Presentation Materials for Investors
3rd Quarter FY2017

February, 2018

CHUBU Electric Power

INDEX

01 Outline of Financial Results for Nine-Months ended December 31, 2017

Note: The company's fiscal year (FY) is from April 1 to March 31 of the following year. FY2017 represents the fiscal year begun on April 1, 2017, and ending on March 31, 2018. 3rd Quarter(3Q) represents nine months period ended December 31, 2017.

- Operating revenues (consolidated and non-consolidated) increased following 2014/3Q, for the first time in 3 years.
- Ordinary income (consolidated and non-consolidated) decreased for 2 consecutive years since 2016/3Q.
- We recorded increased sales and decreased profit following 2013/3Q, for the first time in 4 years. (We posted a deficit in 2013/3Q.)

[Consolidated]

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

	2017/3Q (A)	2016/3Q (B)	Change (A-B)	Change (A-B)/B
Operating revenues	2,062.7	1,898.7	164.0	8.6
Operating income	124.8	168.0	(43.1)	(25.7)
Ordinary income	116.2	157.4	(41.2)	(26.2)
Net income attributable to owners of parent	80.8	141.4	(60.5)	(42.8)

*The number of consolidated subsidiaries [change from the same period of the previous year in parenthesis]
2017/3Q : 31 subsidiaries (+2 companies) , 26 affiliates accounted for under the equity method (+2 companies)

[Non-consolidated]

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

	2017/3Q (A)	2016/3Q (B)	Change (A-B)	Change (A-B)/B
Operating revenues	1,887.8	1,755.5	132.3	7.5
Operating income	111.9	155.3	(43.4)	(28.0)
Ordinary income	97.5	143.5	(46.0)	(32.1)
Net income	68.5	104.0	(35.4)	(34.1)

[Principal figures]

		2017/3Q (A)	2016/3Q (B)	Change (A-B)
Electrical energy sold	(TWh)	88.8	89.3	(0.5)
CIF price: crude oil	($/b)	53.9	44.9	9.0
FX rate (interbank)	(yen/$)	111.7	106.6	5.1
Nuclear power utilization rate	(%)	-	-	-

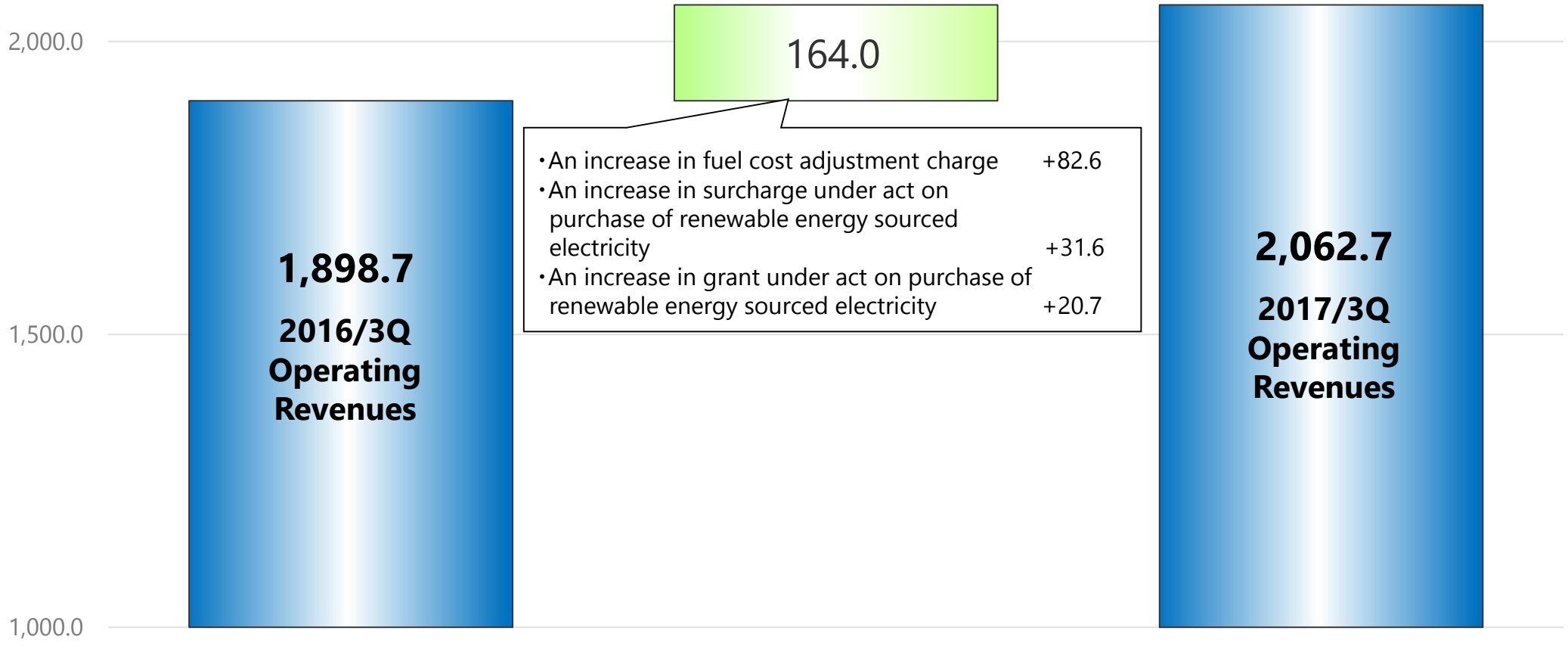
*CIF crude oil price for 3Q of FY2017 is tentative.

<Consolidated Operating Revenues>

- Operating revenues increased by 164.0 billion yen compared with 2016/3Q, mainly due to an increase in fuel cost adjustment charge, and an increase in surcharge and grant based on Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources by Electricity Utilities.

[Factors contributing to change in consolidated operating revenues]

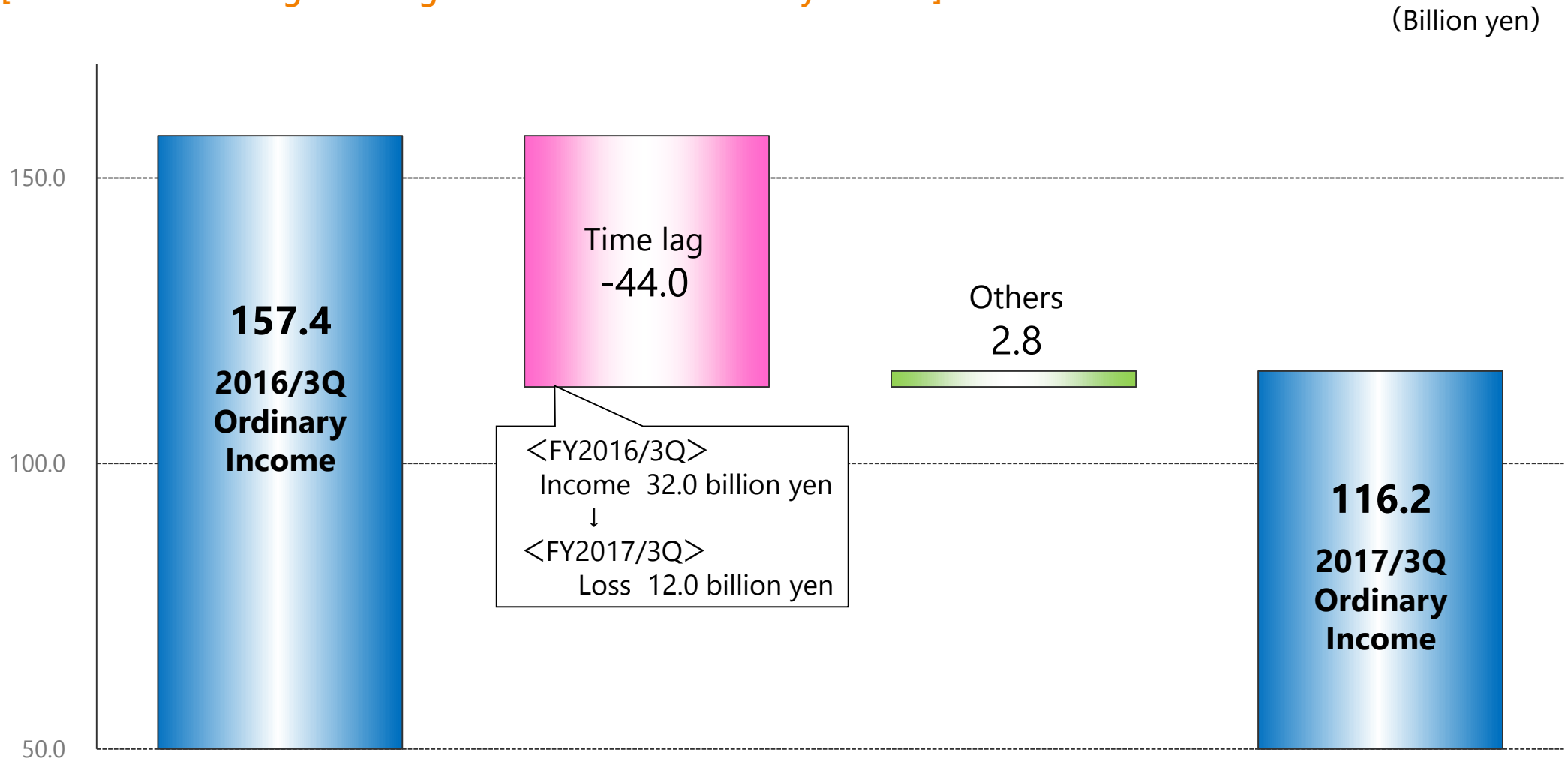
(Billion yen)



<Consolidated Ordinary Income>

- Consolidated ordinary income decreased by 41.2billion yen compared with 2016/3Q, mainly due to a conversion of income incurred by fuel cost adjustment system time lag into loss.

[Factors contributing to change in consolidated ordinary income]



<Electrical Energy Sold>

- **Dropped by 0.6% to 88.8TWh**, compared with 2016/3Q, mainly due to an effect of switches made to other operators with the intensified competition , in spite of an increase of production in the automobile and semiconductor industry, in addition to a sales increase in Tokyo metropolitan area.

- **Low voltage : Dropped by 0.7% to 26.5TWh**, compared with 2016/3Q, mainly due to an effect of switches made to other operators, in spite of an increase in air conditioning demand by lower temperature in this early spring and winter, in addition to a sales increase in the Tokyo metropolitan area.
- **High voltage / Extra-high voltage : Dropped by 0.5% to 62.3TWh**, compared with 2016/3Q, mainly due to an effect of switches made to other operators, in spite of an increase of production in the automobile and semiconductor industry, in addition to a sales increase in the Tokyo metropolitan area.

(TWh,%)

		2017/3Q (A)	2016/3Q (B)	Change (A-B)	Change (A-B)/B
Electrical energy sold	Low voltage	26.5	26.7	(0.2)	(0.7)
	High voltage / Extra-high voltage	62.3	62.6	(0.3)	(0.5)
	Total	88.8	89.3	(0.5)	(0.6)

<Electric Power Supplied>

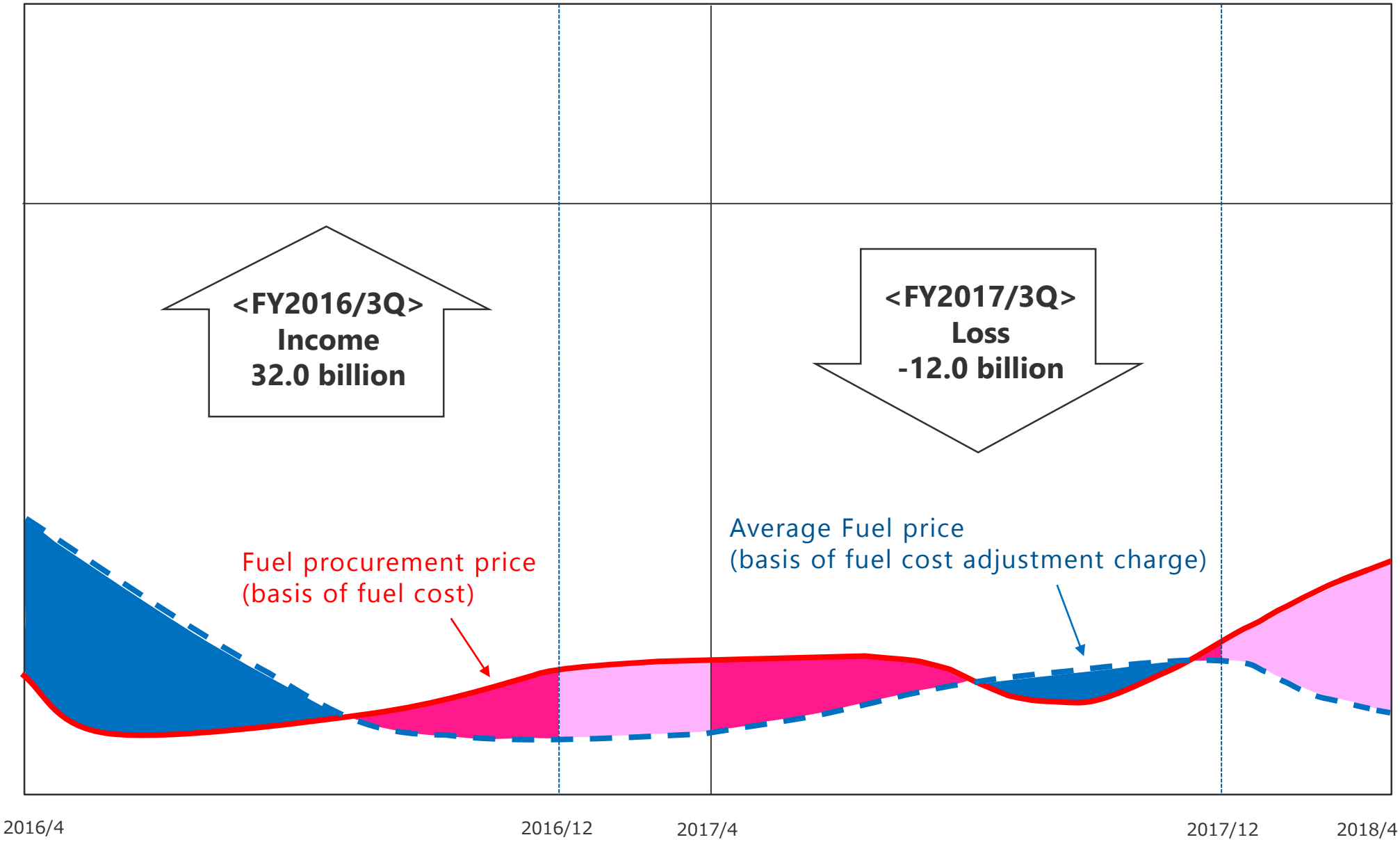
- **Hydro :** The flow rate fell short of 2016/3Q ; thus hydroelectric power output **decreased by 0.2TWh.**
- **Interchanged, purchased power : Increased by 1.1TWh**, mainly due to an increase in purchase of renewable energy.
- **Thermal** : As a result of a decrease in electrical energy sold and above, thermal power output **decreased by 1.4TWh**.

(TWh,%)

			2017/3Q (A)	2016/3Q (B)	Change (A-B)	Change (A-B)/B
Electric power supplied	Internally generated	Hydro	6.8	7.0	(0.2)	(4.0)
		<flow rate>	<96.3>	<101.0>	<(4.7)>	
		Thermal	78.4	79.8	(1.4)	(1.7)
		Nuclear	(0.2)	(0.2)	(0.0)	1.9
		<utilization rate>	<ー>	<ー>	<ー>	
		Renewable energy	0.0	0.0	(0.0)	(7.8)
	Interchanged, purchased power(*)		8.9	7.8	1.1	14.7
	Power used for pumped storage		(0.9)	(0.8)	(0.1)	11.4
		Total	93.0	93.6	(0.6)	(0.7)

* Interchanged, purchased power represent power output that we grasp at the end of the 2017/3Q.

(Reference) Impact of Accrued Income Incurred by Fuel Cost Adjustment System (Result)



Summary of Forecast for FY2017 <1>

<Forecast>Revised Forecasts of Financial Results previously announced on October 27, 2017.

- Operating revenues (consolidated) will increase mainly due to an increase in electricity sales volume and fuel cost adjustment charge.
- Ordinary income (consolidated) is not revised mainly due to an expansion of accrued loss incurred by fuel cost adjustment system and an increase in fuel cost, in spite of an increase in electricity sales volume and profit of subsidiaries.

[Consolidated]

- Operating revenues will increase following FY2014, for the first time in 3 years.
- Ordinary income will decrease for 2 consecutive years since FY2016.

(Billion yen,%)

	Current (A)	October 27 (B)	Change (A-B)	Change (A-B)/B
Operating revenues	2,780.0	2,760.0	20.0	0.7
Operating income	120.0	125.0	(5.0)	(4.0)
Ordinary income	110.0	110.0	-	-
Net income attributable to owners of parent	75.0	75.0	-	-

[(Reference) Non-consolidated]

(Billion yen,%)

	Current (A)	October 27 (B)	Change (A-B)	Change (A-B)/B
Operating revenues	2,530.0	2,510.0	20.0	0.8
Operating income	100.0	105.0	(5.0)	(4.8)
Ordinary income	80.0	85.0	(5.0)	(5.9)
Net income	55.0	60.0	(5.0)	(8.3)

Summary of Forecast for FY2017 <2>

[Principal figures]

(TWh,%)

(Electrical energy sold)	Current (A)	October 27 (B)	Change (A-B)	Change (A-B)/B
Low voltage	38.0	37.7	0.3	0.8
High voltage / Extra-high voltage	82.3	81.6	0.7	0.8
Total	120.3	119.3	1.0	0.8

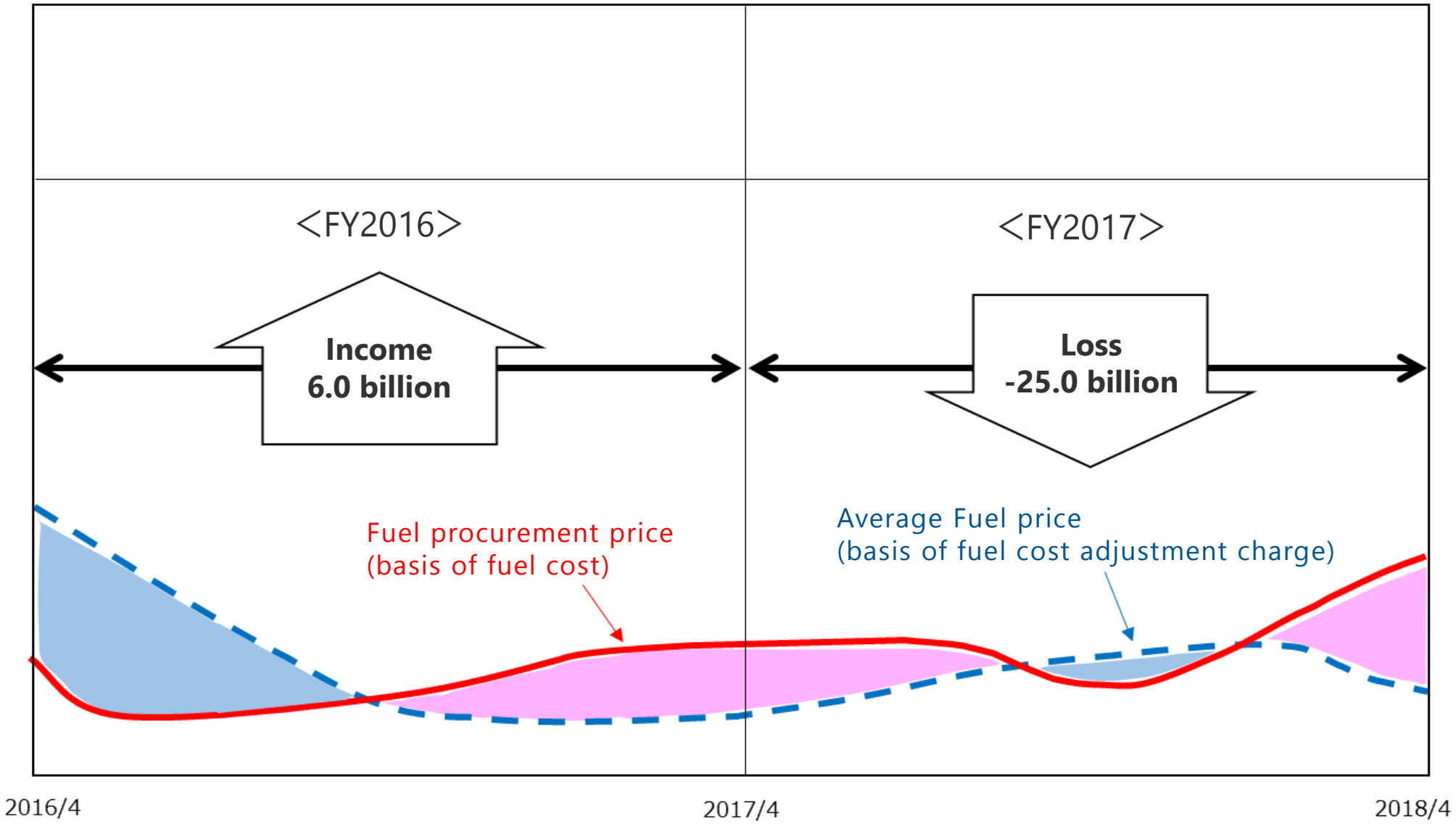
(Other principal figures)		Current	October 27
CIF price: crude oil	($/b)	approx. 57	approx. 53
FX rate	(yen/$)	approx. 112	approx. 111
Nuclear power utilization rate	(%)	-	-

(Billion yen)

(Income sensitivity)		Current	October 27	
CIF price: crude oil	(1$/b)	7.5	7.5	*1,2
FX rate	(1yen/$)	5.5	5.5	*1
Flow rate	(1%)	0.5	0.5	
Interest rate	(1%)	5.0	5.0	

*1 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.
*2 The impact value of crude oil price includes the impact of LNG price because LNG price is subject to crude oil price.

(Reference)
Impact of Accrued Income Incurred by Fuel Cost Adjustment System in FY2017 (Forecast)



02

Reference Data(1): Financial Results

Consolidated Statements of Income

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

	2017/3Q (A)	2016/3Q (B)	Change (A-B)	Change (A-B)/B
Operating revenues	2,062.7	1,898.7	164.0	8.6
Non-operating revenues	16.0	13.9	2.0	15.0
Ordinary revenues	2,078.7	1,912.6	166.1	8.7
Operating expenses	1,937.8	1,730.6	207.2	12.0
Non-operating expenses	24.6	24.4	0.1	0.6
Ordinary expenses	1,962.4	1,755.1	207.3	11.8
<Operating income>	<124.8>	<168.0>	<(43.1)>	<(25.7)>
Ordinary income	116.2	157.4	(41.2)	(26.2)
Reserve for fluctuation in water levels	(0.4)	(0.1)	(0.2)	-
Extraordinary income(*)	-	30.2	(30.2)	-
Income taxes	34.1	45.1	(11.0)	(24.4)
Net income attributable to non-controlling interests	1.6	1.3	0.3	25.7
Net income attributable to owners of parent	80.8	141.4	(60.5)	(42.8)

* 2016/3Q : Gain on change in equity

Non-consolidated Statements of Income <1>: Operating Revenues

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

	2017/3Q (A)	2016/3Q (B)	Change (A-B)	Change (A-B)/B
Electricity sales revenues	1,564.5	1,488.0	76.4	5.1
Sold power to other electric utilities, and transmission revenue, etc. *	89.0	57.0	32.0	56.2
Grant under act on purchase of renewable energy sourced electricity	177.5	156.7	20.7	13.2
Other	18.8	18.7	0.0	0.4
Electricity business operating revenues	1,850.0	1,720.6	129.3	7.5
Incidental business operating revenues	37.8	34.8	2.9	8.5
Total operating revenues	1,887.8	1,755.5	132.3	7.5

【Major factors for change】

- An increase in fuel cost adjustment charge
- An increase in surcharge under act on purchase of renewable energy sourced electricity

- An increase in transmission revenue

- An increase in purchase of renewable energy sourced electricity

* 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,%)

	2017/3Q (A)	2016/3Q (B)	Change (A-B)	Change (A-B)/B
Salaries and employee benefits	135.7	131.2	4.5	3.4
Fuel	514.3	416.5	97.8	23.5
Nuclear back-end expenses *1	9.7	10.1	(0.4)	(4.3)
Purchased power, and transmission charges, etc. *2	323.2	271.2	51.9	19.1
Maintenance	121.7	136.9	(15.1)	(11.1)
Depreciation	184.7	170.6	14.0	8.3
Taxes other than income taxes	90.6	92.1	(1.4)	(1.6)
Levy under act on purchase of renewable energy sourced electricity	201.1	169.5	31.6	18.7
Other	158.1	173.0	(14.8)	(8.6)
Electricity business operating expenses	1,739.7	1,571.6	168.0	10.7
Incidental business operating expenses	36.1	28.5	7.6	27.0
Total operating expenses	1,775.8	1,600.1	175.7	11.0

【Major factors for change】

- An increase in fuel price

- An increase in purchase of renewable energy sourced electricity

- An increase in surcharge under act on purchase of renewable energy sourced electricity
  < Equivalent to surcharge under act on purchase of renewable energy sourced electricity >

*1 Contributions for reprocessing of irradiated nuclear fuel, Designated radioactive waste disposal expenses, Decommissioning nuclear power plants

*2 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

Non-consolidated Statements of Income <3>: Net Income

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

	2017/3Q (A)	2016/3Q (B)	Change (A-B)	Change (A-B)/B
Operating income	111.9	155.3	(43.4)	(28.0)
Non-operating revenues	9.0	11.3	(2.3)	(20.3)
Non-operating expenses	23.4	23.1	0.2	1.3
Ordinary revenues	1,896.8	1,766.8	130.0	7.4
Ordinary expenses	1,799.3	1,623.2	176.0	10.8
Ordinary income	97.5	143.5	(46.0)	(32.1)
Reserve for fluctuation in water levels	(0.4)	(0.1)	(0.2)	-
Income taxes	29.3	39.7	(10.3)	(26.0)
Net income	68.5	104.0	(35.4)	(34.1)

【Major factors for change】

- Electricity business : -38.7
- Incidental business : -4.7

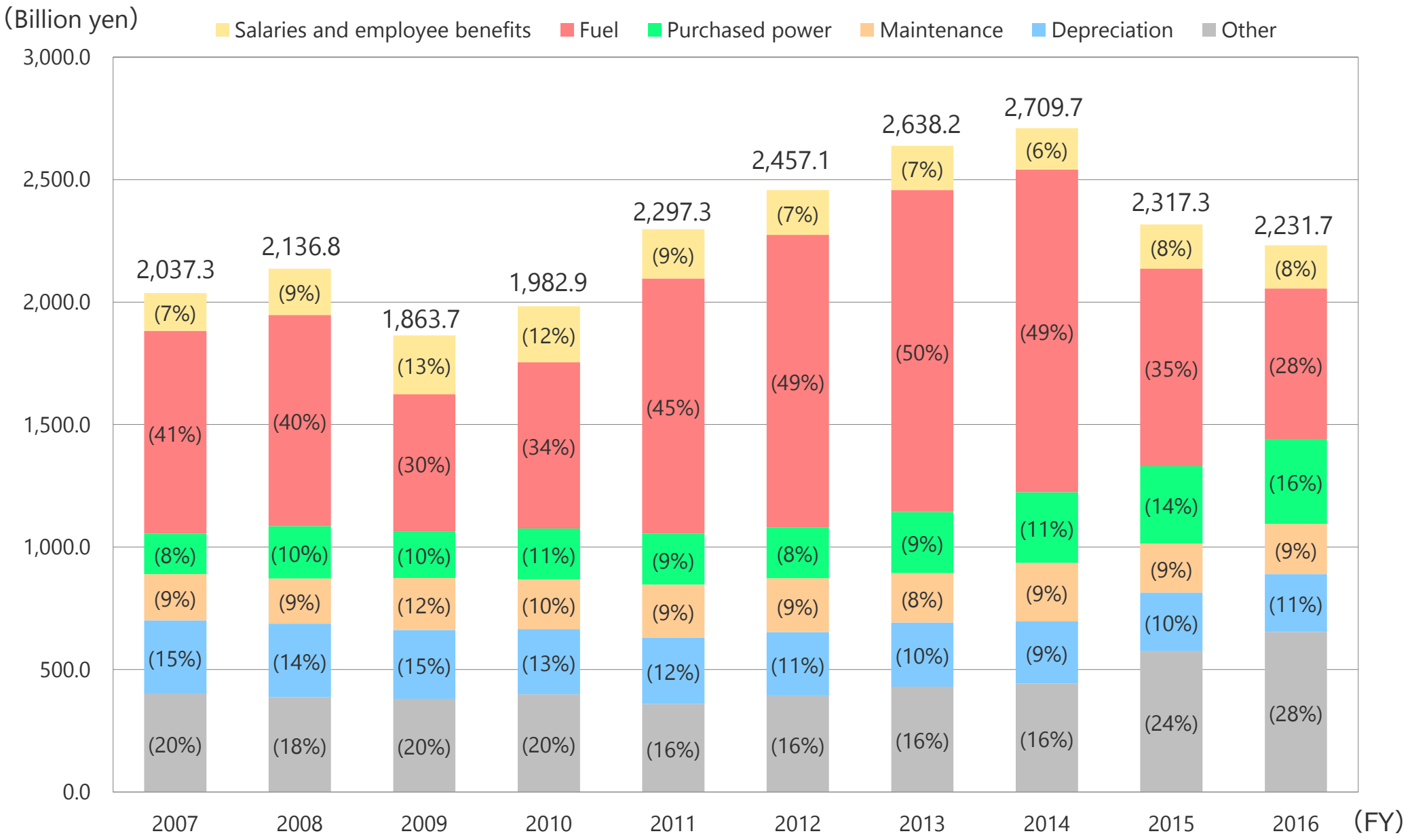
Consolidated and Non-consolidated Financial Standing

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

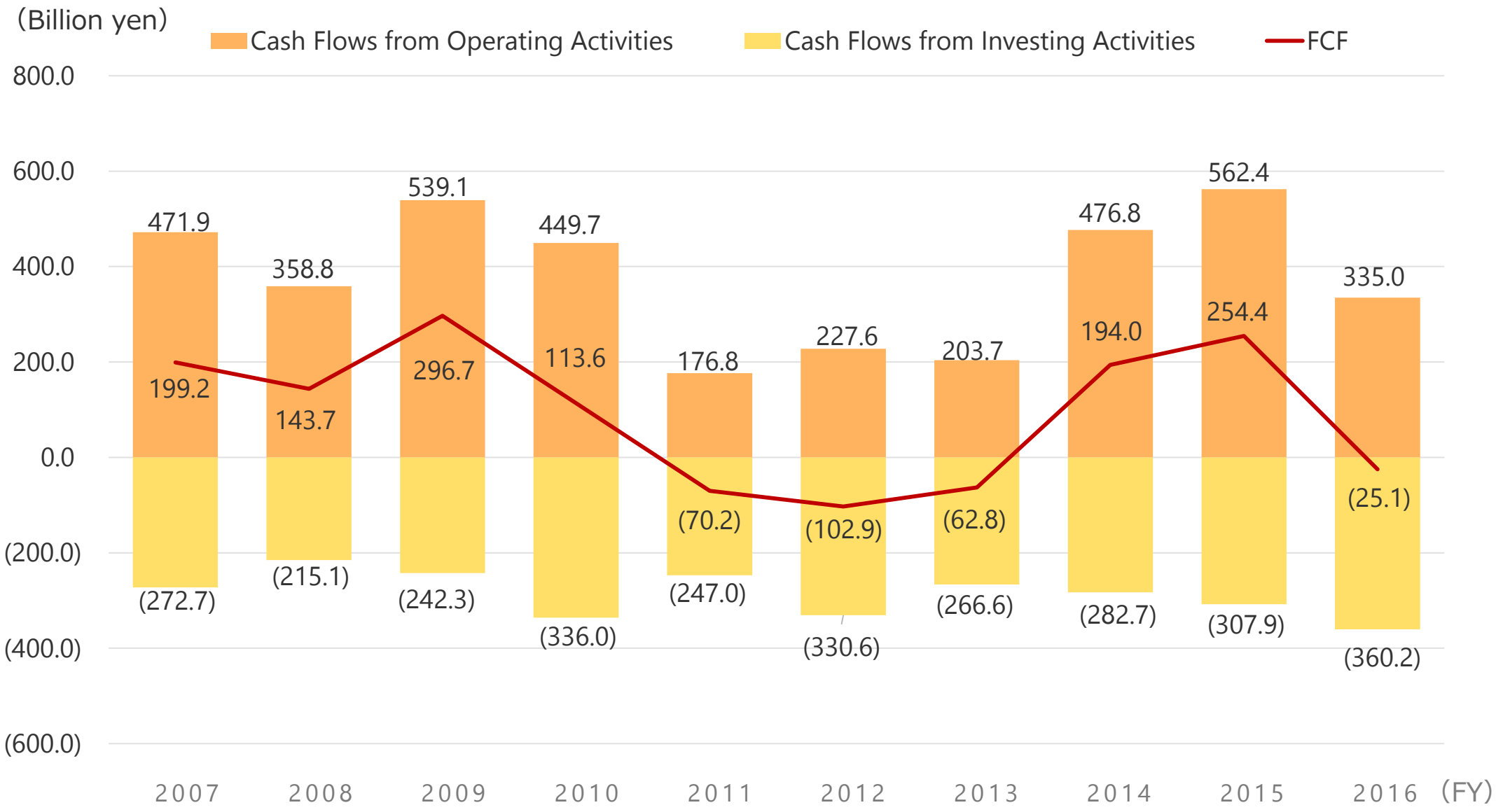
	2017.12 (A)	2017.3 (B)	Change (A-B)
Assets	5,423.3	5,412.3	11.0
	<4,922.9>	<4,956.5>	<(33.5)>
Liabilities	3,619.7	3,687.5	(67.8)
	<3,454.7>	<3,535.9>	<(81.2)>
Net assets	1,803.6	1,724.7	78.8
	<1,468.2>	<1,420.5>	<47.6>
Shareholders' equity ratio (%)	32.1	31.1	1.0
	<29.8>	<28.7>	<1.1>
Outstanding interest-bearing debt	2,600.5	2,674.7	(74.2)
	<2,580.8>	<2,662.8>	<(81.9)>

Non-consolidated figures in <>.

Electricity Business Operating Expenses (Non-consolidated)

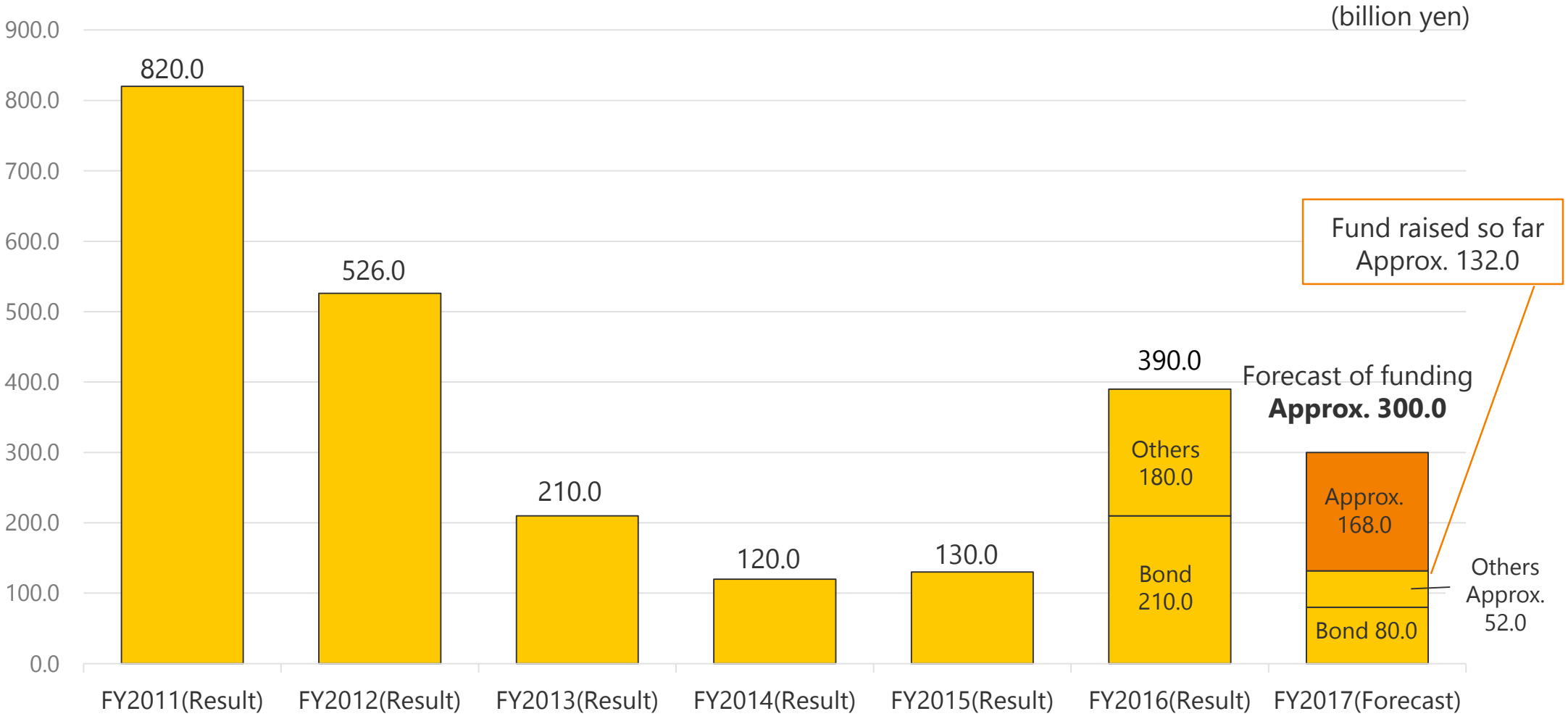


Cash Flow (Consolidated)

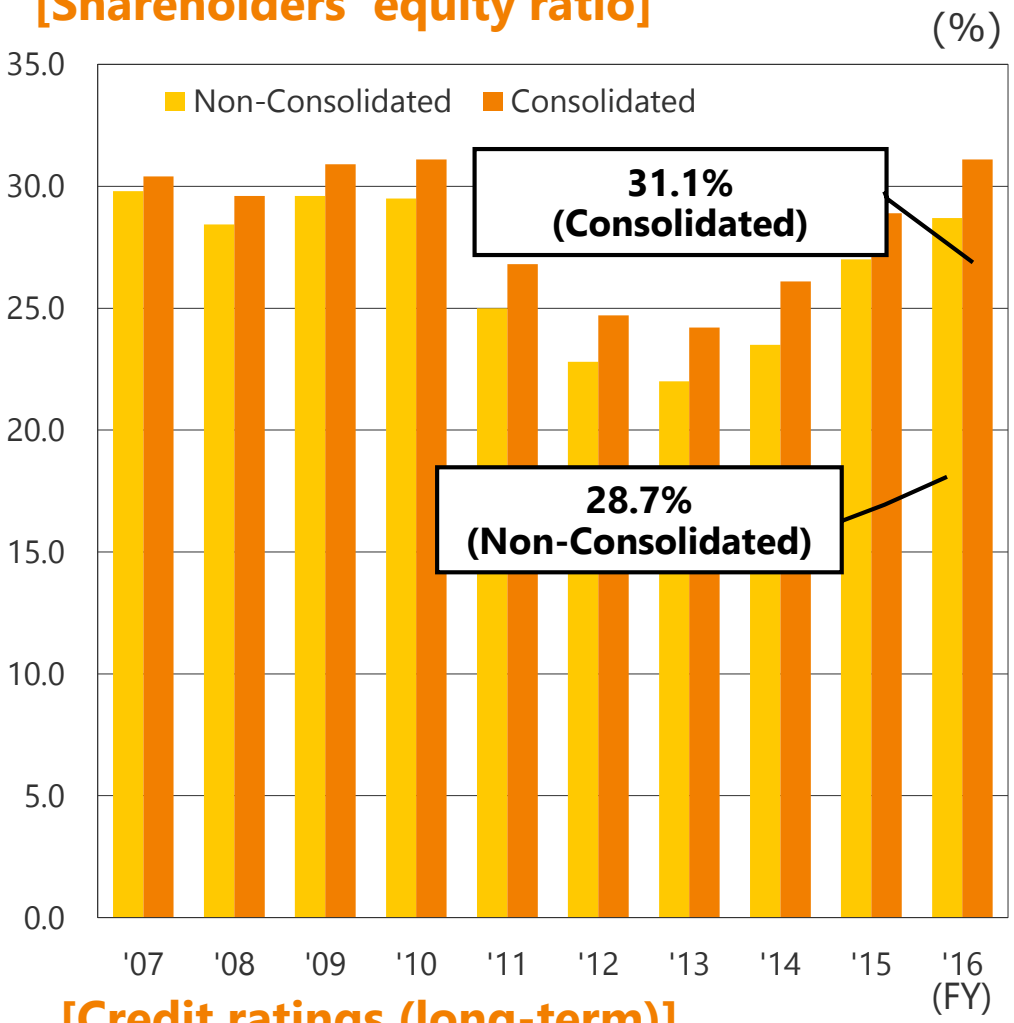


Fund Raising

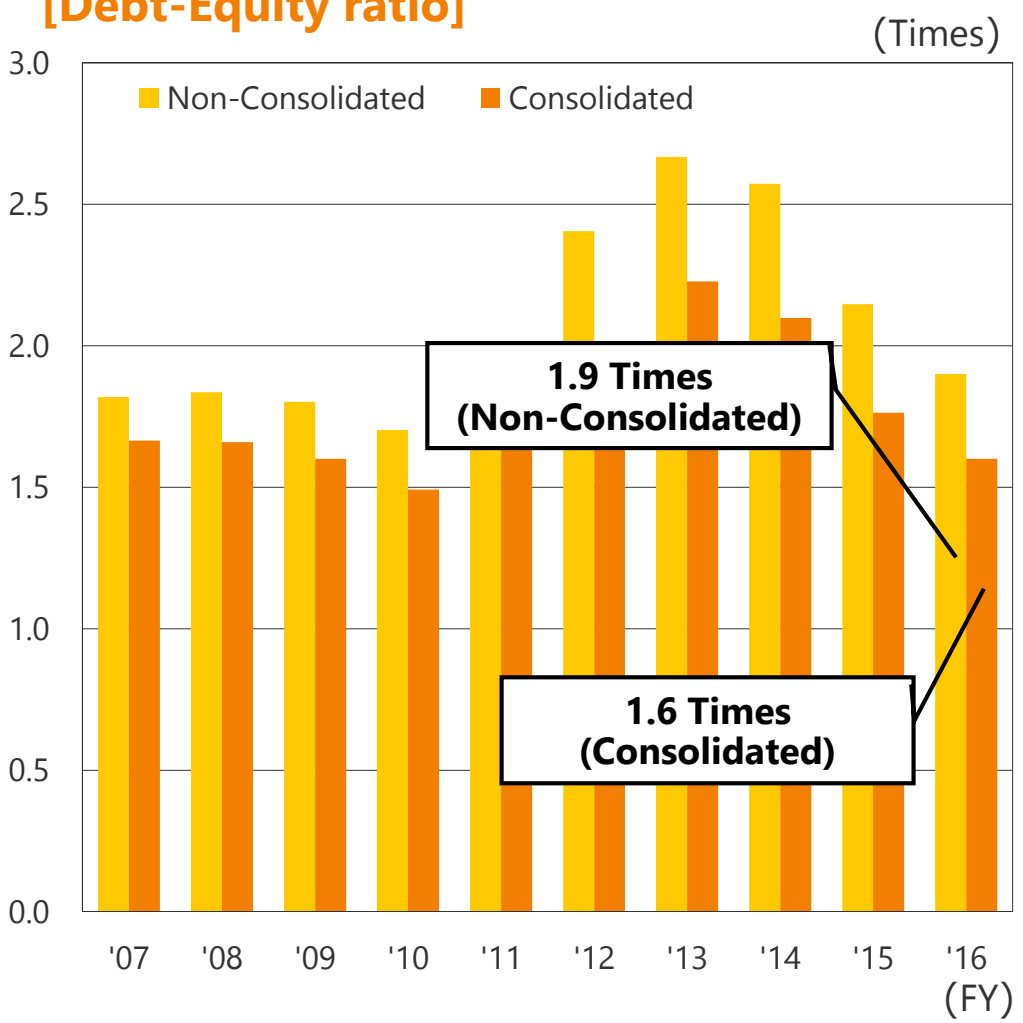
- We raised total approximately 1,500 billion yen in long-term funding for 3 years since the shutdown of Hamaoka Nuclear Power Station.
- We raised 390 billion yen in long-term funding in FY2016.
- We forecast to raise approximately 300 billion yen in long-term funding in FY2017.



[Shareholders' equity ratio]



[Debt-Equity ratio]



[Credit ratings (long-term)]

Moody's	R&I	JCR
A3	A+	AA

03 Management Situation

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.

Development of High Efficiency Thermal Power Plants

[Outline of development of Nishi-Nagoya Thermal Power Plant Unit No.7]

Output (at the generation end)	2,376 MW
Thermal efficiency (LHV basis)	Approx. 62%
Fuel	LNG

Effect due to start of operation
- LNG consumptions
  Reduce 0.5 million tons per year
- CO_2 emissions
  Reduce 1.4 million tons per year

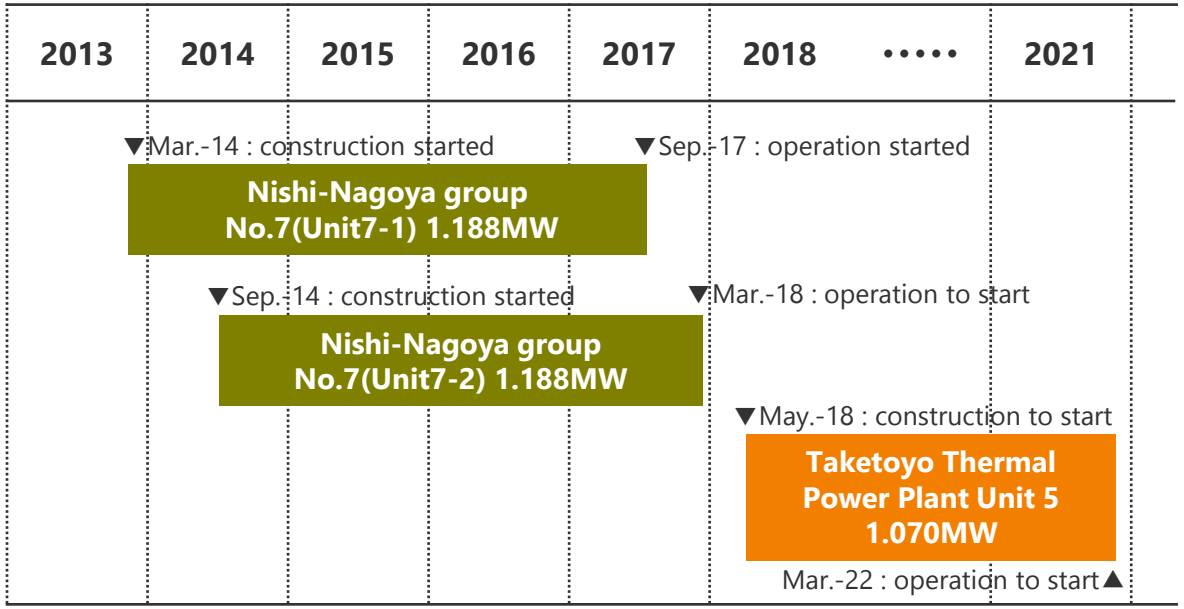
[Outline of development of Taketoyo Thermal Power Plant Unit No.5]

Output (at the generation end)		1,070 MW
Thermal efficiency (LHV basis)		46%
Fuel		Coal・Wood biomass
Wood biomass	Mixed fuel burning ratio	Approx. 17% (Heating value ratio)
	Annual use of fuel	Approx. 0.5 million tons
	Electricity generated by Biomass power	Approx. 1.2 TWh per year

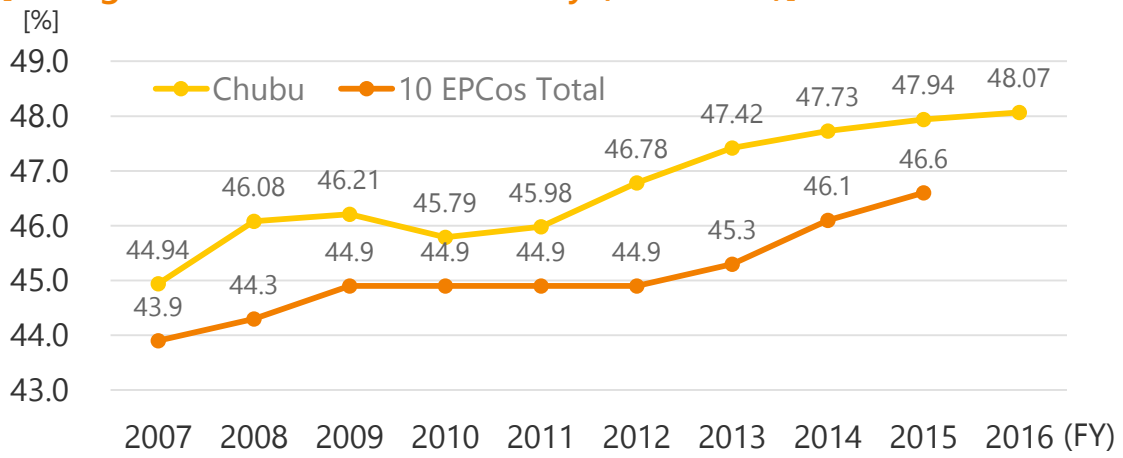
Effect due to start of operation
- Secure the stable and reasonably priced base load power source
- CO_2 emissions
  Reduce 0.9 million tons per year*

* Comparison with single combustion of coal

(Reference) Development schedule



[Change of total thermal efficiency (LHV basis)]



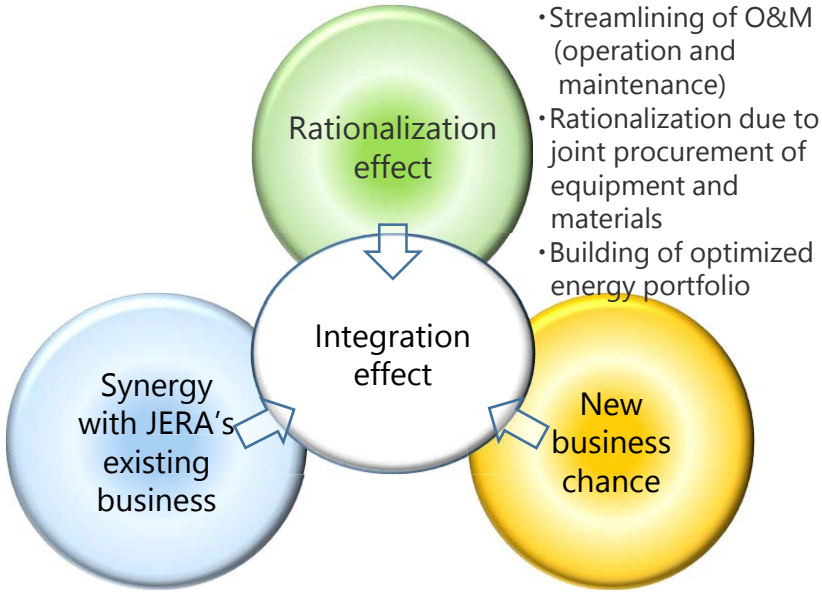
(Note)"10 EPCos Total" values are based on " Environmental Action Plan by the Japanese Electric Utility Industry" published by The Federation of Electric Power Companies of Japan (FEPC)

Business Expansion of JERA

- TEPCO Fuel & Power, Incorporated and Chubu Electric established "JERA Co., Inc.", as a new company that implements "a comprehensive alliance covering the entire energy supply chain, from upstream fuel and procurement through power generation." After establishing JERA, business was gradually transferred from both companies to JERA.
- In business that has been transferred so far, actions that could not be realized by Chubu Electric Power alone are initiated, and in June 2017, it has been concluded the joint-venture agreement on integration of fuel receiving/storage and gas transportation businesses, and existing thermal power generation businesses to JERA.
- In order to develop continuous growth strategies and further improve corporate values of JERA, examinations will be made in detail toward integration.

[Integration synergy effects]

100 billion yen/year within **five years** of integration



- Streamlining of O&M (operation and maintenance)
- Rationalization due to joint procurement of equipment and materials
- Building of optimized energy portfolio

- Optimization of procurement due to integrated management of existing fuel contract
- Incorporation of know-how cultivated in overseas energy market into domestic thermal power business

- Acquisition of revenue due to market transactions and sales by a third party
- Direct sales of O&M (operation and maintenance)
- Acquisition of revenue due to expansion of sales of gas and LNG

[Roadmap of the comprehensive alliance]

April 30, 2015	Established JERA Start new fuel procurement and fuel related business, new establishment and replacement of domestic thermal power stations and new overseas power generation business
October 1, 2015	Integration of fuel transportation business and fuel trading business to JERA
July 1, 2016	Integration of existing fuel businesses(upstream/procurement) and existing overseas power generation/energy infrastructure business to JERA
March 28, 2017	Agreement on to integrate fuel receiving/storage and gas transportation businesses and existing thermal power generation business to JERA
June 8, 2017	Conclusion of joint-venture agreement on integration of fuel receiving/storage and gas transportation businesses, and existing thermal power generation businesses to JERA.
1st half FY 2019	Integration of fuel receiving/storage and gas transportation businesses, and existing thermal power generation business（target）

[Overview of measures to prevent the restriction on JERA business activities]

①Dividend rules

- After retained earnings required to invest JERA for business growth, deal with risks and maintain investment grade rating, dividend amounts shall be determined after agreement by both shareholders referring "market average payout ratio" "as a guideline".

②Mechanism for complying with dividend rules

- If material concerns arise over the financial situation of a shareholder, the right of the aforementioned shareholder to set dividends shall be immediately restricted.
- If the aforementioned concerns are materialized, the other shareholder shall become the majority shareholder by acquiring one additional share.

Expansion of Total Energy Services

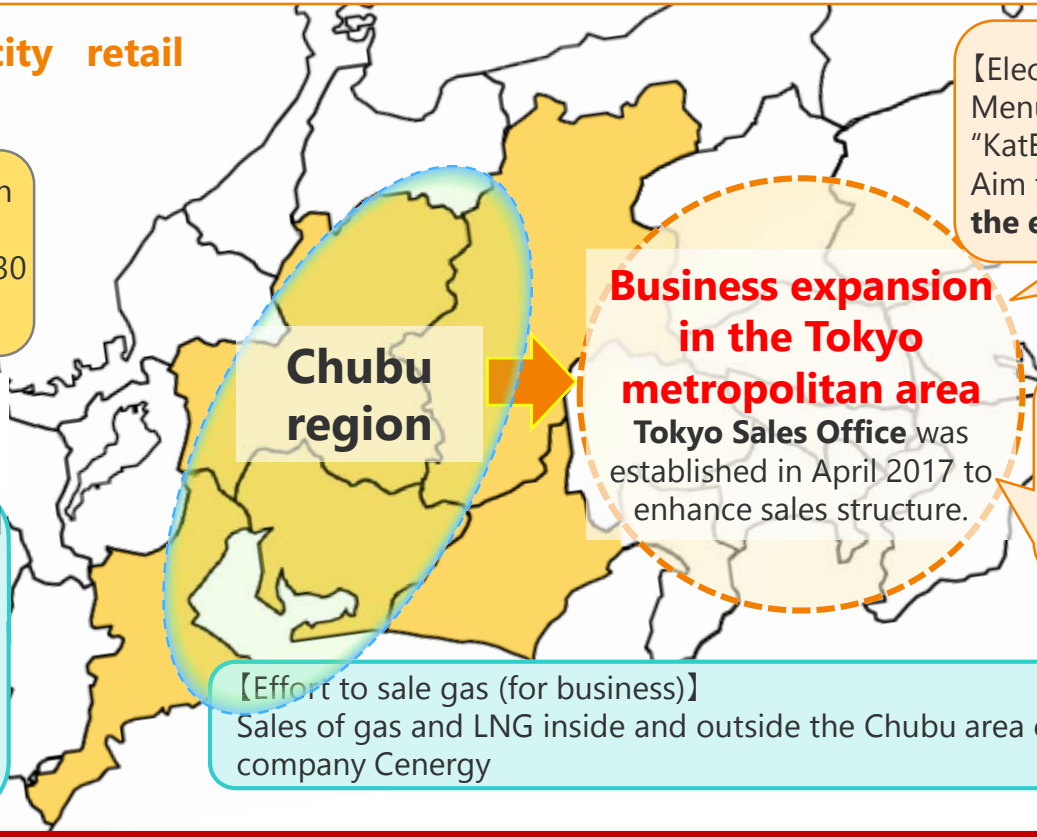
- Taking full liberalization of entry to gas business from April 2017 as an opportunity, gas has begun to be sold to household customers in addition to conventional customers for industrial use and business use.
- With competitive procurement capacity of JERA as a lever, total energy service will be expanded through development and provision of new services centering on "gas and power".

[Full liberalization of the electricity retail markets (April 1, 2016)]

New electric tariff menu in Chubu region (for household)
The number of applications : Approx. 1.30 million (As of January, 10) *

[Full liberalization of the gas retail markets (April 1, 2017)]

【Gas retail sales target (for household, etc)】
Sales for household and other in Toho Gas area (Aichi, Gifu and Mie Pref.)
200 thousand customers in five years
Aim to achieve **100 thousand customers** by the end of FY2017
The number of applications : Approx. 96 thousand (As of January, 28)



【Electricity retail sales target (for household)】
Menu for the Tokyo metropolitan area "KatEne Plan"
Aim to achieve **200 thousand customers at the earliest**

【Effort to sale electricity (for business)】
Sales utilizing customer base in the Chubu area and Diamond Power of group companies

【Effort to sale gas (for business)】
Sales of gas and LNG inside and outside the Chubu area coordinating with group company Cenergy

Expansion of gas & electric power in the Chubu region and the Tokyo metropolitan area

Electricity sales outside Chubu region, primarily Tokyo metropolitan area in 2030
→ Aim for increase to **20 TWh per year**
Gas/LNG sales in and outside Chubu region → Aim for increase to **3 MTPA**

* The number of switching from conventional menu to new tariff menu ("Point Plan" , "Otoku Plan" , "Toku-toku Plan" , "Biji-toku Plan" , "Smart life Plan").

Safety Improvement Measures on Hamaoka Nuclear Power Station <Onsite>

CHUBU Electric Power

- Major construction works at Unit 4 have been completed excluding some construction works including re-examination of construction work details based on the situation in the field. We are presently undergoing inspections by the Nuclear Regulation Authority to ensure that the power plant is safe and complies with the new regulatory standards.

  (Reference) On-site survey was conducted by members of the Nuclear Regulation Authority regarding items concerning the plant in June 2015 and items concerning tsunami and earthquake in March 2017.
- We are strongly committed to preventing similar accidents that happened at Fukushima Daiich Nuclear Power Station, and will continue to strengthen our equipment "onsite" abilities, while fostering collaboration with related organizations to enhance our "offsite" abilities to prepare against nuclear accidents.

Onsite（in the premises of the plant）

The risk of nuclear accidents

1 Prevent the occurrence of any problems
We designed the nuclear power plant to be free from problems that could lead to accidents, and work to maintain and manage the quality.

Even if a problem takes place,

2 Prevent any problem from developing into an accident
We work to identify a problem as early as possible and suspend the operation of the reactor as necessary, thereby preventing the problem from developing into an accident

Even if the problem leads to an accident,

3 Be prepared for an accident; prevent an accident from escalating to a severe accident
We ensure that the plant has enough functions to cool the reactors and their containers. We also take multifaceted measures to prepare for the loss of these functions, thereby preventing a serious meltdown of the reactor core (severe accident).

Even in the event of a reactor core meltdown,

4 Mitigate the influence of a severe accident
We will mitigate the influence of a severe accident by making flexible responses, including using portable power sources and water injection and heat removal equipment.

Reduced to the minimum
Still some risks remain

Low

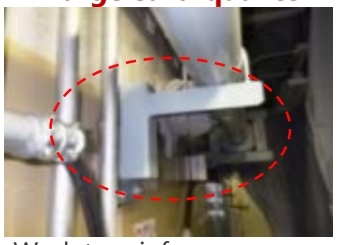
Offsite（next page）

Preventing accidents

Preparing for accidents

<Enhancement of the equipment measures>

Resistance against large earthquakes



Work to reinforce supports for pipes

Do not allow flooding by tsunami

Protection wall (height:22m above sea level)

Secure multi-layered measures, including power source and water injection heat removal equipment

More power supply

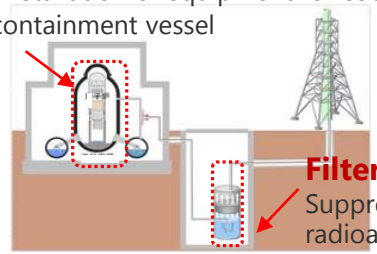
Gas turbine generator

More water injection

Mobile water injection pump

Prevent breakage of containers

Installation of equipment for cooling top cover of containment vessel



Filter vent equipment
Suppress the serious release of radioactive substances

<Enhancement of onsite staff's abilities>

Efforts for effectively functioning equipment

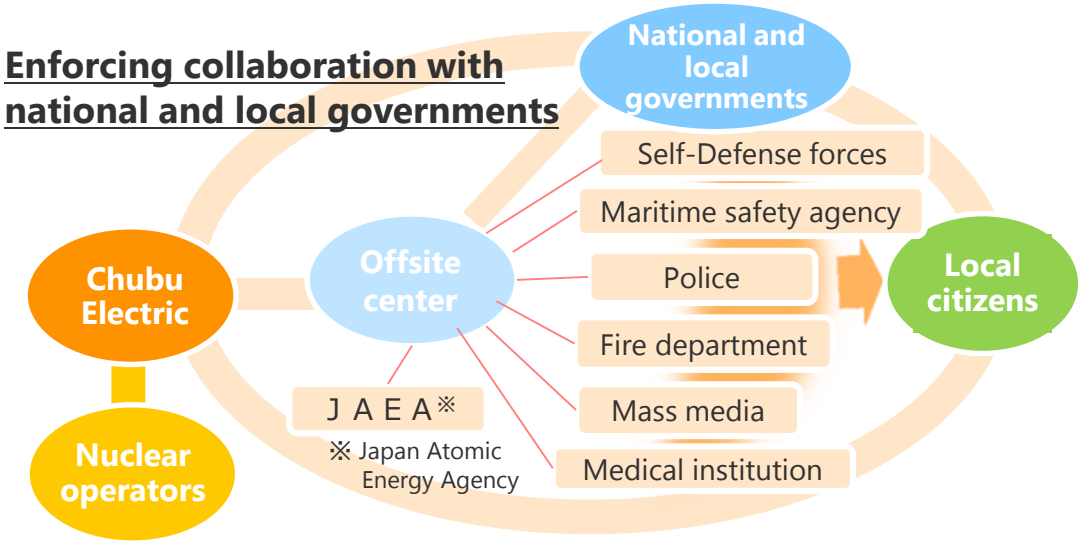
Emergency Response Force (ERF)
Securing of initial response personnel 24 hours a day, 365 days a year

Operation of Mobile water injection pump

Offsite（outside of the power plant site）

As preparation for nuclear disasters, coordination with the national government and local governments will be enhanced so that support and cooperation concerning evacuation of residents can be provided with the local community.

Enforcing collaboration with national and local governments



Strengthen the system for issues on resident evacuation

Nuclear disaster training held by Shizuoka Prefecture

Training to check the contamination level

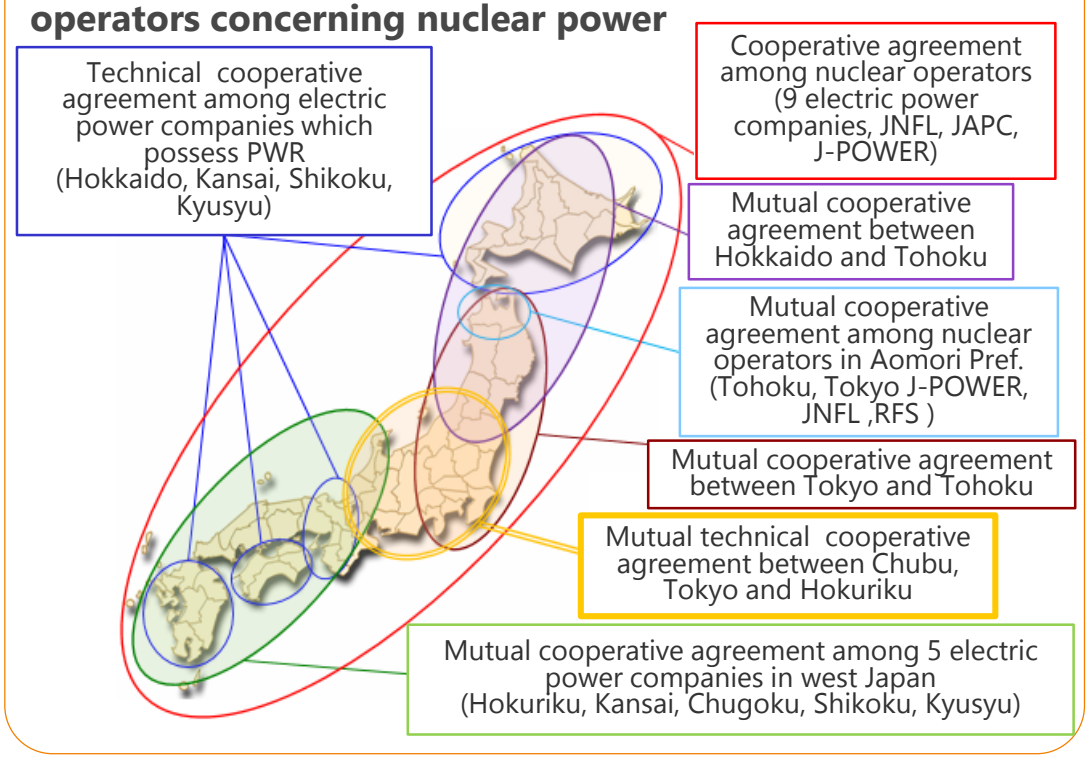
Training of transport of patients with risk of exposure to medical institutions

Mutual cooperative systems

On March 7, 2017, Chubu Electric Power concluded an agreement on mutual technical cooperation regarding improvement of nuclear safety with TEPCO Holdings and Hokuriku Electric Power.

By having knowledge shared among the 3 companies, safety is further enhanced, and due to mutual cooperation in support for settling the accident and support for evacuation of residents when a nuclear disaster occurs, effectiveness of response actions for a nuclear disaster is further improved.

Nationwide expansion of cooperative agreement of operators concerning nuclear power



Efforts for Development of Business Structure that can Adapt to Change of Environment

[Reinforcement of business foundation utilizing ICT and expansion of business areas]

- ICT such as IoT, big data and AI will be utilized for reinforcement of business foundation, and examinations will be made for provision of new services.

<Specific examples>

Operation support service of thermal power generation	Monitoring of signs of equipment failure by utilizing big data and analysis technology
New service due to IoT of telegraph poles	Watching service for children and senior citizens by installing various sensors to telegraph poles
Achieve the sophistication and efficiency power transmission/distribution business	Use of advanced technology for formation, maintenance and management of equipment
Services for household	Energy management service utilizing IoT

[Development of business structure according to change of market structure]

- Outlook that electricity demand in Japan will drastically decrease and will not structurally expand in the future
- Increase of share of new electricity due to further intensified competition as an impact of full liberalization of entry to electricity business

Development of business structure where efforts are proactively made for establishment of new revenue base including gas & power
Further improvement of corporate values by continuing to realize efficient management and creating new business and innovative service ahead of other companies

04 Reference Data (2) : Management Information

Schedule of the Electricity and Gas System Reform

[Schedule of the electricity system reform]

	Schedule for implementing the measures	Schedule for Enacted the bill
3rd 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)

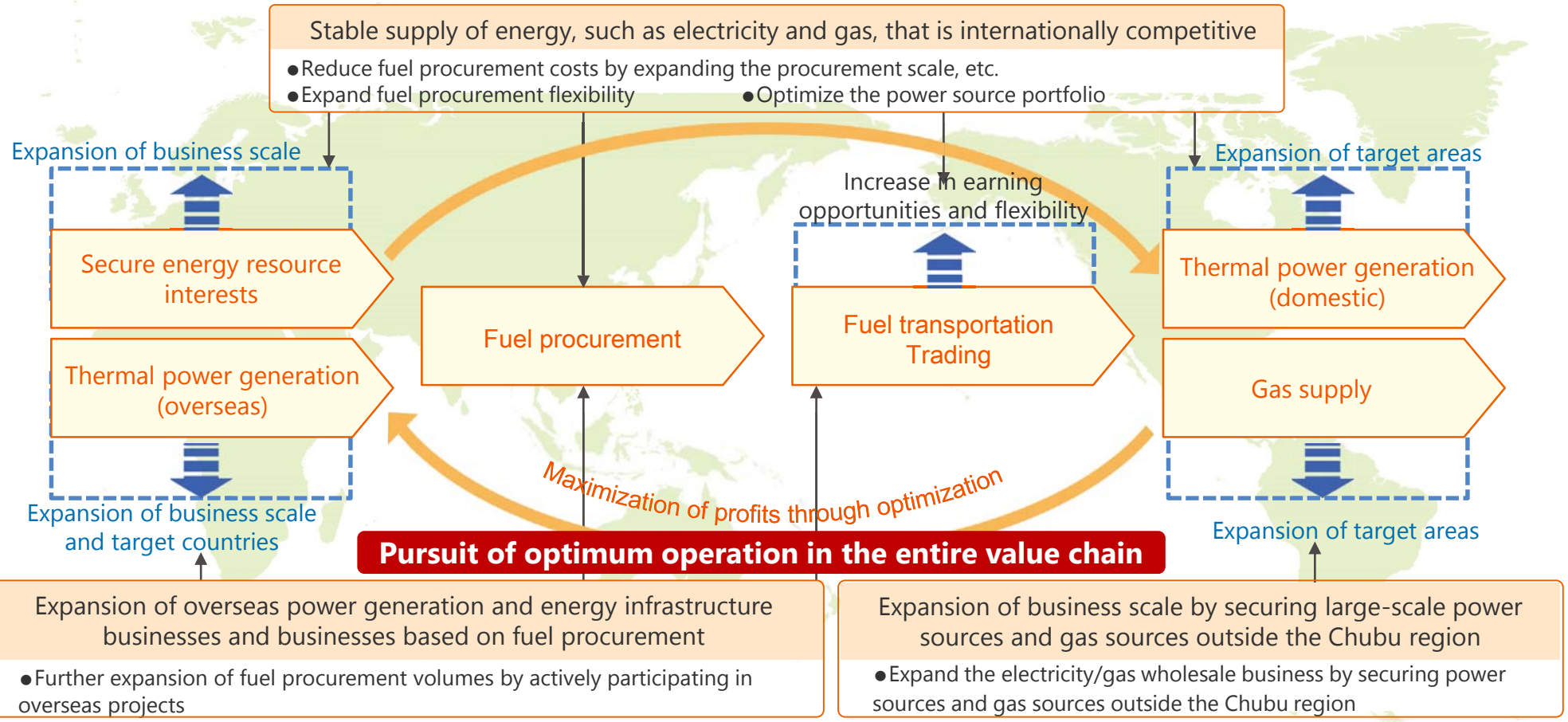
	Timing for the introduction	Contents
Establishment of the Base-load power market	FY2019	・Establishment of a market that provides PPS with easy access to base-load power ・Institutionalizing major electric power companies' supply of base-load power to the market
Revision of utilization rule of interconnection 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	Enacted on June 17, 2015
Legal unbundling of the gas pipeline business (Tokyo Gas Co., Ltd., Osaka Gas Co., Ltd., and Toho Gas Co., Ltd)	In April 2022	

Initiatives of JERA <1>

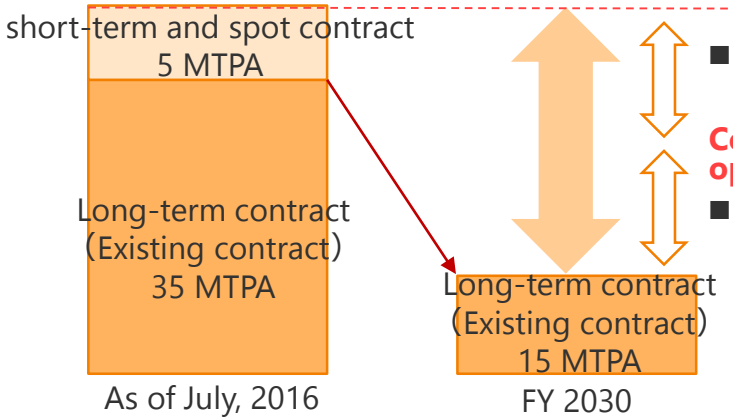
- JERA will expand business based on investment profits from each business and profits generated from the optimization of the value chain.
  - ➢ We will divide the value chain from the securing of interests of energy resources to procurement, transportation, gas supply and power generation (domestic 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.



[Fuel business (Upstream, procurement, transportation, trading)]

Optimum portfolio is create using the world's largest procurement scale and trading, and fuel procurement that can flexibly respond to change of business environment in the future is realized.

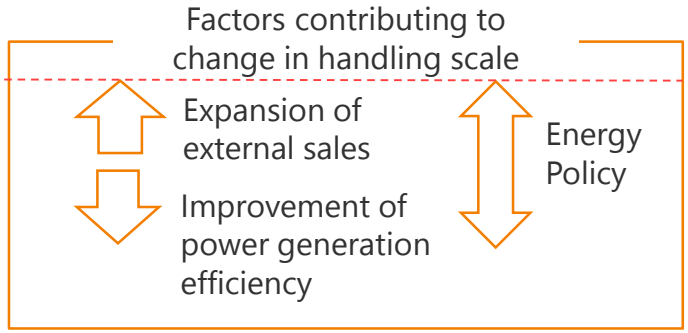
○Creation of optimum portfolio of LNG



■ Procurement with short-term and spot contract

Combine various contracts to form the optimum portfolio*

■ Procurement with long-term contract
Examination of acquisition of upstream concession at the same time

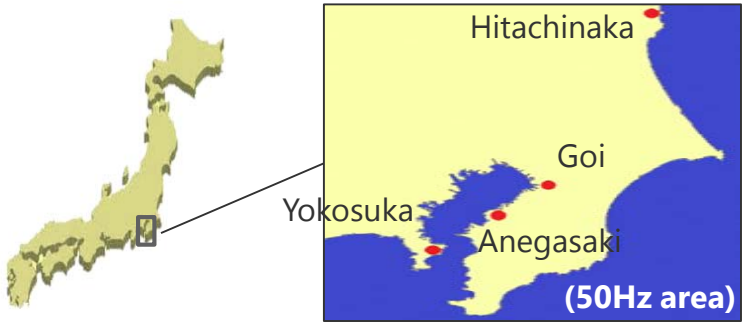


* Procurement by combining short-term and spot contract which has exceptional elasticity of procurement amount and long-term contract which has exceptional economy and stability

[Domestic power generation business (New establishment and replacement)]

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.

Place (Fuel)	Output	Start of operation
Hitachinaka (Coal)	650 MW	1st half FY 2021
Goi (LNG)	Approx. 2,340 MW	FY 2022 - FY 2023
Anegasaki (LNG)	Approx. 1,950 MW	FY 2022 - FY 2023
Yokosuka (Coal)	Approx. 1,300 MW	FY 2023

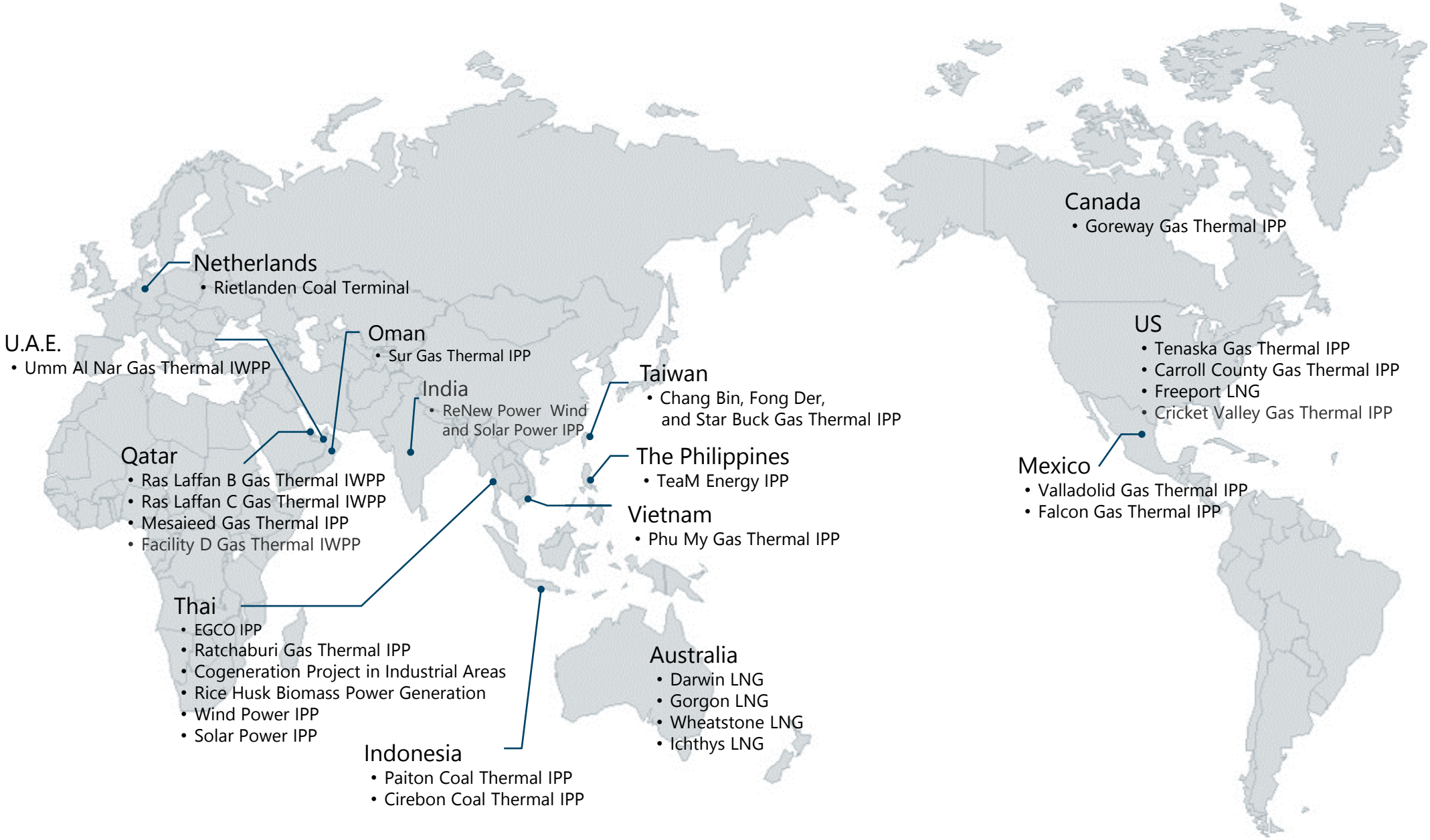


[Overseas power generation business]

By expanding power generation and energy infrastructure business overseas, economic growth and reduction of environmental load in developing countries are supported and new revenue source is acquired.

(US) Participation in Cricket Valley Gas Thermal IPP	Jan, 2017	The first new power generation project outside of Japan in which JERA will take part, after succession of overseas power generation business
(India) Participation in Renewable Energy Business	Feb, 2017	Acquisition of a part of shares from ReNew in India. Aim to construct the power generation portfolio that includes renewable energy.

(Reference) Overseas IPP and Fuel Projects of JERA Group (As of January, 2018)



Sales Strategy <1> : Optimum Proposal of Gas & Electric Power

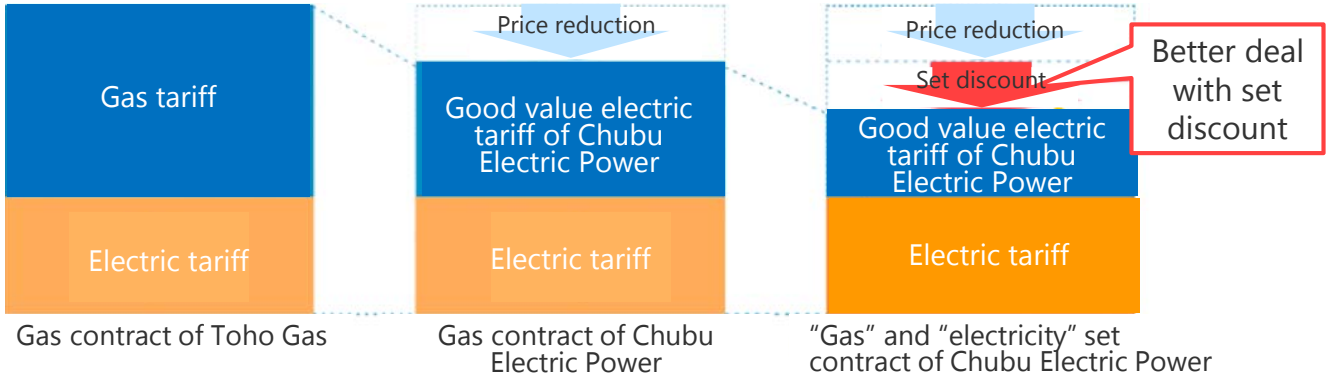
- We arranged seven gas tariff menus, i.e. the KatEne Gas Plan for households and the BizEne Gas Plan geared toward businesses. They have been set at prices lower than the gas tariff menu offered by Toho Gas*.

  * There are some cases that our menu is not lower than Toho Gas's menu, depending on current menu selected by the customer.
- We arranged a KatEne/BizEne Gas Set, which discounts 2% off the gas tariff by signing a contract both for electricity and gas.

Menu			Price reduction rate of gas tariff *1	Set discount applied
Gas	Household	KatEne Gas Plan 1	Be equal to 5-6%	Be equal to 7-8%
		KatEne Gas Plan 2	Be equal to 6%	Be equal to 8%
		KatEne Gas plan 3	Be equal to 6%	Be equal to 8%
	Business	BizEne Gas Plan 1	Be equal to 6-8%	Be equal to 8-10%
		BizEne Gas Plan 2	Be equal to 7%	Be equal to 9%
		BizEne Gas Plan 3	Be equal to 5%	Be equal to 7%
		BizEne Gas Plan 4	Its merit varies significantly depending on the gas usage pattern and volume.	Its merit varies significantly depending on the gas usage pattern and volume.

Menu			Discount rate *1
Electricity	Electric lightning	Point Plan (10-30A)	Be equal to 1%
		Otoku Plan (40-60A, 6kVA)	Be equal to 3%
		Toku-Toku Plan (7kVA or more)	Be equal to 4-5%
		Smart Life Plan *2	Advantages according to the state of use of each time zone
	Power	Biji-Toku Plan *3	Be equal to 5-7%

Better deal with set discount of gas tariff



Gas contract of Toho Gas

Gas contract of Chubu Electric Power

"Gas" and "electricity" set contract of Chubu Electric Power

*1 Gas menus are compared with Toho Gas's menu and Electricity menus are compared with our conventional menu.

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

*3 Biji-Toku Plan is excluded from the set discount offer.

Sales Strategy <2> : Gas Sales Framework

- 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.
- We started to sale gas to household and restaurant and other in April, 2017.
(Approx. 96 thousand applications as of January, 28)

[Entering into the gas retail business]

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

Partners for sales

Partners for security

Promotion methods

Door-to-door sales

TVCM DM

KatEne BizEne

Sales by agent, etc
・Chubu Telecommunications (ctc)
・Community Network Center（CNCi）Group 11 companies
・CCJ Group 2 companies
・TOENEC , etc.

Security
・Iwatani
・GASTEC SERVICE
・Ogaki gas
・CHUBU SEIKI

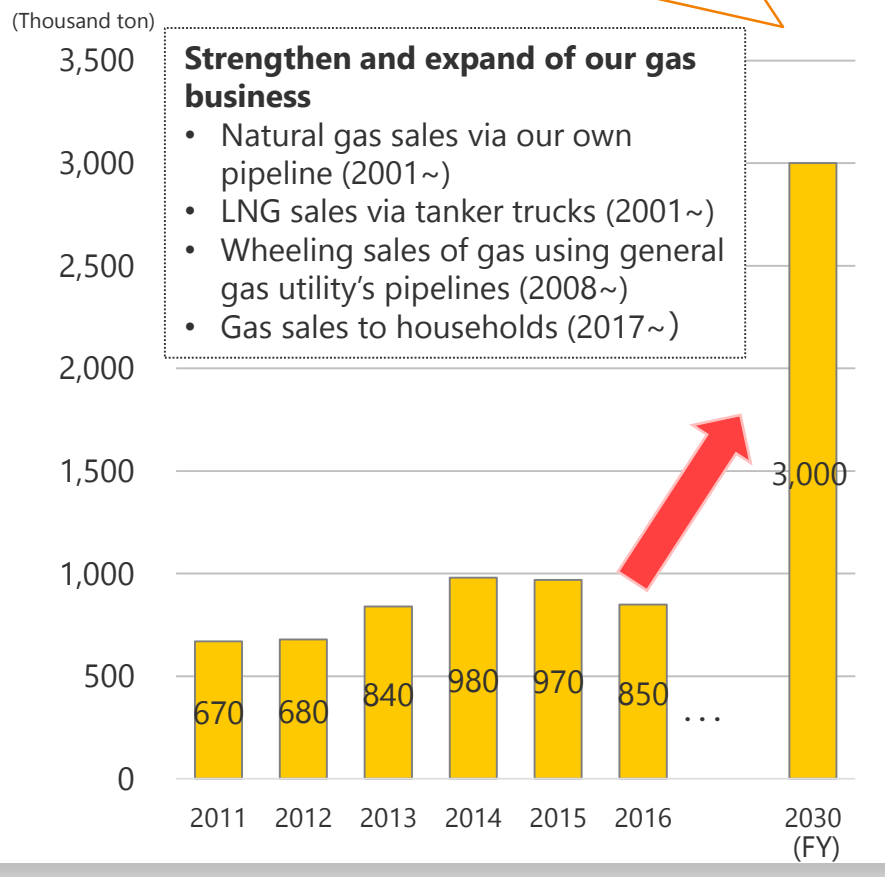
Security operation framework
(including directly-managed team)
28 office, 300 persons

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
(around 10% of Toho Gas customers) by the end of FY 2021,
and to achieve **100 thousand** customers by the end of FY 2017.

[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



Sales Strategy <3> : Electricity Sales Framework in the Tokyo Metropolitan Area

[Electricity tariff menu in the Tokyo metropolitan area (KatEne Plan)]

Features

① Top-class low price

- Discount rate is 5-10% (KatEne point included) compared with TEPCO Energy Partner's existing menu.

② Benefit arising for all customer in various consumption

- By adopting a 3-stage fee system, the unit price of the basic charge and energy charge is reduced respectively.

[Partners] Promote electric sales through multiple sales channels, including sales through partner companies as well as direct sales

	Procurement	Sales channels	Overview
House hold	Chubu Electric	Chubu Electric	Sales of the KatEne plan
		BIGLOBE	Joint development menu （KatEne Plan + Communication）
		Shizuoka Bank	Joint development menu （KatEne Plan + Home loan）
		Chubu Telecommunications (ctc)	Joint development menu （KatEne Plan + Communication）
	Diamond Power	18 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	Chubu Electric		Negotiation-based sales in the Tokyo metropolitan area through the customer bases in the Chubu area
	Diamond Power		Negotiation-based sales in the Tokyo metropolitan area through the customer acquisition

[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	FY2021

Sales Strategy <4> : Enhancement of Points of Contact with Customers

＜Low voltage ＞
- Various services with high added values that contribute to convenient and comfortable life as “daily-life coordinator” are developed and provided.

＜High voltage・Extra-high voltage ＞
- Total energy solution is proactively promoted for various problems of corporate customers, thereby contributing to business of customers.
- Energy service activities coordinating with Cenergy Co. and Toenec Co. in the Chubu Electric Power group are carried out.

[Web service for household “KatEne”]

Member acquisition situation

More than 1.83 million Club KatEne members (As of December, 2017)

Aim for 2 million members by the end of FY2017

Main service

○Energy consumptions visualization

○Energy saving consultation

○Point service (KatEne Point)

○Shopping

○Home service

[Total energy solution service]

Energy solution

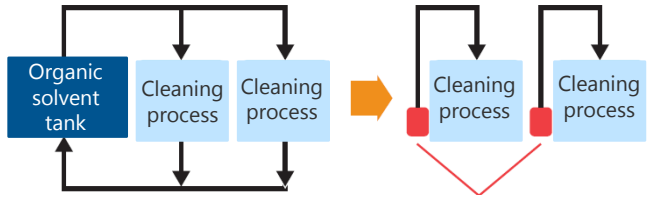
Response to wide range of needs of customers associated with from improvement of operation to repair of equipment
Proactively engage in needs concerning saving of gas, more than ever

Energy saving support service in overseas

Support energy conservation of customers in overseas offices where there is more room for energy conservation compared to Japan

Development-integrated solution

Chubu Electric Power provides “development-integrated solution” which repeats trial and error with customers including technical development for diversified and complicated problems of customers.



Products developed by Chubu electric
Portable heated steam type cleaning equipment

Improvement with the cleaning method using superheated steam was adopted by Toyota Motor Corporation in its degreasing process.

Compact line due to distributed installation of cleaning equipment
Environment is improved with clean cleaning method that does not use organic solvent

Hamaoka Nuclear Power Station <1> : The State of Power Station

- For Unit 4, application for review for checking conformity to New Regulatory Standards was submitted on February 14, 2014. For Unit 3, application for review for checking conformity to New Regulatory Requirements was submitted on June 16, 2015.
- For Unit 5, examination of restoration plan for the equipment where sea water entered due to damage of main condenser tube that occurred in 2011 will be advanced and actions for conformity to New Regulatory Standards will continue to be examined.

	Unit 3	Unit 4	Unit 5
Output	1,100 MW	1,137 MW	1,380 MW
Start of operation	August 28, 1987	September 3, 1993	January 18, 2005
Passed years (As of the end of January, 2018)	30 years	24 years	13 years
Application for examination to check for compliance with the new regulatory standards	June 16, 2015	February 14, 2014	— (Dealing with the seawater infiltration event)

Unit 1	Unit 2
In the decommissioning process (End of operation on January 30, 2009)	
Shift to the 2nd phase of the decommissioning process on February 3, 2016	

Hamaoka Nuclear Power Station <2> : 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).
- On March 27 and 28, 2017, on-site survey was conducted by the Nuclear Regulation Authority regarding items concerning earthquake and tsunami.

As of the end of January 2018

Matters subject	Matters related to earthquakes/tsunami, etc.	Matters related to the plant
Number of examination meetings to be held	23 times	58 times
	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 assessment of seismic motion effected by the inland crustal earthquakes and the oceanic plate earthquakes. -Explanation pertaining to division of the area between standard seismic motion Ss1 and Ss2. Tsunami assessment -Explanation pertaining to the defining design basis tsunami (overview) and tsunami assessment of the interplate earthquakes.	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	-Defining the standard seismic motion and design basis tsunami -Stability of foundation ground, etc.	- Probabilistic risk assessment - Tornados impact assessment, etc.

Hamaoka Nuclear Power Station <3> : Seawater Inflow via Damaged Tubes in the Main Condenser for Hamaoka Reactor No.5

[Fact]

- On May 14, 2011, when preparing for cold shutdown after reactor No. 5 was suspended, a portion of the tubes in the main condenser, through which seawater flowed to cool steam, was damaged. 400 tons of seawater flowed into the main condenser and 5 tons of sea water into the reactor.

[Inspection results]

☐ Reactor Pressure Vessels and Structure in the Reactor

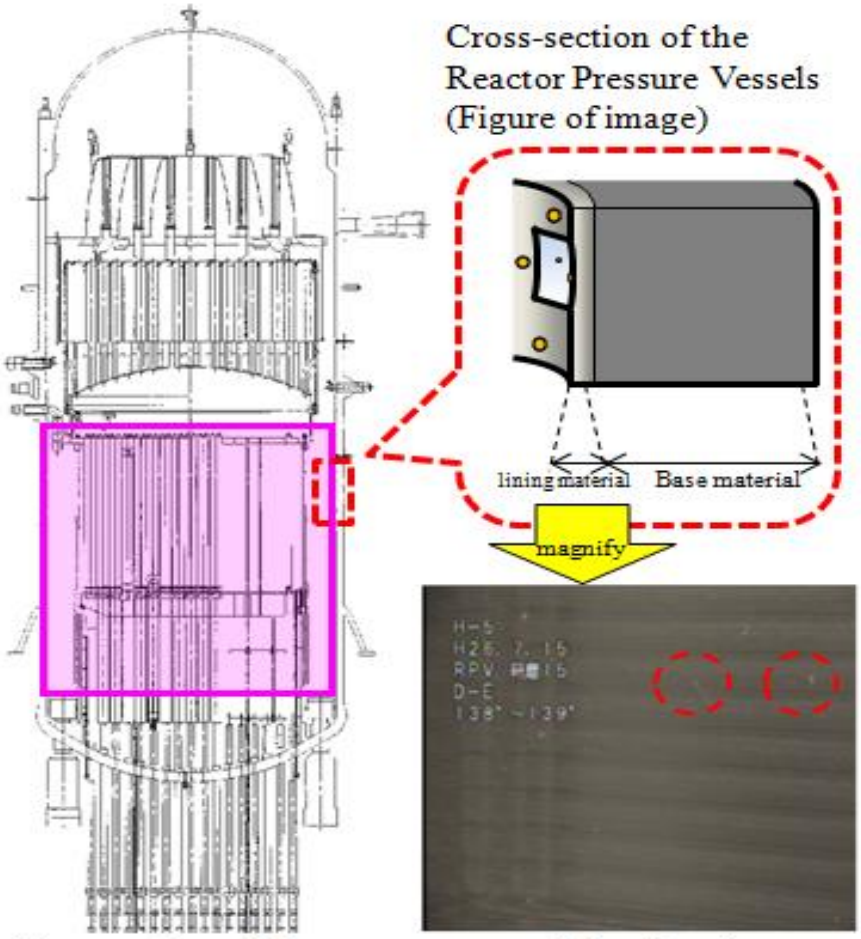
- We found parts of lined portions in the nuclear pressure vessels and in some equipment were corroded. However, the evaluation results showed that the control rods and neutron detectors needed to be replaced but that other devices could continue to be used.

☐ Other Reactor and Turbine Equipment

- We found corrosion in some equipment. However, We assessed that we would be able to maintain the functions of each equipment by repairing or replacing the defective parts.

[Future plan]

- We plan to consider restoration plans such as examining the necessary specific measures toward individual devices.
- As for Reactor No.5, we will summarize the total plan, which is not only the restoration plan in the event of seawater inflow but also such as anti-tsunami measures that conform to the new regulations.
- Our total plan will be evaluated at the Nuclear Regulation Authority.



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.

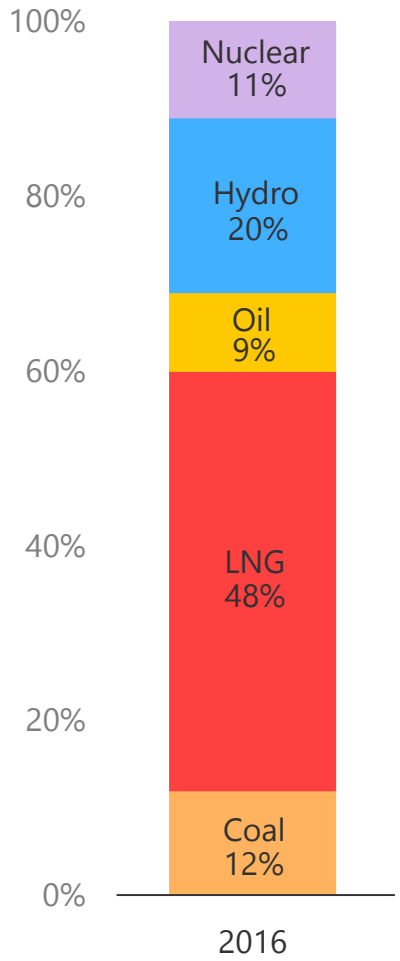
[Activities to take part in dialogue for 4 cities concerned]

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 : 31 thousand people in a year (Average for FY2012-FY2016)  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 (result) : 19 times and 1,939 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. 84 thousand households *And we implement third round of visit and dialogue from May 2017. (Visiting result : Approx. 38 thousand end of November, 2017)
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 (result) : 14 times <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. FY2016 (result) : 23 times Opinion-exchange meeting held by Omaezaki city▶ 

Composition of Power Sources and Electric Power Output (FY2016)

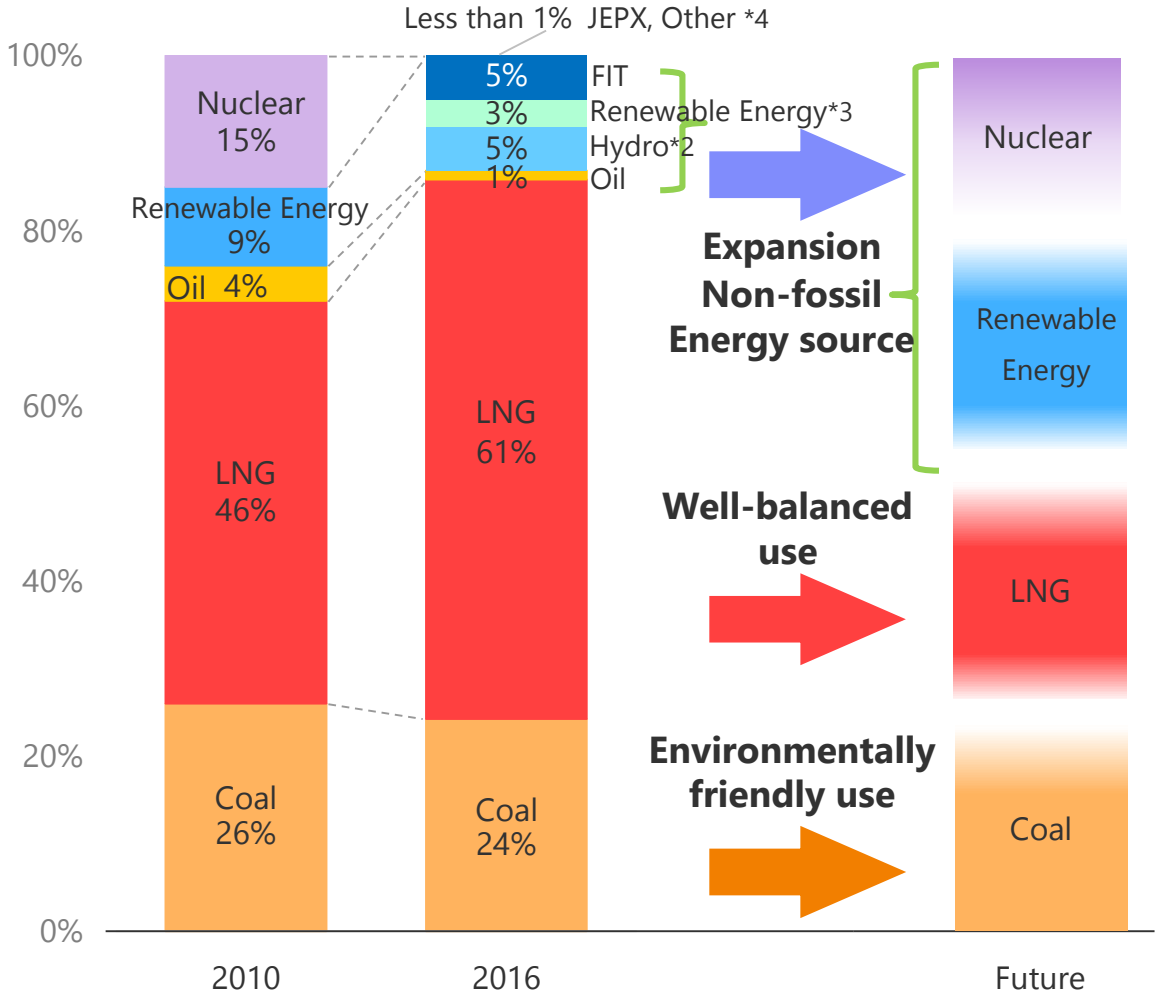
- Based on energy mix of Japan, aim for optimum composition of power sources by combining various types of power source, such as nuclear power, thermal power and renewable energy, in a well-balanced manner from the standpoint of "S+3E" while taking aging of equipment into account.

[Composition of power sources]



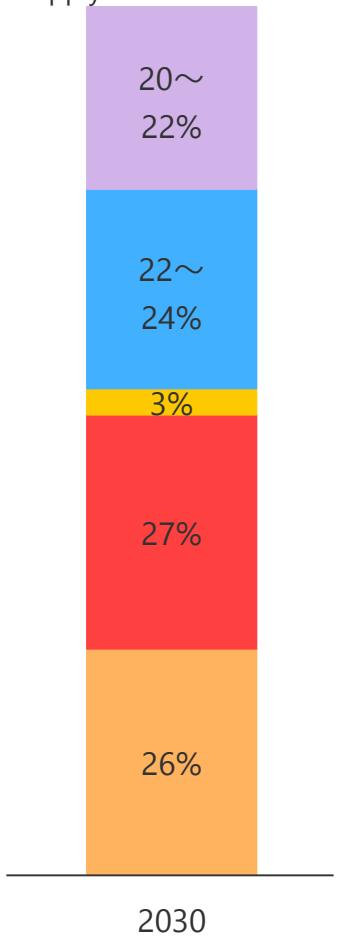
(Note) Figures include purchased power

[Composition of Electric Power Output]



*1 Figures include interchanged, purchased power *2 Over 30 MW
*3 Excluding over 30 MW hydro and FIT-based
*4 Figures in JEPX represent procurement from Japan Electric Power Exchange and Others represent output from purchased power of which we cannot specify the power source

(Reference) Long-term Energy Supply-demand Outlook

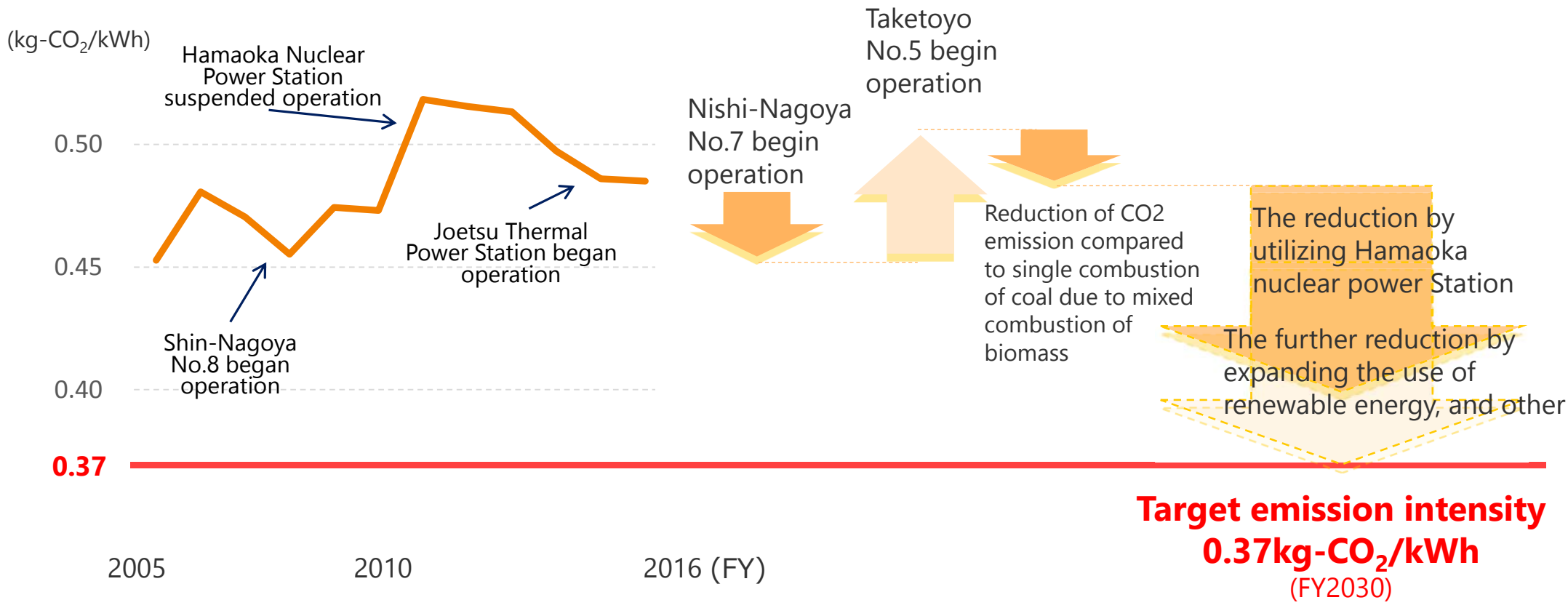


Source: Materials published by Subcommittee on Long-term Energy Supply-demand Outlook

Responses to Global Warming ~ Reduction of CO_2 Emissions ~

- Japanese government set up the target of reducing greenhouse gas emissions (26% reduced by FY2030) as Japan's goal of the Paris Agreements, and decide the proportion of nuclear power generation and renewable energy(Non-fossil energy sources ratio is more than 44% by FY2030) to achieve the target.
- The entire electric utility industry set the target emission intensity 0.37kg-CO2/kWh (FY2030).
- In order to achieve the target, we take various actions such as making thermal power facilities highly efficient and continuously utilizing nuclear power generation which largely contributes to reduction of CO2 emission.

[Trends and outlook of CO_2 emission intensity (before reflecting CO_2 credits)]



Renewable Energy <1>: Our Efforts toward Promotion

(As of the end of December, 2017)

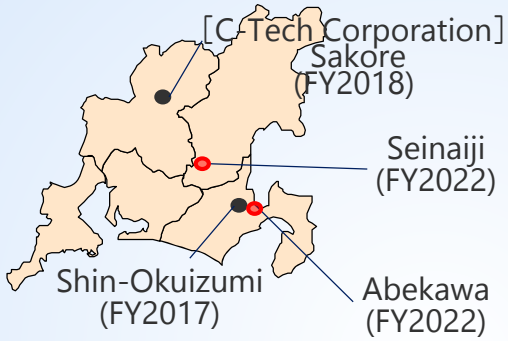
		Chubu Electric	(Reference) Chubu Electric Group
Hydro	operating	196 Site : 5,455MW	Akigami : 0.29MW(FY2016)
	plan	Shin-Okuizumi : 0.29 MW (FY2017) Seinaiji : 5.6 MW (FY2022) Abekawa : 7.1 MW (FY2022) 1 Site：1.9MW(FY2023)	Sakore : 0.38MW(FY2018) 1 Site : 0.53MW(FY2018)
Wind	Operating	Omaezaki：22MW	158MW
	Plan	—	—
Solar	Operating	Mega Solar Iida : 1.0 MW Mega Solar Shimizu : 8.0 MW Mega Solar Kawagoe : 7.5 MW	253MW
	plan	—	5 Site : 18 MW (FY2017) 6 Site : 20 MW (FY2018)
Biomass	operating	Mixture of wooden chip Mixture of fuel from carbonized sewage sludge	Taki bio power : 6.7 MW (FY2016) Aichi clean : 0.549 MW (FY2016)
	plan	Biomass power generation facility at Yokkaichi Thermal Power Station : 49MW	CEPO Handa biomass : 50 MW (FY2019)

* Joint businesses are recorded in their entire amount instead of by equity interest.
(Reference) “Summary of electric power supply plan FY2017”

Development locations of hydroelectric power station

- Conventional hydro
- Generation with minimum water level

Parentheses denote the commercial operation start year.

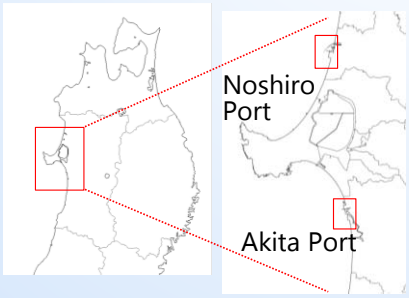


Shin-Okuizumi Hydroelectric Power Station under construction

Wind Power Generation

Akita Port and Noshiro Port survey of development possibility of offshore wind power generation business in Akita Pref. (joint survey)

【Site map】



【Summary of Project】

Power generation method
: Offshore wind power generation

Site : Akita port area and Noshiro port area in Akita Pref.
(Total : Approx. 730ha)

Output
: Supposition total output 145 MW
(Akita port 65 MW,
Noshiro port 80 MW)

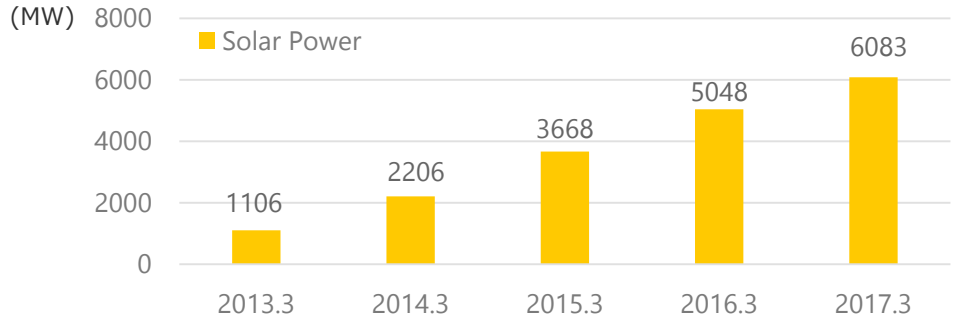
Project Period : 20 years (planned)

Renewable Energy <2>: Actions for Expansion of Introduction of Renewable Energy

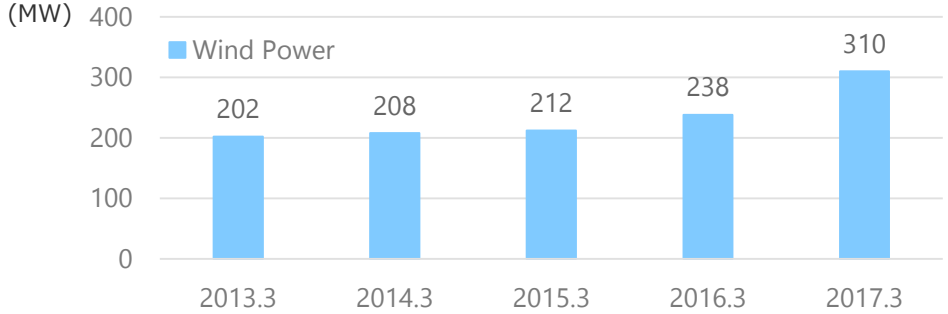
■ To realize energy mix of Japan, take actions for expansion of introduction of renewable energy such as efforts for adjusting supply and demand in a wide range for change of output of renewable energy and efforts for structuring distribution system to respond to change of voltage which tends to occur due to change of output.

[Introduction of renewable energy in Chubu region]

◆Solar Power Generation



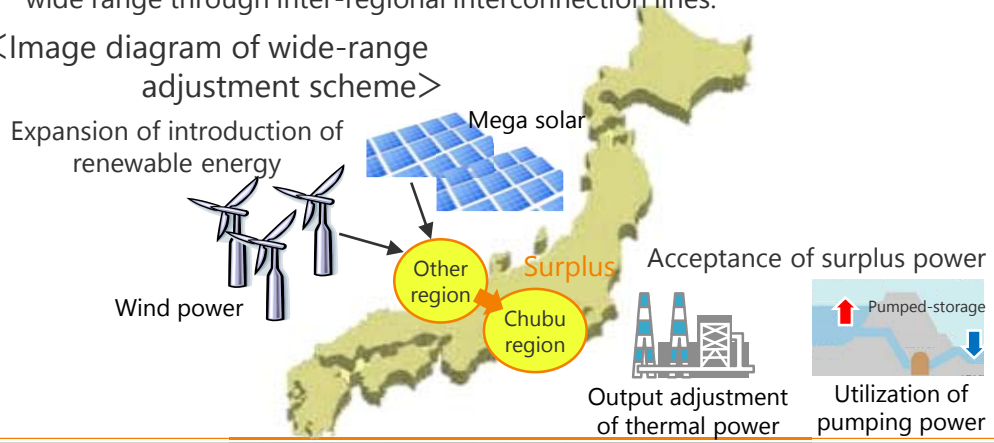
◆Wind Power Generation



Utilization of wide-range adjustment scheme

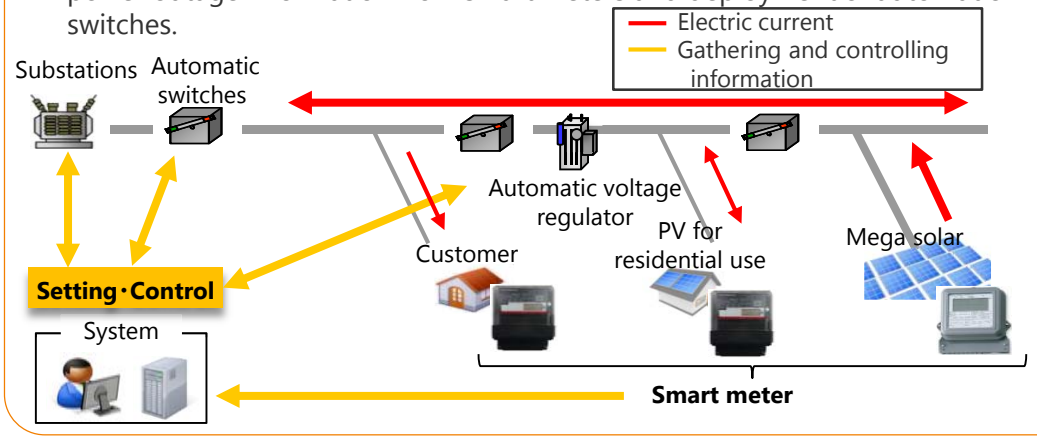
- When introduction of renewable energy expands, output largely changes due to weather conditions. It could be difficult to prepare all adjusted power sources for responding to such output change, in the supply area.
- Thus, expansion of introduction of renewable energy is supported such as lending electric power necessary for adjustment of supply and demand in a wide range through inter-regional interconnection lines.

<Image diagram of wide-range adjustment scheme>



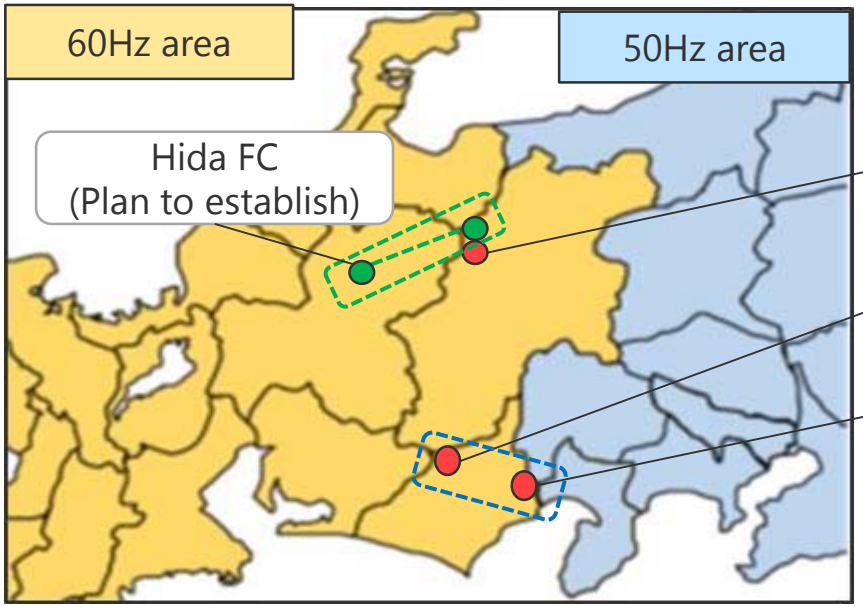
Structuring of next-generation distribution system

- When introduction of renewable energy, which has the characteristic of unstable output, expands, voltage tends to change easily. By utilizing measurement data of smart meters that are currently being installed, voltage can be precisely controlled.
- During power outage, failure zone will be kept as minimum as possible due to power outage information from smart meters and deployment of automatic switches.



Reinforcement of the Frequency Converter (FC)

- In order to stably supply electricity when power outage occurs in a wide range due to stoppage of large-scale power source, efforts will be made to increase FC by 900 MW to a total of 2,100 MW in FY2020 so that lending of electricity between regions with different frequency can be expanded.
- Furthermore, in order to increase FC to a total of 3,000 MW in FY2027, in accordance with the Cross-regional Network Development Plan drawn up in the Organization for Cross-regional Coordination of Transmission Operators, reinforcements including development of surrounding systems will be aimed for.



	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)

[Joint procurement and competitive ordering of equipment and materials]

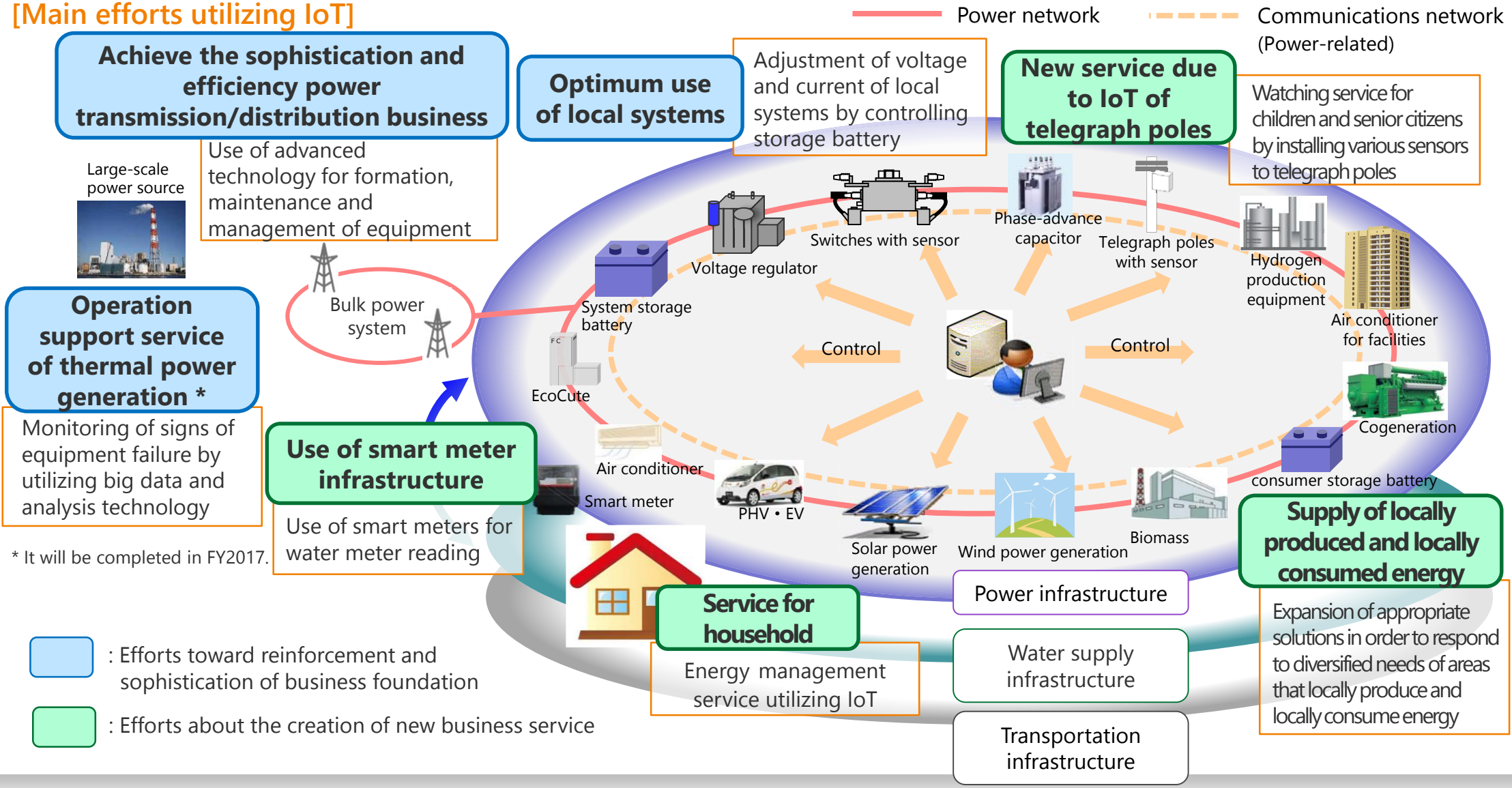
- Equipment and materials intended for reinforcement of New Shinano FC are jointly procured by Chubu Electric Power and TEPCO Power Grid with the purpose of reducing procurement price due to economy of scale.
- For equipment and materials intended for reinforcement of East Shimizu FC and Sakuma FC, manufacturers desiring to make a bid will be jointly advertised for with joint procurement by Chubu Electric Power and J-POWER in mind.

Reinforcement of Business Foundation Utilizing ICT and Expansion of Business Areas

CHUBU Electric Power

- ICT such as IoT, big data and AI will be utilized for reinforcement of business foundation, and examinations will be made for provision of new services.

[Main efforts utilizing IoT]



* It will be completed in FY2017.

: Efforts toward reinforcement and sophistication of business foundation

: Efforts about the creation of new business service

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.

These assumptions involve certain risks and uncertainties, and may cause actual results materially differ from them, by changes in the managerial environment such as economic activities and market trends.

Though great care is exercised in the preparation of such literature, Chubu Electric Power Co., Inc. shall not be liable in any manner for any loss whatever incurred as a result of erroneous information contained therein or in this presentation.