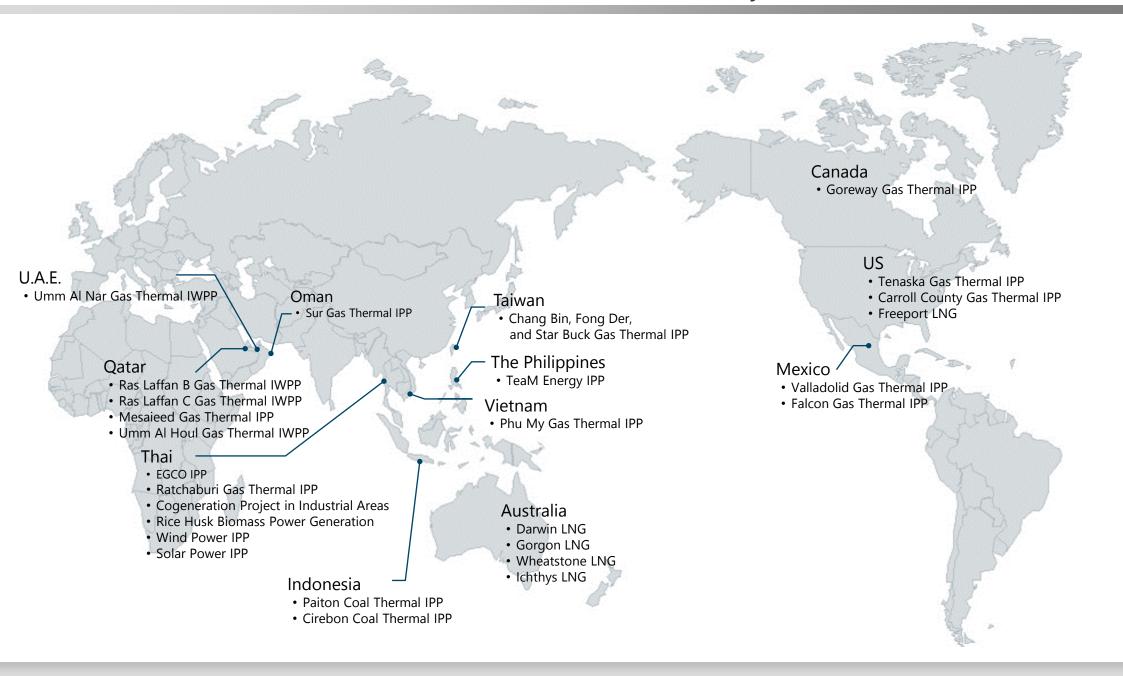
[Assumptions for FY2030] JCC:155USD/bbl, HH:8.3USD/MMBTU, Exchange rate:JPY120/USD

\* Earning of affiliates are included for a reference on an equity basis

		FY2016 (At the time of the succession in July)	FY2030
	Contracted LNG Volume	Approx. 40 MTPA	30∼40 MTPA
Fuel Business	Contracted Coal Volume	Approx. 20 MTPA	20∼30 MTPA
Fuel Business	Investment Projects	6 Projects	Approx. 12 Projects
	LNG vessels in fleet	16 vessels	Approx. 30 vessels
Domestic Power Generation Business (New Construction / Replacement)	Power generation capacity	650 MW	Approx. 12,000 MW
Overseas Power Generation Business	Power generation capacity (equity)	6,000 MW	Approx. 20,000 MW

# (Reference) Overseas IPP and Fuel projects of JERA Group (As of the end of January 2017)



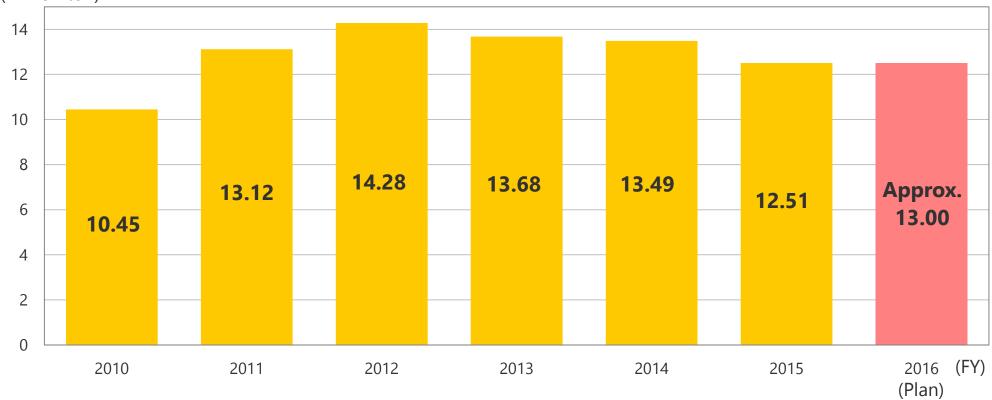




- After the suspension of all the units of Hamaoka Nuclear Power Station, the Company has increased the utilization of thermal power plants, mostly LNG, to compensate for the loss of power output by nuclear plants.
- The Company considers that it needs to procure approximately 13.00 million tons of LNG in FY2016 at about the same level as the previous year, though the LNG volume it needs to procure will fluctuate depending on the electricity supply-demand situation. The Company is proceeding to procure the necessary volume.

#### (Reference) LNG procurement results





## 35 | Electricity Sales Strategy <1> : Electric tariff menu



- <Chubu region> We will create attractive and competitive services, deliver valuable services worth more than the price (including safe, stable, and affordable energy services) to meet the needs of customers, and also meet customers' expectations and gain their trust.
- <Tokyo metropolitan area> In the Tokyo metropolitan area, we will aggressively expand our business since the area has a large market size and is an extremely attractive market with high growth and we will aim to achieve 100 thousand contracts at the earliest.

New electric tariff menu

Menu		Allocate KatEne point to the bill We are the first In the electric power industry	Privile Fixed discount (100 or 150 yen/month)	ge Merits of high consumption	Discount rate *1	
		Point Plan (10-30A)	0	<u> </u>	_	Be equal to 1%
Chubu region	Customers for residential use	Otoku Plan (40-60A, 6kVA)	0	0	_	Be equal to 3%
		Toku-Toku Plan (7kVA or more)	0	0	0	Be equal to 4-5%
	Customers for industrial use	Biji-Toku Plan	_	_	0	Be equal to 5-7%
	Customers for time plan use *2	Smart Life Plan	0	Advantages according to the state of use of each time zone		ne zone
Tokyo metropolitan area	Customers for residential use	KatEne Plan (3kVa or more)	0			Be equal to 5-10%

<sup>\*1</sup> Menu for Chubu region is compared with our existing menu. Menu for Tokyo metropolitan area is compared with TEPCO's existing menu. Both menus are compared based on model cases at the time of release.

\*2 We developed new tariff menu "Smart Life Plan for Smart Airs" with TOYOTA HOUSING CORPORATION and the sales will begin in April 2017.

[Set menu of electricity charges and services which is useful in life and business]

Menu	Service contents	
Kurashi-Support Set	Package deal with services to support problems at home such as water leaks in the kitchen	Point Plan
Shukyaku-Otetsudai Set Package deal with a service that allows advertisement transmission easily and for a goo		Otoku Plan
Kaikei- Otetsudai set	Package deal with cloud accounting software that improves the efficiency of accounting work	Toku-Toku Plan



#### [Partners]

· We are unfolding electricity sales through partner companies which have customers in Tokyo metropolitan.

	Procurement	Sales channels	Overview	
	Tokyo metropolitan area, principally eastern Shizuoka prefecture and Kanagawa prefecture.		Sales of the KatEne plan in our website	
			Introduce the KatEne Plan to customers who visit EDION	
Но			Introduce and sell a joint development menu that bundle the KatEne Plan and Internet service.	
usehold			Provide a joint development menu to customers who use home loan of the Shizuoka Bank in the Tokyo metropolitan area, principally eastern Shizuoka prefecture and Kanagawa prefecture.	
			Introduce and sell a joint development menu that bundle the KatEne Plan and "Commufa HIKARI" by ctc for ctc's customers in eastern Shizuoka prefecture.	
	Diamond Power	12 city gas companies	We provides electricity through Diamond Power to city gas companies.  Each city gas company sells tariff menus that suit each customer.	

**Business** 

Continuously, Chubu Electric, Diamond Power and C Energy sell electricity to their customer directly.

#### **[Securing power sources]**

Power sources	Output	Fuel	Operation commences
Suzukawa Energy Center Co., Inc. (Fuji-shi, Shizuoka)	100MW	Coal	September 2016
Hitachinaka Generation Co/, Inc. (Tokai-mura, Naka-gun, Ibaraki)	650MW	Coal	FY2020

## Gas Sales Strategy <1> : Gas tariff menu



- We arranged seven gas tariff menus, i.e. the KatEne Gas Plan for households and the BizEne Gas Plan geared toward businesses. They have been set at prices lower than the gas tariff menu offered by Toho Gas. Prices will be lower than the Gasuteki-Tokutoku menu (new Toho Gas tariff menu).
- We arranged a KatEne/BizEne Gas Set, which discounts 2% off the gas tariff by signing a contract both for electricity and gas.

#### **Gas tariff menu**

Menu	Toho Gas's menu	Overview	Discount rate *	KatEne/BizEne Gas Set
KatEne	Common menu Eco-Jozu menu	All household gas customers are eligible.	Be equal to 6%	Be equal to 8%
Gas Plan 1	Gasuteki-Tokutoku menu	All flousefiold gas customers are eligible.	Be equal to 5%	Be equal to 7%
KatEne Gas Plan 2	Attaka-Tokutoku menu	Among household gas customers, those who use gas appliances in their heating, hot-water supply, and kitchen are eligible.	Be equal to 6%	Be equal to 8%
KatEne Gas plan 3	Yukadan-Tokutoku menu	Among household gas customers, those who use gas hydronic floor heating are eligible mainly.	Be equal to 6%	Be equal to 8%
BizEne	Common menu	All business gas customers are eligible.	Be equal to 8%	Be equal to 10%
Gas Plan 1  Menu for light business Gasuteki-Tokutoku menu  All business gas custom The same tariff unit as		The same tariff unit as the KatEne Gas Plan 1 applies.	Be equal to 6%	Be equal to 8%
BizEne Gas Plan 2	Menu by season for business 2	Among business gas customers such as restaurants, medical facilities, and manufacturers, those with a monthly gas usage of 500-1,200m3 are eligible.	Be equal to 7%	Be equal to 9%
BizEne Gas Plan 3	Menu by season for business 1 Menu by time zone for business	Among business gas customers such as restaurants, medical facilities, and manufacturers, those with a monthly gas usage no less than 820m3 are eligible.	Be equal to 5%	Be equal to 7%
BizEne Air conditioning Summer menu 1 Gas Plan 4 Air conditioning menu A-1		Among business gas customers, those who use gas air- Its merit varies significant conditioning, with a monthly gas usage no less than 1,500m3 depending on the ga		, ,
		are eligible.	pattern and volume.	

<sup>\*</sup> Compared based on model cases at the time of release. Provided below is the Toho Gas menu, which we are comparing with our own. KatEne Gas Plan1 and BizEne Gas Plan 1: The upper item is Common menu, the lower item is Gasuteki-Tokutoku menu. KatEne GasPlan 2: Attaka-Tokutoku menu 1 (Not discounted)

BizEne Gas Plan 3: Menu by time zone for business





3.000

2030

(FY)

- In 2001, Chubu Electric Power launched a natural gas sales operation geared towards large factories, harnessing its own pipelines. The company has since then been taking incremental steps to strengthen and expand its gas business.
- Collaborating with C Energy fully acquired, the Chubu Electric Group continues to offer energy services that combine gas, LNG and on-site energy to business customers. We support their goals to build a highly reliable energy supply system while cutting energy consumption, CO2 emissions and operating costs.
- Regarding household-oriented gas retail business, we completed our registration as operator on November 24, 2016. Gas supply is scheduled to start from April, 2017. We have started advance registration.

#### [Entering into the gas retail business]

Chubu Electric Power **Energy Department** Gas retail section (Directly-managed team)

Promotion methods

Door-to-door sales

TVCM DM

KatEne BizEne

Partners for sales

Sales by agent, etc

- •Chubu Telecommunications (ctc)
- Community Network Center (CNCi) Group 11 companies
- •CCJ Group 2 companies
- TOENEC

Partners for security

(Thousand ton)

2,000

1,500

2011

2012

Security

- Iwatani
- GASTEC SERVICE
- Ogaki gas
- ·CHUBU SEIKI

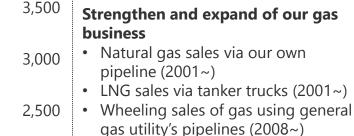
Security operation framework (including directlymanaged team) 28 office, 300 persons

Aichi Pref., Gifu Pref. and Mie Pref. Customers using city gas provided by Toho Gas (Approx. 2.3 million customers)

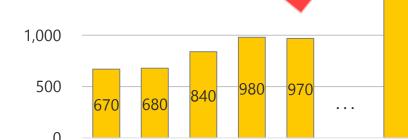
Perfect opportunity to expand our share in the gas market. Our aim is to attract 200 thousand customers by the end of FY 2021 (Around 10% of Toho Gas customers)

#### (Sales volume and Sales target of Gas and LNG)

Accelerating gas and LNG sales in and outside the Chubu region Sales target in FY2030 3MTPA



• Gas sales to households (2017~ [plan])



2013

2014

2015

## 39

# Hamaoka Nuclear Power Station <1> : Progress of the Nuclear Regulation Authority's review to verify compliance with the new regulatory standards



As to Unit No.4, the application form for Change in reactor establishment permission that we submitted has been reviewed by the Nuclear Regulation Authority in two separate categories (matters related to earthquakes/tsunami, etc., and the plant).

As of the end of January 2017

Matters subject	Matters related to earthquakes/tsunami, etc.	Matters related to the plant	
Number of examination	15 times	57 times	
meetings to be held	Joint meetings: 2 times		
Main item subject	Earthquakes/tsunami/Volcanoes	Design basis measures Severe accidents, etc.	
Main topics of discussion in recent examination meetings	Assessment of seismic motion -Explanation pertaining to the interplate earthquakes that have dominant effects on the seismic ground motion at the premises and oceanic intraplate earthquakes  Assessment of geological features and geological structure around the premises -Explanation pertaining to the impact of the fold zone (A-17 fault, etc.) identified around the premises, on the evaluation of activity / seismic motion	Spent fuel dry storage facility -Explanation pertaining to the method of evaluating fires caused due to crashing of airplanes, tornados, thunderbolts with respect to the spent fuel dry storage facility  Effectiveness assessment of severe accidents -Answers about selection of the accident sequence, and effectiveness assessment of prevention of core damage	
Future schedule	-Tsunami assessment, stability of foundation ground etc.	- Probabilistic risk assessment - Tornados impact assessment, etc.	

# Hamaoka Nuclear Power Station <2>: Measures for improving responses to nuclear disaster ~ Plan of bringing the accident under control (onsite)



- We will amplify field response and equipment measures geared towards enhancing safety, and work to prevent any offsite influence.
- To prepare against various situations developing from major accidents despite steps being taken, we will responsibly engage in activities to bring the accident under control. This will include installing various materials/equipment and improving the competence of our personnel with drills, and at the same time amplifying our system/organization and strengthening response capabilities spanning from the initial response to recovery processes.
- Chubu Electric Power is now undergoing reviews to ensure compliance with the new regulatory standards. We will continue to confirm and improve our response capabilities in view of the review.

#### Strengthen and enhance the system and organization

Realign the Emergency Response Organization [Increase response personnel numbers]

<Before the Fukushima Daiichi accident>

Designated personnel (approx.300 members) (excluding operators)

Response personnel

<Present>

All power station
members
(approx. 600 members)
(excluding operators)
%in principle

\*Examinations are currently underway to ensure compliance with the new regulatory standards. The number of people is therefore subject to change.

OSecure nuclear site emergency response support bases

- Reinforcement of initial responses to accidents(on a 24-hour, every day basis)

[Establishment of an "Emergency Response Force" (ERF)]

#### 24hours, every day

Delays in initial responses will aggravate the situation and limit reactions

Reliable initial response system

## **Emergency-specific** operation capabilities

Needs capability of immediately deciding and reliably performing the vest response during emergencies

Special organization for emergency response

## Capability to make all-around responses

Needs a wide range of field responses, e.g. debris processing and mobile equipment operations

Multi-skilled personnel



Team of specialists that independently engage in initial responses currently boosting up the ream (Currently 13 members in total)

#### Enhance materials and equipment, e.g. various mobile vehicles

- OVarious mobile vehicles
- •Preparation of various mobile vehicles and heavy equipment
- •Obtain qualification to handle mobile vehicles and heavy equipment <a href="mailto:resent">Present</a>>
- <Before the Fukushima Daiichi accident>
- Daiichi accident>

  Obtain qualification to handle heavy

equipment and

vehicles: None

OEnhance materials and equipment

- Obtain qualification to handle mobile vehicles and heavy equipment as follows
   Large vehicles: approx. 80 members
- (e.g. power supply vehicle)
- Vehicles for tough terrain: approx.60 members
   (e.g. coolant injection vehicle)
- Vehicles-type construction machine : approx.60 members (heavy equipment)
- •Deploy a wide array of materials and equipment both within and outside the power station, e.g. communication equipment, radiation control materials and equipment, and particulars related to food/clothing/shelter
- •Develop a database on the information of materials/equipment owned by nuclear operators. Share the database among operators

#### **Joint Emergency Support Organization of nuclear operators**

Emergency Support Organization

(Operated in Fukui Prefecture by the Japan Atomic Power Agency)

- •24 hours, every day on-call standby
- Maintenance and management/improvement for materials and equipment
- Personnel drills and training

<Dispatch when a request for
 assistance received>

Conveyance of personnel and materials/equipment



### 41

### Hamaoka Nuclear Power Station <3>:Measures for improving responses to nuclear disaster ~ Plan of responses to nuclear disaster (offsite)



Chubu Electric Power will continue to prevent accidents. We will also achieve stronger partnership with related organizations and both national and local governments, continue to work toward enhancing and strengthening nuclear disaster emergency measures or responses in local communities around the power station, and thereby steadfastly fulfill our responsibility as a nuclear operator.

Reporting to the national and local governments

**Inter-operator** cooperation

- ORespond before entering alert-requiring conditions for enhancement of the reporting system
- OSigned "Hamaoka Nuclear Power Station Safety Assurance Agreement" and "Safety Agreement between the prefecture and seven municipalities"
- · Disaster management, reporting obligation and establishment of council for safety.
- OStrengthen the inter-operator cooperation system for issues on resident evacuation
  - Dispatch cooperation personnel (increase members from 44 to 300)
- Enhance and increase supplied materials and equipment (continuously amplify agreement details)

#### **Enforcing collaboration with** national and local governments

- ODispatch personnel to the offsite center
- · Address residents in partnership with national and local governments

Offsite center

Nuclear **Chubu Electric operators** 

JAEA\*

Medical institution

- OEstablish a response team in the Head Office **Emergency Task Force Headquarters to** strengthen offsite response
  - ·Add customer response, nuclear disaster call center (respond to phone calls), and disaster victim support teams (consultation desk)
- ·Continuously improve response capabilities with drills
- ODecontamination and inspections during transportation and evacuation/exits
- OPerform emergency monitoring
- Evacuation training
- ·Participation in drills held by local municipalities

Strengthen the system and drills for issues on resident evacuation

#### National and local governments

Self-Defense forces

> Maritime safety agency

> > Police

Fire department

Mass media



Drills operated by the Emergency **Monitoring Center** 

Local citizens



Radiation medical training

#### **Collaboration with medical institution**

- OConclude agreement with radiation medical hospitals
- •Expand to outside-20km zones, and increase from 3 into 8 hospitals
- ·Providing/conducting training programs on required materials and equipment, enhancing/scaling up drills

# 42 | Hamaoka Nuclear Power Station <4> : Activities to take part in dialogue with local residents



- On the Hamaoka Nuclear Power Station, we have been steadily promoting further safety measures including facilities measures and disaster prevention measures together with gaining public understanding as a package.
- The Company will endeavor more than ever to focus on interactive communication with local residents and our stakeholders by transmitting information including risks in an easy-to-understand manner and with respect, listening with sincerity to customers' voices on uncertainty and doubts, concerns and questions them respectfully.

voices on uncertainty and doubts, concerns and questions them respectfully.				
[Activities to take part in dialogue for 4 cities concerned]				
Tour of the Hamaoka Nuclear Power Station	We provide opportunities to confirm the safety measures at the Hamaoka Nuclear Power Station on the spot directly for local residents. In addition, we are making efforts to communicate with local residents by setting up opportunities to engage in dialogue with employees who works in Hamaoka Nuclear Power Station actually.  Visitors: 32 thousand people in a year(Average for FY2012-FY2015)  Displaying a movable water pumper			
Caravan activities	About once or twice each month the caravan team visits shopping centers and other facilities in the vicinity of the Hamaoka Nuclear Power Station to communicate the progress of the safety measures to locals and to directly ask for their opinions.  FY2016 (End of December 2016): 16 places and 1,762 persons listened to our explanations.			
Visit and dialogue	We visit people living in the vicinity of the Hamaoka Nuclear Power Station to engage in dialogue with them and we introduce our measures to as many people as possible and to solicit the opinions of local residents.  Visiting targets: Approx. 82 thousand households  *And we implement second round of visit and dialogue from November 2015. (Progress rate: Approx. 93% end of December 2016)			
Opinion-exchange meetings	We plan and hold opinion-exchange meetings with local government and woman's organizations and participate in the meeting held by the governments in order to exchange opinions with various organization continuously, thereby increasing the opportunities to engage in dialogue with people living in the vicinity  "Shaberi-ba" >  "Opinion-exchange meetings targeting women, "Shaberi-ba" >  We hold "Shaberi-ba" that is opinion-exchange meeting with women's organizations in the vicinity of the Hamaoka Nuclear Power Station by group work in order to share concerns and questions about nuclear power.  FY2016: 24 times planned  Participating in opinion-exchange meetings held by the government >  Opinion-exchange meeting held by Omaezaki city held by Omaezaki city			

<Participating in opinion-exchange meetings held by the government>
We are making an effort to communicate with as many people as possible by participating in opinion-exchange meetings held by Omaezaki city and Makinohara city.
Opinion-exchange meeting held by Omaezaki city (FY2015 : 2 times)

Opinion-exchange meeting held by Makinohara city (FY2016: 4 times)

held by Omaezaki city ►





- The Company has been making efforts to reduce CO2 emission through comprehensive initiatives including the development of high efficiency thermal power generators and renewable energy to achieve a balanced power source composition.
- We intend to participate in the voluntary framework established by the entire electric power industry, and make various efforts toward achieving targets in terms of the CO2 discharge rate for FY2030.

#### **(Specific efforts)**

To further reduce the CO2 emission intensity of the Company as a whole, we will continue to make efforts including continuing to use nuclear power, which generates electricity without emitting CO2 and therefore is an effective measure for combating global warming; increasing the use of renewable energy; installing the world's highest efficiency LNG-fired generator at the Nishi-Nagoya Thermal Power Station Unit No. 7 (currently under construction); and installing leading-edge coal-thermal power generation facilities at the Taketoyo Thermal Power Station Unit No. 5 (currently in the planning stage).

## Participation in the "Electric Power Council for a Low Carbon Society" (ELCS)

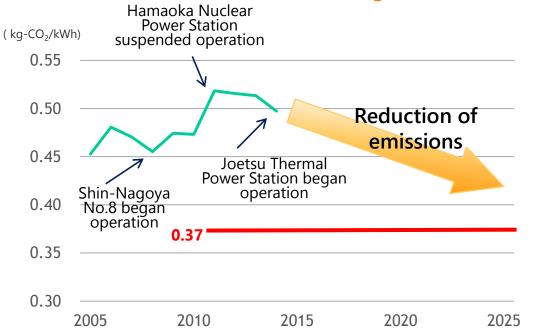
- Established for consistent promotion of efforts toward achieving the "Action Plan for the Electricity Business for Achieving a Low-Carbon Society," in which 10 member companies of the Federation of Electric Power Companies of Japan, including Chubu Electric Power, Electric Power Development Co., Ltd., The Japan Atomic Power Company and voluntary power producers & suppliers participate.
- ELCS and participating companies will turn the PDCA cycle in order to achieve the target.

**Target emission intensity (FY2030)** 

Approx. 0.37kg-CO<sub>2</sub>/kWh\*

\*Your figures per 1kWh of use

## [Trends and outlook of CO2 emission intensity (before reflecting CO2 credits)]

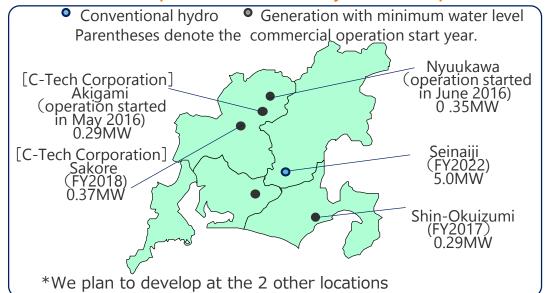


### Renewable Energy: Our efforts toward Promotion

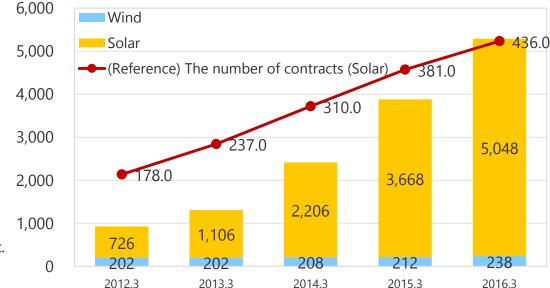


	(As of the end of December, 2016				
		Chubu Electric	(Reference)Chubu Electric Group		
	operating	197Site:5,450MW	Akigami : 0.29MW(FY2016)		
Hydro	plan	Shin-Okuizumi : 0.29MW(FY2017) Seinaiji : 5.0MW(FY2022) 2Site:9.0MW	Sakore : 0.37MW(FY2018)		
	Operating	Omaezaki:22MW	114MW		
Wind	Plan	_	Shin-Aoyama Kogen 2: 44MW(FY2016)		
Solar		Mega Solar lida: 1MW Mega Solar Shimizu: 8MW Mega Solar Taketoyo: 7.5MW (Transfer to Kawagoe in FY 2017,and change the name to "Mega Solar Kawagoe")	247MW		
	plan	<u> </u>	Approx. 80MW		
Biomass	operating	Mixture of wooden chip Mixture of fuel from carbonized sewage sludge	Taki bio power: 6.7MW(FY2016)		
	plan	<del></del>	_		

#### (Reference1) Development locations of hydroelectric power station



#### (MW) (Reference2) Contract demand (Solar, Wind)



<sup>\*1</sup> Joint businesses are recorded in their entire amount instead of by equity interest.

<sup>\*2</sup> Up to FY2020 concerning Group company (Reference) "Summary of electric power supply plan" announced in June 29, 2016.



#### **DISCLAIMER**

This presentation contains assumptions and forward-looking statements with respect to the financial conditions, and forecasts of the company, which are based on information currently available.

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